

**1995**  
**ANNUAL REPORT**  
**OF**  
**THE U.S. SCIENTIFIC REGISTRY**  
**OF TRANSPLANT RECIPIENTS**  
**AND**  
**THE ORGAN PROCUREMENT AND**  
**TRANSPLANTATION NETWORK**

**Transplant Data:**  
**1988 - 1994**

**UNOS**

Under contract to the U.S. Department of Health and Human Services  
Health Resources and Services Administration  
Bureau of Health Resources Development  
Division of Transplantation

For the operation of the national Organ Procurement and Transplantation Network  
and the U.S. Scientific Registry of Transplant Recipients

Contract Numbers 240-93-0051 and 240-93-0052

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## PREFACE

The United Network for Organ Sharing (UNOS) operates the national Organ Procurement and Transplantation Network (OPTN) and the national Scientific Registry of Transplant Recipients. In this role, UNOS functions as both a contractor for the Federal Government and as a private, non-profit corporation. Under contract with the Health Resources and Services Administration, UNOS has operated the OPTN since September 30, 1986, and the Scientific Registry since September 30, 1987. This **1995 Annual Report of the U.S. Scientific Registry of Transplant Recipients and The Organ Procurement and Transplantation Network** represents the fifth annual report, based largely on OPTN and Scientific Registry data, compiled and analyzed from January 1, 1988, through December 31, 1994.

This report differs somewhat from the 1994 Annual Report. The text chapters found at the beginning of last year's report have been omitted and a short section on data highlights has been added. This 1995 Annual Report is divided into three sections: (1) Data Highlights, (2) Data Tables, and (3) the Appendices.

The Data Highlights consist of selected data on cadaveric and living donor characteristics, recipient characteristics, survival rates, waiting lists, and organ disposition.

The Data Tables provide detailed data from 1988-1994 for the same characteristics discussed in the highlights section. Several new variables have been added since last year: (a) recipient relation to living donors, (b) diagnosis codes for recipient characteristics, (c) diagnosis codes for graft and patient survival data, (d) graft and patient survival rates for simultaneous kidney-pancreas transplants, (e) graft and patient survival rates according to center volume, (f) graft and patient survival rates by medical urgency status codes for heart and liver registrants, and (g) waiting times by medical urgency status codes for heart and liver registrants.

The Appendices provide background information on the OPTN and the Scientific Registry; a current list of key transplant organizations; and general information about UNOS, its members, research, policies, data collection system, and data quality.

### SUGGESTED CITATION FOR THIS REPORT

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### Suggested Abbreviated Citation

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**Publications based upon UNOS data in this report or supplied upon request must include the above citation as well as the following statement:**

The data and analyses reported in the 1995 Annual Report of the U.S. Scientific Registry of Transplant Recipients and the Organ Procurement and Transplantation Network have been supplied by UNOS. The authors alone are responsible for the reporting and interpretation of these data.

## ACKNOWLEDGEMENTS

Most of the data in this report are provided on a voluntary basis by transplant programs, histocompatibility laboratories, and organ procurement organizations throughout the United States. UNOS gratefully acknowledges the efforts of transplant professionals whose efforts have made it possible to compile and analyze transplantation data collected across the nation. We especially wish to thank transplant data coordinators for their efforts in providing UNOS with the data utilized in this report.

This report has been compiled through the collective efforts of many individuals. For their assistance, UNOS thanks Ms. Judith Braslow, Ms. Gwen Mayes, and Mr. Remy Aronoff of the Division of Transplantation, Bureau of Health Resources Development, Health Resources and Services Administration, U.S. Department of Health and Human Services.

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## **Data Highlights**

**Cadaveric and Living Donor Characteristics**  
**Transplant Recipient Characteristics**  
**Graft and Patient Survival**  
**Waiting List Patient Characteristics**  
**Registrations and Median Waiting Times**  
**Reported Deaths on the Waiting List**  
**Cadaveric Organ Disposition**



## Data Highlights

### INTRODUCTION

This Data Highlights section presents selected data on (a) cadaveric and living donor characteristics, (b) transplant recipient characteristics, (c) graft and patient survival, (d) waiting list patient characteristics, (e) median waiting times, (f) deaths on the waiting list, and (g) cadaveric organ disposition.

This section is intended to point out some of the notable trends found in Tables 1 to 63. For a detailed presentation, please see the Data Tables section beginning on page 17.

### CADAVERIC AND LIVING DONOR CHARACTERISTICS

The number of cadaveric and living donors increased 37% between 1988 and 1994--from 5,908 to 8,114. The increase was especially pronounced among living donors, which increased 65%--from 1,825 donors in 1988 to 3,010 in 1994. Cadaveric donors increased 25% (from 4,083 to 5,104) during the same time period (see Table 1, pg. 18).

- Cadaveric donors in the 18-34 age group decreased from 41% of donors in 1988 to 30% of donors in 1994; donors over 50 years of age increased from 12% in 1988 to 23% in 1994 (Table 2, pg. 19). This trend was not as pronounced among living donors (Table 8, pg. 31).
- Males represented 61% of all cadaveric donors in 1994 but only 44% of living donors (Tables 2 and 8, pgs. 19 and 31).
- The number of minority cadaveric donors increased from 16% in 1988 to 22% in 1994 (Table 2, pg. 20).
- Among cadaveric donors, motor vehicle accidents (MVAs) as a cause of death decreased from 34% to 24% between 1988 and 1994, while cerebrovascular deaths increased from 28% to 38% during the same time period (Table 2, pg. 20). This may reflect the

increased use of safety devices in motor vehicles. However, these results should be interpreted with caution as it is possible that individuals who die in MVAs also may have suffered a cerebrovascular accident or head trauma as the primary cause of death.

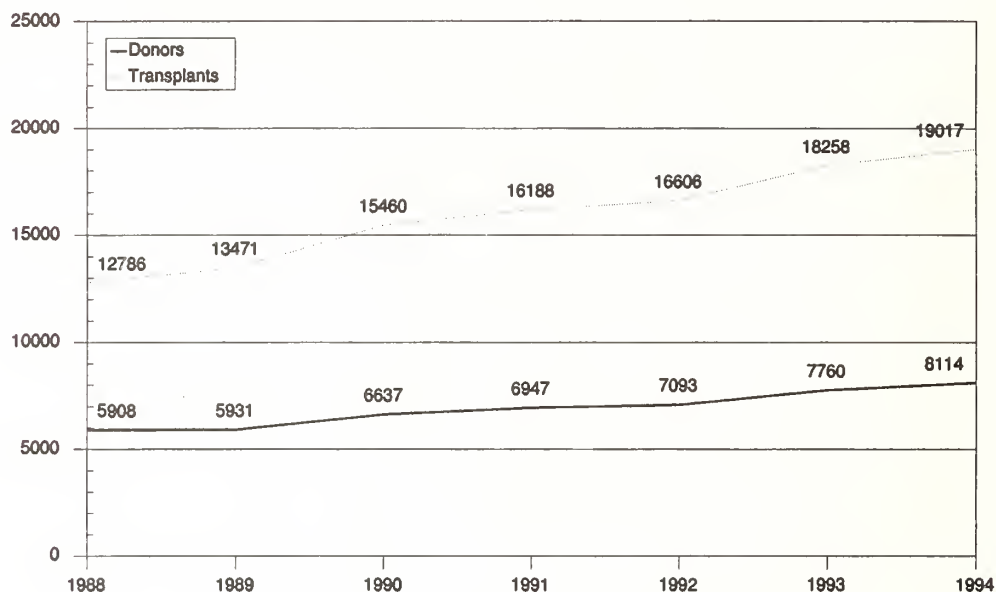
- In 1994, gun shots/stab wounds as a cause of donor death decreased dramatically compared to previous years, while head trauma increased substantially (Tables 2-7, pgs. 20-30). This was true across all cadaveric organs and may be due to reporting and data collection changes. As of 1994, gun shots or stab wounds sustained to the head are reported as head traumas.
- The overwhelming number of living donors--81% in 1994--were kidney donors in the 18-49 year age group (Table 9, pg. 33).
- In 1994, donors with blood type O represented 61% of living donors but only 48% of cadaveric donors. Those with blood type A comprised 30% of living donors and 38% of cadaveric donors (Tables 2 and 8).
- Among living donors, 48% were full siblings in 1994, down from 55% in 1988. Parent donors also decreased from 30% in 1988 to 25% in 1994. Living donors increased among child donors, other relatives, and unrelated spouses, accounting for 23% of living donors in 1994 (Table 8, pg. 32).

### TRANSPLANT RECIPIENT CHARACTERISTICS

The number of transplant recipients increased by 49% between 1988 and 1994 (from 12,786 to 19,017). Cadaveric transplants increased by 45% (10,963 to 15,931), while living donor transplants increased by 69% (from 1,823 to 3,086, see Table 10, pg. 37). Figure 1 on the following page shows the increase in donors and transplants over time, illustrating that the number of transplants being performed is rising faster than the number of donors, due to the increasing number of organs transplanted per donor.

Figure 1

## Numbers of Donors and Transplants -- 1988 to 1994

Kidney Recipient Characteristics

Data for all kidney recipient characteristics can be found in Tables 11 and 12 on pages 38-45.

- An increasing percentage of cadaveric and living donor kidney recipients are older patients. Recipients over age 50 received 33% of all cadaveric donor kidneys in 1994, up from 27% in 1988 (Table 11, pg. 38). This age group also received 19% of living donor kidneys in 1994 compared to 11% in 1988 (Table 12, pg. 42).
- Over time, White recipients have decreased and minority recipients have increased. Among recipients of living donor organs, minority races have increased from 23% in 1988 to 32% in 1994 (Table 12). Minority recipients comprised 39% of cadaveric donor recipients in 1994, up from 35% in 1988 (Table 11).
- Few kidney recipients are hospitalized immediately prior to transplant.
- Among cadaveric kidney recipients, the primary diagnoses are changing over time (Table 11, pg. 40). The frequency of glomerulonephritis is decreasing while diabetes, as an indication for transplant, is increasing. Among living donor recipients, glomerulonephritis and nephritis/nephropathy are decreasing while hypertensive nephrosclerosis and "other" diagnoses appear to be on the rise (Table 12, pg 44).
- Those with a PRA of 20% or more at transplant are decreasing over time. Among cadaveric recipients, the rate decreased from

17% of candidates in 1988 to 10% in 1994; among living donor recipients, the percentage of candidates with a PRA of 20% or more decreased from 12% to 7% (Tables 11 and 12, pgs. 41 and 45).

- Among cadaveric kidney recipients, those with a 0 level HLA mismatch have increased 100%, from 4% in 1988 to 8% in 1994 (Table 11).
- The number of simultaneous kidney-pancreas transplants increased from 2% of cadaveric kidney transplants in 1988 to 9% in 1994 (Table 11).
- Living donor recipients most often received kidneys from siblings and parents, though the percentage is declining over time. Siblings and parents comprised 85% of all living donors in 1988 and 74% in 1994. Offspring, spouses, and other living donors increased from 15% of all living donors in 1988 to 26% in 1994 (Table 12).

### Liver Recipient Characteristics

Data for all liver recipient characteristics can be found in Table 13 on pages 46-48.

- Patient age at the time of liver transplantation is increasing. Those 35 and older have increased from 59% of liver recipients in 1988 to 76% in 1994.
- The number of recipients who were not hospitalized prior to transplant increased from 41% in 1988 to 57% in 1994. The percentage on life support prior to transplant decreased from 22% in 1988 to 12% in 1994.
- Non-cholestatic cirrhosis was the primary diagnosis in 1994, comprising 55% of all primary diagnoses (up from 40% in 1988). The frequencies of all other diagnoses among recipients have decreased over time.

### Pancreas Recipient Characteristics

Data for all pancreas recipient characteristics can be found in Table 14 on pages 49-51.

- Patient age at the time of pancreas transplantation is increasing. Those 35 and older have increased from 49% of pancreas transplants in 1988 to 61% in 1994.
- While Whites still make up the majority of pancreas recipients, the rate has decreased from 96% in 1988 to 86% in 1994.
- The percentage who received a simultaneous kidney-pancreas transplant increased from 68% of pancreas recipients in 1988 to 89% in 1994. Most of the increase occurred between 1988 and 1989 (68% to 80% in one year).

### Heart Recipient Characteristics

Data for all heart recipient characteristics can be found in Table 15 on pages 52-55.

- Minority recipients comprised 19% of heart recipients in 1994, compared to 13% in 1988. Black recipients represented 61% of all minority recipients in 1994.
- Heart recipients are primarily male, comprising 76% of all recipients in 1994. This is higher than the rate of male recipients for all other organs. This may be due to the fact that heart disease strikes men at an earlier age than women, at which time transplantation is a more likely treatment option.
- There are more heart recipients with blood type A than with type O. All other organ transplants (except for heart-lung) have a greater number of type O recipients.
- There has been a continuous increase over the years in the number of recipients on life support just before transplant; between 1993 and 1994 the rate nearly doubled, from 31% to 54%.
- Among the primary diagnoses, cardiomyopathy increased from 37% in 1988 to 56% in 1994; coronary artery disease decreased by the same margin, from 50% in 1988 to 31% in 1994.

### Lung Recipient Characteristics

Data for all lung recipient characteristics can be found in Table 16 on pages 56-59.

The annual number of lung recipients has increased dramatically over time. In 1988, there were only 33 lung transplants but by 1994, the number of transplants had increased to 722.

- In general, over time lung recipients have become older at the time of transplant and slightly more racially diverse.
- Females comprised 53% of recipients in 1994, up from 33% in 1988.
- Recipients with blood type O increased over time, from 33% of recipients in 1988 to 44% in 1994, while those with blood type A decreased, from 55% to 41%.
- The percentage of recipients not hospitalized prior to transplant increased from 61% in 1988 to 85% in 1994.
- Primary diagnoses of emphysema/COPD and cystic fibrosis increased while alpha-1-antitrypsin deficiency and idiopathic pulmonary fibrosis decreased.
- The rate of single and double lung procedures became inverted over time. Double lung procedures comprised 61% of procedures in 1988 and 37% in 1994, while single lung procedures grew from 39% in 1988 to 63% in 1994.

### Heart-Lung Recipient Characteristics

Data for heart-lung recipient characteristics can be found in Table 17 on pages 60-62.

The number of heart-lung transplants has remained small over time, ranging from a high of 74 transplants in 1988 to a low of 48 transplants in 1992. In 1994, there were 70 heart-lung transplant recipients. These data are insufficient for reporting trends in recipient characteristics.

### GRAFT AND PATIENT SURVIVAL

One-year graft and patient survival rates are improving every year and for every organ. The greatest improvements were seen among lung and heart-lung transplants. One-year graft survival for lung transplants increased from 42% in 1988 to 76% in 1993; patient survival increased from 47% to 77%. Heart-lung transplants saw an increase in graft survival from 51% in 1988 to 70% in 1993, and an increase in patient survival from 52% to 69%. Survival rate improvements were less pronounced for kidney, liver, pancreas, and heart transplants (see Table 18, pg. 65).

For most organs, patient survival rates are higher than graft survival rates due, in some cases, to opportunities for retransplants.

While one-year survival rates improve each year, survival rates for all organ transplants decrease over time. In other words, three-year survival rates are lower than one-year rates. The greatest survival rate decreases were observed among lung transplants (17% decrease in graft survival and 16% decrease in patient survival between one year and three years post-transplant), heart-lung transplants (13% decrease in graft survival and 12% decrease in patient survival between one year and three years post-transplant), and cadaveric kidney transplants for graft survival only (12% decrease between one year and three years post-transplant). Patient survival for living donor kidneys showed the smallest rate decrease over time, from 97% survival at one year post-transplant to 94% survival at three years post-transplant (see Table 19, pg. 66).

The best one-year *graft* survival rates in 1993 were for living donor kidney transplants (92%), cadaveric kidney transplants (83%), and heart transplants (82%). The best one-year *patient* survival rates in 1993 were for living donor kidney transplants (97%), cadaveric kidney transplants (94%), and pancreas transplants (92%). Figure 2 depicts the one-year *graft* survival rates for each organ in 1988 and 1993. Figure 3 shows the one-year *patient* survival rates for the same years.



Figure 2

One-Year Graft Survival Rates -- 1988 and 1993

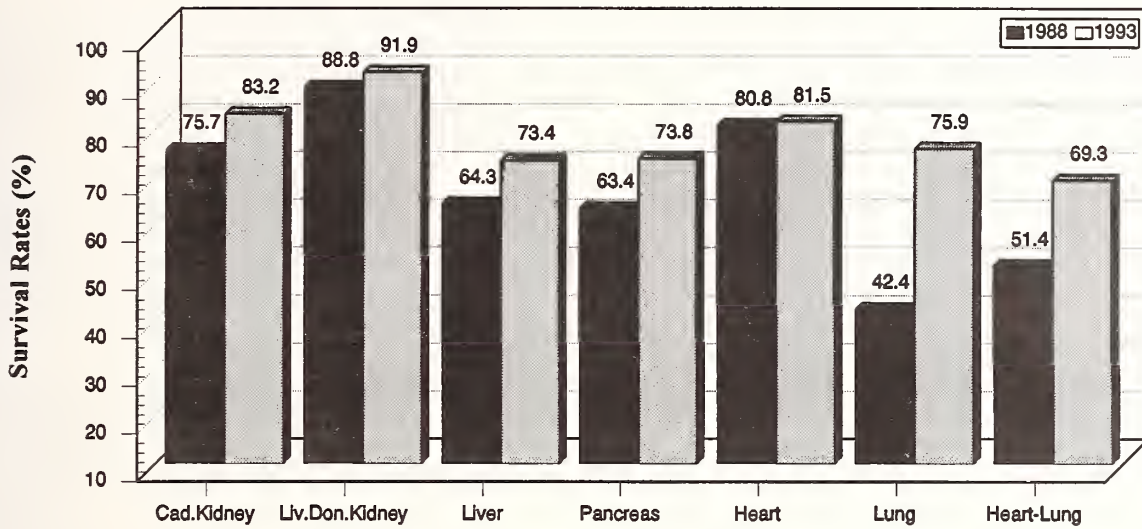
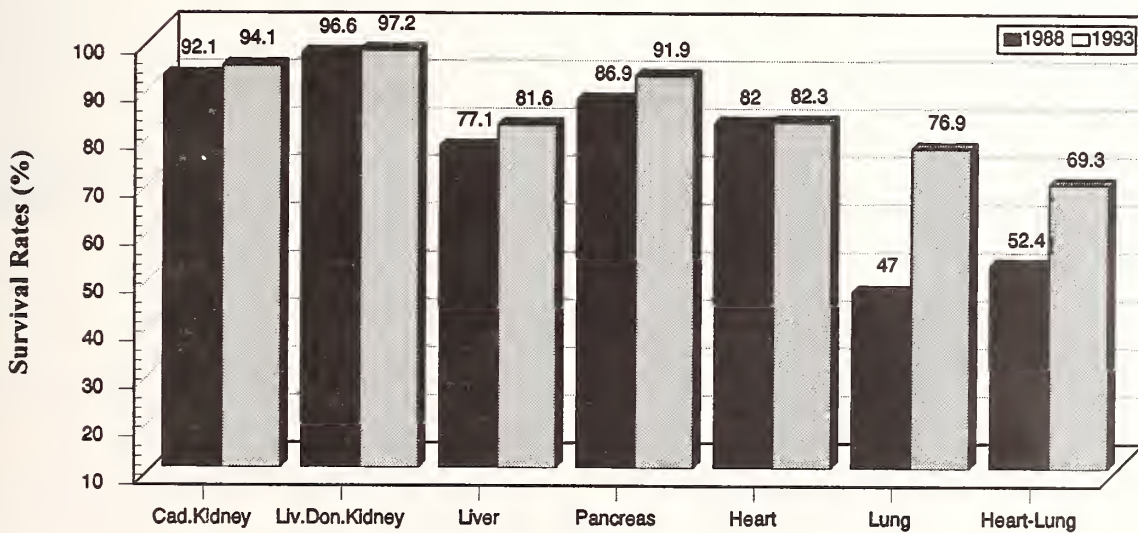


Figure 3

One-Year Patient Survival Rates -- 1988 and 1993



**Cadaveric Kidney Transplants**

Cadaveric kidney graft survival data can be found in Table 20 on pages 67-72; patient survival data can be found in Table 21 on pages 73-78.

In 1993, the one-year graft survival rate for cadaveric kidney transplants was 83%; the one-year patient survival rate was 94%.

- As expected, the graft survival rates decrease over time post-transplant among all recipient age groups, races, and other characteristics. The decrease among Black recipients is more pronounced than for other races; the survival rate for Asian recipients is better at three years post-transplant than the rates for all other races.
- Recipients on life support just before a transplant have much lower graft and patient survival rates than others who are either hospitalized, not hospitalized, or in intensive care prior to transplant. However, among those on life support, the survival rates do not decline between years two and three post-transplant, while the survival rates for others do continue to decline.
- Graft survival rates for recipients whose donors were ages 11-34 are better at all time points than for those whose donors were younger or older. Patient survival rates for recipients whose donors were age 50 and older are lower than for those whose donors were from other age groups.
- There appears to be no difference in graft and patient survival rates by center volume.
- Graft survival rates are better for recipients receiving a simultaneous kidney-pancreas transplant (75% at three years post-transplant) than for those receiving a kidney alone (69% at three years post-transplant). There is no difference in patient survival rates. (Simultaneous kidney-pancreas transplants are performed primarily in diabetic recipients.)
- Patient survival rates for recipients with diabetes are lower at all time points than for all other diagnoses.

**Living Donor Kidney Transplants**

Living donor kidney graft survival data can be found in Table 22 on pages 79-84; patient survival data can be found in Table 23 on pages 85-90.

Graft and patient survival rates for living donor kidneys are higher than for cadaveric kidneys. In 1993, the one-year graft survival rate for living donor kidney transplants was 92%; the one-year patient survival rate was 97%.

- Recipients under 1-year old and over age 64 have lower graft and patient survival rates at one and three years post-transplant. Also, recipients of older donor organs have lower survival rates.
- Three-year graft survival rates for Black recipients are lower than for other racial groups but this is not the case for patient survival rates.
- There appears to be no difference in graft and patient survival rates by center volume.
- Candidates with polycystic kidneys have the highest three-year graft survival rate post-transplant at 87%; recipients who had hypertensive nephrosclerosis have the lowest graft survival rate, 81% at three years post-transplant.
- The three-year patient survival rate for diabetes is lowest among the primary diagnoses but it is higher for living donors (90%) than for cadaveric donors (82%).
- Three-year graft survival rates for living donor transplants are highest for recipients of sibling donor kidneys (86%); patient survival rates are highest for parent donor kidneys (96%).

**Liver Transplants**

Liver graft survival data can be found in Table 24 on pages 91-95; patient survival data can be found in Table 25 on pages 96-100.

In 1993, the one-year graft survival rate for liver transplants was 73%; the one-year patient survival rate was 82%.

- Recipients under 6 years of age comprise 12% of all liver transplants. This is a higher percentage for this age group than for any other organ.
- For graft survival, rates decrease over time for all age groups, particularly for those 65 and older. Graft survival declines more steeply for all age groups over the age of 18.
- Graft and patient survival rates for Black and Asian recipients are lower than for other races at one and three years post-transplant.
- Recipients who have received a transplant previously have lower graft and patient survival rates at all time points than those who have not.
- At one and three years post-transplant, graft survival rates appear to be highest for centers that perform between 24 and 159 transplants per year. Centers performing fewer than 24 or greater than 159 appear to have lower survival rates. For patient survival, centers performing between 46 and 159 transplants appear to have the highest survival rates at one and three years post-transplant.
- At one and three years post-transplant, graft and patient survival rates are highest for recipients with a primary diagnosis of cholestatic liver disease/cirrhosis and lowest for fulminant liver failure and malignant neoplasms.

### Pancreas Transplants

Pancreas graft survival data can be found in Table 26 on pages 101-105; patient survival data can be found in Table 27 on pages 106-110.

In 1993, the one-year graft survival rate for pancreas transplants was 74%; the one-year patient survival rate was 92%.

- Graft survival for those with previous transplants decreases rapidly after the first three months, from 72% at three months to 42% at one year. The three-year graft survival rate is 22%.
- Graft and patient survival rates are lowest at all

time points among patients who were in an intensive care unit just before a transplant.

- Among pancreas transplants, the national graft survival rates for centers performing between 18-45 transplants per year appear to be highest (78% at one year and 69% at three years post-transplant), while the rates for centers performing 46 or more transplants per year appear to be lowest (68% at one year and 55% at three years post-transplant).
- Those with simultaneous kidney transplants have higher survival rates over time than those who either had or did not have a previous kidney transplant. This was especially pronounced for graft survival rates, where recipients with a simultaneous kidney-pancreas transplant had a three-year survival rate of 68%, compared to three-year survival rates of 25% for those who received a kidney previously and 37% for those who did not receive a kidney previously.

### Heart Transplants

Heart graft survival data can be found in Table 28 on pages 111-116; patient survival data can be found in Table 29 on pages 117-122.

In 1993, the one-year rate for both graft and patient survival for heart transplants was 82%.

- There is little difference between graft and patient survival rates at all time points. Three-year survival rates are highest for recipients 35-49 years of age.
- Recipients who had a previous transplant or were on life support at the time of transplant have lower graft and patient survival rates at all time points.
- Graft and patient survival rates are highest at all time points for recipients whose donors were ages 11-34. Rates were lowest for those receiving organs from very young donors (less than one year old).
- Survival rates appear to improve as center volume increases, up to 26 procedures per year. However, when center volume increases beyond

26 procedures, the national survival rates tend to decline for both graft and patient survival.

- Recipients with a primary diagnosis of retransplant after graft failure have the lowest graft and patient survival rates at all time points.

### Lung Transplants

Lung graft survival data can be found in Table 30 on pages 123-127; patient survival data can be found in Table 31 on pages 128-132.

In 1993, the one-year graft survival rate for lung transplants was 76%; the one-year patient survival rate was 77%.

- Females account for 53% of all lung transplant recipients and their graft and patient survival rates are higher at all time points than for men.
- Graft and patient survival rates are lowest at all time points for recipients who have had a previous transplant and/or were on life support at the time of transplant.
- There was a tendency for graft and patient survival to increase as center volume increased.
- Recipients with a primary diagnosis of retransplant after graft failure have the lowest graft and patient survival rates at all time points.

### Heart-Lung Transplants

There were only 422 heart-lung transplants performed between 1988 and 1994 (Table 10, pg. 37). Graft and patient survival data are available for those transplants (N=360) performed between October 1987 and December 1993 (Tables 32 and 33, pgs. 133-142).

In 1993, the one-year rate for both graft and patient survival for heart-lung transplants was 69%.

- There is no difference in graft and patient survival rates at one, two, or three years post-transplant, due to rare opportunities for heart-lung retransplants when grafts fail.

- Recipients between the ages of 11 and 17 have the best graft and patient survival rates (70% at three years post-transplant) of all age groups.
- After the first month of survival post-transplant, females have higher graft and patient survival rates than males.
- Most recipients are not hospitalized prior to transplant and they have the highest survival rates over time.
- Graft and patient survival rates appear to increase as center volume increases. The rates for graft and patient survival are comparable to one another; at three years post-transplant they range from a low of 35% survival for centers performing fewer than three transplants per year to 65% survival for centers performing 19 or more transplants per year.
- Congenital lung disease and primary pulmonary hypertension are the two primary diagnoses for heart-lung transplants. The graft and patient survival rates for both diagnoses decrease rapidly over time.

### **WAITING LIST PATIENT CHARACTERISTICS**

The OPTN waiting list contained 37,609 registrants on the last day of 1994, representing a 13% increase from the 33,352 registrants in 1993. Overall, the waiting list more than doubled between 1988 (16,026 registrants) and 1994 (Table 34, pg. 144).

### Kidney Registrant Characteristics

Kidney registrant data can be found in Table 35 on pages 145-149.

Kidney registrants represented 73% of all registrations in 1994, down from 87% in 1988. This decline may be due, in part, to the creation in 1992 of the separate kidney-pancreas list and to the increasing percentage of non-renal transplants.

- The rate of registrants awaiting repeat transplants decreased from 28% in 1988 to 23% in 1994.

- Minority registrants comprised 50% of the kidney waiting list in 1994, compared to 43% in 1988. Most of these are Black registrants.
- The rate of registrants age 50 and older increased from 26% in 1988 to 35% in 1994. The percentage of those age 65 and older doubled during the same time period.
- The percentage of registrants with a current PRA of 0-19% increased by 27% between 1988 and 1994. Peak PRA shows a similar trend. In both current and peak PRA, the rate of registrants who are highly sensitized ( $\geq 80\%$ ) declined dramatically over the seven-year period.
- The time spent waiting for a transplant has increased over time. In 1988, 56% of registrants received a transplant within one year; by 1994, the rate had decreased to 46%.

#### Liver Registrant Characteristics

Liver registrant data can be found in Table 36 on pages 150-154.

The number of liver registrants has grown considerably over time, from 616 registrants in 1988 to 4,059 in 1994.

- Male registrants increased from 48% in 1988 to 54% in 1994.
- Registrants aged 35-49 increased from 30% of the liver waiting list in 1988 to 38% in 1994; those age 50 and older increased from 21% to 40% during the same time period. The rate for pediatric registrants younger than age 11 decreased over time, from 31% in 1988 to 10% in 1994.
- The length of time registrants spent on the waiting list steadily increased over time. In 1988, 36% of registrants waited six months or more for a transplant; by 1994, the rate increased to 55%. Conversely, registrants who spent 30 days or fewer on the waiting list decreased from 25% in 1988 to 11% in 1994.
- The percentage of registrants in the two highest categories of medical urgency (i.e., patient

status 1 or 2, see page 154 for definition), increased from 56% in 1990 (the first full year using the new patient status codes) to 79% in 1994.

#### Pancreas Registrant Characteristics

Pancreas registrant data can be found in Table 37 on pages 155-158.

The number of registrants on the pancreas waiting list grew from 163 in 1988 to 600 in 1991 but declined over the past three years to 222 in 1994. The lack of growth of the pancreas list most likely is due to the creation of the kidney-pancreas list in 1992.

- The percentage of registrants who have had a previous transplant increased from 3% in 1988 to 27% in 1994; the largest annual rate of growth occurred between 1991 and 1992, when the rate increased from 6% to 18%.
- Registrants waiting six months or more for a transplant increased from 55% of the waiting list in 1988 to 69% in 1994.

#### Kidney-Pancreas Registrant Characteristics

Kidney-pancreas registrant data can be found in Table 38 on pages 159-162.

The kidney-pancreas waiting list began in 1992 with 778 registrants, increasing to 1,067 registrants by 1994.

- Minority registrants comprised 15% of all registrants in 1994, up from 11% in 1992; Black registrants made up 70% of all minority registrants in 1994.

#### Heart Registrant Characteristics

Heart registrant data can be found in Table 39 on pages 163-167.

The heart waiting list nearly tripled in number between 1988 and 1994 (from 1,030 to 2,933 registrants). The rate of growth slowed considerably after 1991.

- Minority registrants increased from 13% of all registrants in 1988 to 19% in 1994.
- While female registrants comprise a small number of total heart registrants, the rate has grown from 14% in 1988 to 19% in 1994.
- In 1988, 35% of registrants were on the waiting list for six months or more; by 1994, that rate had increased to 66%.
- Over 33% of registrants were listed in temporarily inactive status in 1994, compared to 20% in 1990 (the first full year using the new patient status codes).

### Lung Registrant Characteristics

Lung registrant data can be found in Table 40 on pages 168-171.

The lung waiting list grew from 69 registrants in 1988 to 1,625 in 1994.

- The rate of female registrants increased from 44% in 1988 to 56% in 1994.
- Minority registrants comprised 12% of registrants in 1994, up from 7% in 1988.
- The percentage of older registrants is increasing. Those 50 and older increased from 23% in 1988 to 39% in 1994.
- The length of time spent waiting for a transplant has increased dramatically. In 1988, 20% of registrants waited six months or longer for a lung transplant; by 1994, the rate had grown to 62%.
- After decreasing from 23% in 1988 to 11% in 1992, temporarily inactive registrations again are on the rise (20% in 1994).

### Heart-Lung Registrant Characteristics

Heart-lung registrant data can be found in Table 41 on pages 172-175.

The heart-lung waiting list has remained small with the same number of registrants at the end of 1994 as there were in 1988--205 registrants. This number has not increased because single and double

lung transplants have replaced heart-lung transplants as an effective treatment for certain pulmonary conditions.

- Female registrants increased from 57% of registrants in 1988 to 63% in 1994.
- The percentage of registrants in certain age groups has changed over time. Those aged 18-49 decreased from 88% in 1988 to 72% in 1994. Registrants aged 11-17 increased from 5% to 10% and those aged 50-64 increased from 4% to 10% during the same time period.
- The percentage of registrants who waited six months or longer for a transplant grew from 55% in 1988 to 77% in 1994.
- Registrants in temporarily inactive status increased from 3% of all registrants in 1988 to 23% in 1994.

### **REGISTRATIONS AND MEDIAN WAITING TIMES**

The median waiting times for all organs have increased except for kidney-pancreas and heart-lung transplants. The waiting time for heart transplants has been decreasing since 1992 though it is still longer in 1994 than it was in 1988 (Table 42, pg. 179). Figure 4 on the following page illustrates the waiting times, by organ, in 1988 and 1994.

### Kidney Waiting List

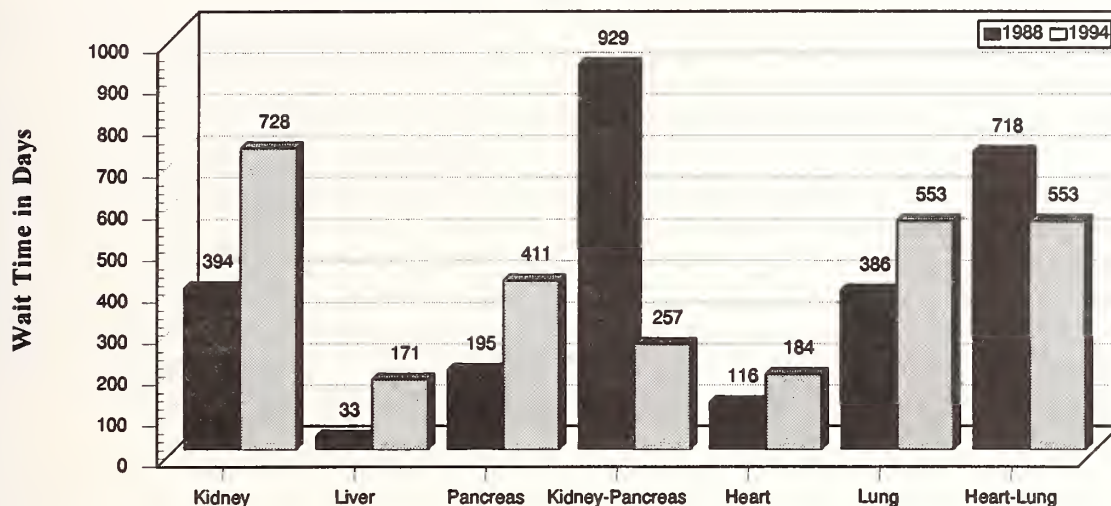
Kidney waiting list data can be found in Table 43 on pages 180-186.

The median waiting time for a kidney transplant was 728 days in 1993 compared to 394 days in 1988. Among candidates registered in 1994, there were more patients still waiting than had been transplanted, making it impossible, at the time this analysis was performed, to calculate a median waiting time for 1994 registrants.

- Registrants with blood type B continued to have the longest median waiting time of all blood types, 991 days, compared with an overall waiting time of 624 days for all registrants in 1992.

Figure 4

## Median Waiting Times -- 1988 and 1994\*



\* Kidney data are shown for 1988 and 1993, the last year for which wait time was computed; kidney-pancreas data are shown for 1991, the first year for which wait time was computed, and 1994.

- Pediatric registrants have shorter waiting times than adults because the UNOS renal allocation system assigns additional points for candidates younger than 18 years of age.
- Patients with peak PRAs of 20-79% wait nearly twice as long (946 days in 1993) as those with PRAs below 20% (521 days in 1993). Those with peak PRAs of 80% and higher have the longest waiting time. The long median waiting times for patients with high PRAs demonstrate the difficulty in locating immunologically compatible donors for such patients.
- In 1992, those listed for repeat transplants waited more than twice as long as those listed for their first transplant--1,273 days compared to 558 days.
- Minority registrants wait longer than Whites for transplant.

- Females wait longer than males. In 1988, the gap was a median of 86 days but by 1993 the gap nearly had doubled to 161 days.

#### Liver Waiting List

Liver waiting list data can be found in Table 44 on pages 187-195.

The median waiting time for liver transplants increased from 33 days in 1988 to 171 days in 1994. Still, the liver median waiting time was shorter than the waiting times for any other organ.

- Registrants with blood type AB had the shortest median waiting time (75 days in 1994), compared to blood type O registrants who had the longest waiting time (207 days in 1994).
- The median waiting time for 1994 registrants who had had previous transplants were one

quarter (43 days) that of patients awaiting their first transplant (185 days), because of increased medical urgency for many liver retransplants.

### Pancreas Waiting List

Pancreas waiting list data can be found in Table 45 on pages 196-201.

The number of registrations for pancreas transplants peaked in 1990 (701 registrants), then decreased to 188 patients in 1994, most likely related to the creation in 1992 of a separate kidney-pancreas waiting list.

- The median waiting times decreased between 1988 and 1992, then increased in 1993 and 1994. In 1994, the median waiting time was 411 days.
- The waiting time for males increased much more than for females. For males, waiting time increased by 131% (from 189 to 436 days) between 1988 and 1993; for females the increase was only 38% (from 202 to 278 days).

### Kidney-Pancreas Waiting List

Kidney-pancreas waiting list data can be found in Table 46 on pages 202-207.

The median waiting time for kidney-pancreas transplants has decreased since 1991. For 1993 registrants, the median waiting time for a kidney-pancreas (286 days) was less than that for a kidney alone (728 days) or a pancreas alone (388 days).

- In 1994, the median waiting time for those who had had a previous transplant was much longer (431 days) than for those awaiting a first transplant (253 days).
- Black registrants waited longer for transplant than candidates of other races. In 1994, the median waiting time for all races overall was 257 days while for Blacks it was 410 days.

### Heart Waiting List

Heart waiting list data can be found in Table 47 on pages 208-215.

The median waiting time for heart transplants increased steadily between 1988 and 1992 (from 116 days to 256 days), then declined to 184 days in 1994.

- Registrants with blood type O had the longest median waiting time (304 days in 1994) and blood type AB had the shortest (67 days in 1994).
- Pediatric registrants had shorter waiting times than adults.
- Due to the necessity of donor/recipient weight matching, the median waiting time for males was longer (210 days in 1994) than for females (131 days in 1994), though males consistently comprised close to 80% of the list.

### Lung Waiting List

Lung waiting list data can be found in Table 48 on pages 216-221.

The lung median waiting time increased by 43% between 1988 and 1994, from 386 days in 1988 to 553 days in 1994. Lung median waiting times consistently were shorter than heart-lung median waiting times but longer than heart waiting times.

### Heart-Lung Waiting List

Heart-lung waiting list data can be found in Table 49 on pages 222-227.

The median waiting time decreased from 718 days in 1988 to 553 days in 1994. Despite this decrease, heart-lung median waiting times remain among the longest of all organ types.

### **REPORTED DEATHS ON THE WAITING LIST**

The number of reported deaths has doubled since 1988; however, the death rate has remained steady at 5.5% because the waiting list has grown at the same pace. In 1994, death rates on the waiting list were highest for heart-lung registrants, followed by heart, lung, and liver registrants. Rates for kidney, kidney-pancreas, and pancreas registrants were comparable to one another (Table 50, pg. 230).



Figure 5 shows the death rates, by organ, for 1988 and 1994.

**Deaths on the Kidney Waiting List**

Data for reported deaths on the kidney waiting list can be found in Table 51 on pages 231-234.

The number of deaths on the kidney waiting list grew at the same rate as the total number of registrants on the list, leaving the death rate unchanged over time (3.5% in 1988 and 3.6% in 1994).

- Hispanic and Asian registrants had death rates consistently below the average for all races while deaths among White registrants were above the average.

**Deaths on the Liver Waiting List**

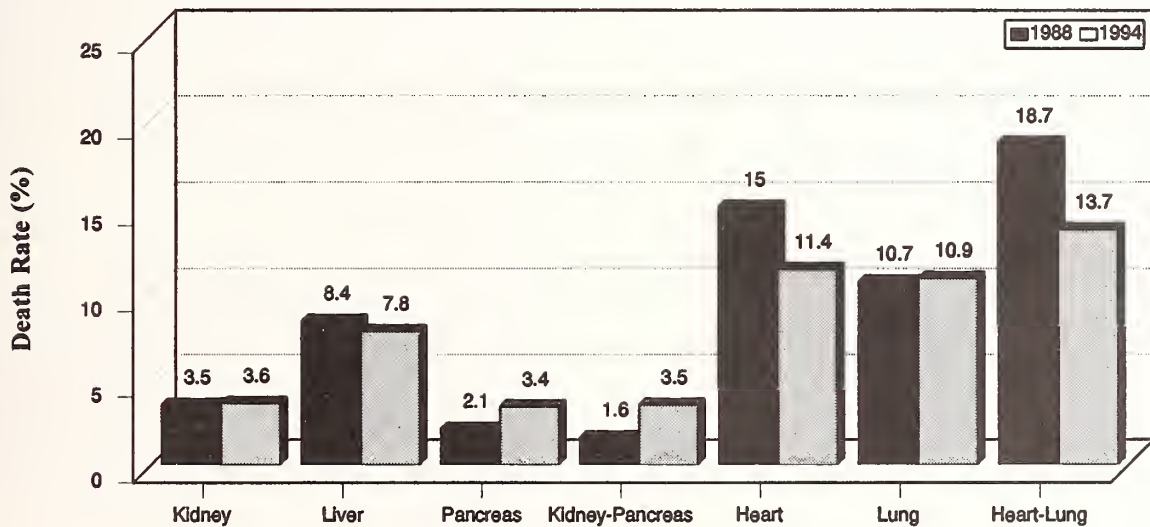
Data for reported deaths on the liver waiting list can be found in Table 52 on pages 235-238.

The number of registrants and deaths on the liver waiting list more than tripled between 1988 and 1994. The death rate fluctuated around 8% to 9% during this time period.

- The death rate among Blacks is higher than for all other races.
- Registrants with blood type A have lower than average death rates while those with blood type B tend to have higher death rates, most likely because type B donors are less common.

**Figure 5**

**Death Rates by Organ -- 1988 and 1994\***



\* Kidney-pancreas data are shown for 1992, the first year for which the death rate was computed, and 1994.

**Deaths on the Pancreas Waiting List**

Data for reported deaths on the pancreas waiting list can be found in Table 53 on pages 239-242.

The pancreas waiting list has remained small; the death rate fluctuated over the years from a low of 1% in 1993 to a high of 5% in 1992. The death rate for 1994 was 3%.

**Deaths on the Kidney-Pancreas Waiting List**

Data for reported deaths on the kidney-pancreas waiting list can be found in Table 54 on pages 243-246.

The kidney-pancreas waiting list was established in 1992 and since then the waiting list has more than doubled. The death rate was approximately 2% in 1992, increased to 4% in 1993, and stayed at 4% for 1994.

**Deaths on the Heart Waiting List**

Data for reported deaths on the heart waiting list can be found in Table 55 on pages 247-250.

The heart waiting list nearly doubled between 1988 and 1994. The number of deaths increased at a slower rate, resulting in a death rate decrease from 15% in 1988 to 11% in 1994. One likely explanation is that more patients who are less critically ill are being listed.

**Deaths on the Lung Waiting List**

Data for reported deaths on the lung waiting list can be found in Table 56 on pages 251-254.

The waiting list grew from 149 in 1988 to 2,634 in 1994, and the number of deaths grew at the same rate. The death rate ranged from a low of 8% in 1990 to a high of 13% in 1989 and 1992. In 1994, the death rate was 11%.

**Deaths on the Heart-Lung Waiting List**

Data for reported deaths on the heart-lung waiting list can be found in Table 57 on pages 255-258.

The number of registrants on the heart-lung waiting list remained steady over time while the death rate

decreased from 19% in 1988 to 14% in 1994.

- The death rate for females improved from 23% in 1989 and 1990, to 13% in 1994. The death rate for males peaked at 22% in 1993 but declined to 15% in 1994.

**CADAVERIC ORGAN DISPOSITION**

In 1994, a total of 19,229 organs were recovered from cadaveric donors, an increase of 58% compared to 1988, when 12,159 organs were recovered (Table 58, pg. 260). In 1994, 50% of all organs recovered were kidneys, 21% were livers, 13% were hearts, 9% were lungs, and 7% were pancreases.

**Kidney Disposition**

Of the 9,538 kidneys recovered for transplantation in 1994, 89% were transplanted, 4% were utilized for research, and 7% were discarded. Local transplants accounted for 66% of the total number of kidneys recovered, while kidneys used in shared transplants constituted 23% of the total. Local use of kidneys has decreased slightly over time while shared transplants has remained steady. As an increasing number of kidneys has been retrieved, the discard and research rates have increased. These increases may be due to increased procurement of kidneys that meet extended donor criteria, and are more difficult to place for transplantation (Table 59, pg. 261).

**Liver Disposition**

In 1994, 54% of the livers recovered for transplantation were transplanted locally; only 34% were shared transplants. This is a dramatic shift from the 25% local and 66% shared transplants recorded in 1988. The shift to more local transplant usage reflects the dramatic increase in active liver transplant programs across the United States (Table 60, pg. 261).

**Pancreas Disposition**

In 1994, local pancreas transplants reached their highest rate for the 1988 to 1994 time period, increasing from 32% to 50%. While only 62% of the pancreases retrieved were actually used for

organ transplants, this represents an increase from 42% in 1988. Many pancreases are used for research (54% in 1988 down to 33% in 1994) and often are used for pancreatic islet cells tissue grafts (Table 61, pg. 262).

### Heart Disposition

In 1994, local transplants accounted for 68% of the total hearts recovered. Conversely, hearts used for shared transplants decreased to 27% in 1994, down from 41% in 1988. Discard and research dispositions for hearts that couldn't be transplanted have increased slightly but still account for less than 5% of the total in 1994 (Table 62, pg. 262).

### Lung Disposition

In 1994, local transplants accounted for 43% of all lungs recovered; 24% were used for shared transplants. These rates are slightly lower than in 1988 (50% and 33% respectively). However, there has been a large increase in the percentage of lungs that could not be transplanted and ultimately were used for research, from 12% in 1988 to 31% in 1994 (Table 63, pg. 263).



## **Data Tables**

**Cadaveric and Living Donor Characteristics**  
**Transplant Recipient Characteristics**  
**Graft and Patient Survival**  
**Waiting List Patient Characteristics**  
**Registrations and Median Waiting Times**  
**Reported Deaths on the Waiting List**  
**Cadaveric Organ Disposition**  
**Cadaveric Donors Procured by U.S. OPOs**  
**Transplant Center Activity**



## Notes on Cadaveric and Living Donor Characteristics

### INTRODUCTION

The following tables show frequency counts and percentages of demographic and medical factors (i.e., donor age, gender, blood type, race, cause of death, and/or relation) for cadaveric and living organ donors from 1988 through 1994.

Table 1 highlights all U.S. Organ Donors by Organ and Donor Type.

### CADAVERIC DONOR DATA

Cadaveric donor characteristics are presented in the following tables:

Table 2	All Donors
Table 3	Kidney Donors
Table 4	Liver Donors
Table 5	Pancreas Donors
Table 6	Heart Donors
Table 7	Lung Donors

These tables are based on OPTN data as of October 4, 1995 and include only those cadaveric donors recovered by U.S. Organ Procurement Organizations. Organs imported from foreign donors and transplanted in the U.S. but not managed by U.S. OPOs are not included. The year of reporting is based on the start of organ preservation, as reported to UNOS. Data are subject to change based on future data submission or correction.

For purposes of this report, UNOS defines a (recovered) cadaveric donor as one from whom at least one vascularized solid organ (kidney, liver, pancreas, heart, or lung) was recovered for organ transplantation. Further, an organ-specific donor is one from whom that particular organ was recovered for the purposes of transplantation. Hearts recovered for heart valves and pancreases recovered for islet cells are not counted.

Note that not all recovered organs are actually transplanted. Data tables pertaining to the disposition of recovered organs are presented later

in this section (see Tables 59-63).

### LIVING DONOR DATA

Living donor characteristics are presented in the following tables:

Table 8	All Donors
Table 9	Kidney Donors

These data are based solely on UNOS Living Donor Registration Forms entered on or before October 4, 1995. The data include living donors from whom organs were transplanted in the U.S. between 1988 and 1994. The year of reporting is based on the organ recovery date as reported to UNOS. Data are subject to change based on future data submission or correction.

The numbers of living liver, pancreas, heart, and lung donors are too small to offer meaningful information, and therefore, are not presented here.

**Table 1**  
**U.S. Organ Donors by Organ and Donor Type -- 1988 to 1994**

Organ/Donor Type		1988	1989	1990	1991	1992	1993	1994
Kidney	Cadaveric	3879	3815	4308	4269	4277	4610	4802
	Live	1812	1900	2096	2388	2535	2846	2921
	<b>Total</b>	<b>5,691</b>	<b>5,715</b>	<b>6,404</b>	<b>6,657</b>	<b>6,812</b>	<b>7,456</b>	<b>7,723</b>
Liver	Cadaveric	1834	2377	2871	3167	3335	3765	4094
	Live	0	2	14	22	33	36	59
	<b>Total</b>	<b>1,834</b>	<b>2,379</b>	<b>2,885</b>	<b>3,189</b>	<b>3,368</b>	<b>3,801</b>	<b>4,153</b>
Pancreas	Cadaveric	577	799	951	1066	1004	1244	1359
	Live	5	4	2	1	3	2	2
	<b>Total</b>	<b>582</b>	<b>803</b>	<b>953</b>	<b>1,067</b>	<b>1,007</b>	<b>1,246</b>	<b>1,361</b>
Heart	Cadaveric	1785	1782	2168	2198	2247	2442	2527
	Live	8	8	12	4	1	2	3
	<b>Total</b>	<b>1,793</b>	<b>1,790</b>	<b>2,180</b>	<b>2,202</b>	<b>2,248</b>	<b>2,444</b>	<b>2,530</b>
Lung	Cadaveric	130	191	275	395	527	790	918
	Live	0	0	1	4	0	12	27
	<b>Total</b>	<b>130</b>	<b>191</b>	<b>276</b>	<b>399</b>	<b>527</b>	<b>802</b>	<b>945</b>
<b>Overall</b>	<b>Cadaveric</b>	<b>4083</b>	<b>4017</b>	<b>4512</b>	<b>4528</b>	<b>4521</b>	<b>4862</b>	<b>5104</b>
	<b>Live</b>	<b>1825</b>	<b>1914</b>	<b>2125</b>	<b>2419</b>	<b>2572</b>	<b>2898</b>	<b>3010</b>
	<b>Total</b>	<b>5,908</b>	<b>5,931</b>	<b>6,637</b>	<b>6,947</b>	<b>7,093</b>	<b>7,760</b>	<b>8,114</b>

Source: UNOS OPTN data as of October 4, 1995.



**Table 2**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**All Donors**

Donor Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	109	2.7	108	2.7	103	2.3	126	2.8	89	2.3	110	2.3	101	2.0
1-5	220	5.4	213	5.3	217	4.8	218	4.8	212	4.7	197	4.1	210	4.1
6-10	101	4.7	175	4.4	166	3.7	171	3.8	153	3.4	154	3.2	166	3.3
11-17	598	14.6	536	13.4	561	12.4	570	12.4	573	12.7	675	13.9	680	13.4
18-34	1653	40.5	1533	38.2	1712	37.9	1627	35.9	1468	32.5	1550	31.9	1542	30.3
35-49	837	20.5	881	21.9	1047	23.2	1018	22.5	1088	24.1	1100	22.6	1237	24.3
50-64	439	10.8	528	13.2	623	13.8	671	14.8	763	16.9	864	17.8	927	18.2
65+	35	0.9	40	1.0	83	1.8	127	2.8	175	3.9	212	4.4	225	4.4
not reported	1		3		0		0		0		0		16	
<b>Total</b>	<b>4083</b>	<b>100.0</b>	<b>4017</b>	<b>100.0</b>	<b>4512</b>	<b>100.0</b>	<b>4528</b>	<b>100.0</b>	<b>4521</b>	<b>100.0</b>	<b>4862</b>	<b>100.0</b>	<b>5104</b>	<b>100.0</b>

Donor Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	1535	37.6	1430	35.6	1656	36.7	1744	38.5	1718	38.0	1837	37.8	1975	38.7
Male	2548	62.4	2587	64.4	2856	63.3	2784	61.5	2803	62.0	3025	62.2	3129	61.3
not reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>4083</b>	<b>100.0</b>	<b>4017</b>	<b>100.0</b>	<b>4512</b>	<b>100.0</b>	<b>4528</b>	<b>100.0</b>	<b>4521</b>	<b>100.0</b>	<b>4862</b>	<b>100.0</b>	<b>5104</b>	<b>100.0</b>

Donor Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	1902	46.6	1906	47.5	2056	45.6	2159	47.7	2180	48.2	2349	48.3	2450	48.0
A	1587	38.9	1525	38.9	1799	38.9	1712	37.8	1696	37.5	1833	37.7	1915	37.5
B	474	11.4	458	11.4	500	11.1	484	10.7	477	10.6	549	11.3	559	11.0
AB	119	2.9	125	3.1	155	3.4	173	3.8	166	3.7	131	2.7	180	3.5
not reported	1		3		2		0		2		0		0	
<b>Total</b>	<b>4083</b>	<b>100.0</b>	<b>4017</b>	<b>100.0</b>	<b>4512</b>	<b>100.0</b>	<b>4528</b>	<b>100.0</b>	<b>4521</b>	<b>100.0</b>	<b>4862</b>	<b>100.0</b>	<b>5104</b>	<b>100.0</b>

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 2**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**All Donors**

Donor Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	3414	84.0	3304	82.6	3715	82.7	3636	80.8	3562	79.1	3816	78.8	3975	78.4
Black	362	9.9	351	8.8	443	9.9	466	10.4	512	11.4	556	11.5	585	11.5
Hispanic	250	6.2	276	6.9	283	6.3	341	7.6	320	7.1	399	8.2	415	8.2
Asian	30	0.7	55	1.4	39	0.9	44	1.0	66	1.5	55	1.1	91	1.8
Other	7	0.2	11	0.3	12	0.3	10	0.2	33	0.7	16	0.3	7	0.1
Unknown	1	0.0	2	0.1	1	0.0	2	0.0	10	0.2	2	0.0	0	0.0
not reported	19		18		19		29		18		18		31	
Total	4083	100.0	4017	100.0	4512	100.0	4528	100.0	4521	100.0	4862	100.0	5104	100.0

Donor Cause of Death	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MVA	1387	34.0	1196	29.8	1240	27.5	1161	25.6	967	21.4	1050	21.4	1247	24.4
Gunshot/Stab	620	15.2	668	16.6	740	16.4	806	17.8	833	18.4	863	17.7	171	3.4
Cerebro-vascular	1122	27.5	1220	30.4	1458	32.3	1529	33.8	1624	35.9	1761	36.2	1940	38.0
Head Trauma	409	10.0	418	10.4	498	11.0	464	10.2	512	11.3	547	11.3	1115	21.8
Asphyxiation	111	2.7	119	3.0	140	3.1	145	3.2	106	2.3	124	2.6	122	2.4
Drowning	49	1.2	48	1.2	51	1.1	38	0.8	48	1.0	51	1.0	30	0.6
Drug Intoxication	52	1.3	36	0.9	31	0.7	31	0.7	36	0.8	24	0.5	24	0.5
Cardio-vascular	94	2.3	78	1.9	78	1.7	78	1.7	82	1.9	94	1.9	107	2.1
Other	203	5.0	204	5.1	243	5.4	250	5.5	285	6.3	290	6.0	64	1.3
Unknown	37	0.9	30	0.7	35	0.8	26	0.6	30	0.7	58	1.2	285	5.6
not reported	0		0		0		0		0		0		0	
Total	4083	100.0	4017	100.0	4512	100.0	4528	100.0	4521	100.0	4862	100.0	5104	100.0

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 3**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**Kidney Donors**

Donor Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	30	0.8	29	0.8	43	1.9	46	1.1	35	0.8	48	1.9	38	0.8
1-5	188	4.8	185	4.9	201	4.7	192	4.5	184	4.3	170	3.7	184	3.8
6-10	187	4.8	172	4.5	161	3.7	170	4.0	151	3.5	151	3.3	160	3.3
11-17	589	15.2	522	13.7	549	12.7	563	13.2	559	13.1	660	14.3	662	13.8
18-34	1595	41.1	1489	39.0	1656	38.4	1554	36.4	1417	33.1	1501	32.6	1477	30.8
35-49	820	21.1	853	22.4	1001	23.2	966	22.6	1035	24.2	1049	22.8	1174	24.5
50-64	436	11.2	526	13.8	615	14.3	654	15.3	731	17.1	833	18.1	890	18.6
65+	34	0.9	30	1.9	82	1.9	124	2.9	165	3.9	198	4.3	203	4.2
not reported	0		1		0		0		0		0		14	
Total	3879	100.0	3815	100.0	4308	100.0	4269	100.0	4277	100.0	4610	100.0	4802	100.0

Donor Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	1459	37.6	1365	35.8	1578	36.6	1648	38.6	1611	37.7	1742	37.8	1871	39.0
Male	2420	62.4	2450	64.2	2730	63.4	2621	61.4	2666	62.3	2868	62.2	2931	61.0
not reported	0		0		0		0		0		0		0	
Total	3879	100.0	3815	100.0	4308	100.0	4269	100.0	4277	100.0	4610	100.0	4802	100.0

Donor Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	1799	46.4	1808	47.4	1957	45.4	2018	47.3	2063	48.3	2230	48.4	2304	48.0
A	1510	38.9	1455	38.1	1724	40.0	1633	38.3	1600	37.4	1738	37.7	1805	37.6
B	457	11.8	436	11.5	473	11.0	458	10.7	452	10.6	521	11.3	519	10.8
AB	113	2.9	116	3.0	153	3.6	160	3.7	160	3.7	121	2.6	174	3.6
not reported	0		0		1		0		2		0		0	
Total	3879	100.0	3815	100.0	4308	100.0	4269	100.0	4277	100.0	4610	100.0	4802	100.0

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 3**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**Kidney Donors**

Donor Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	3252	84.2	3157	83.1	3563	83.0	3458	81.5	3399	79.8	3628	79.0	3765	78.9
Black	333	8.4	321	8.4	412	9.5	425	10.0	470	11.0	526	11.4	537	11.3
Hispanic	240	6.2	262	6.9	268	6.2	304	7.2	293	6.9	371	8.1	379	7.9
Asian	29	0.8	51	1.3	38	0.9	43	1.0	61	1.4	52	1.1	83	1.7
Other	6	0.2	9	0.2	10	0.2	10	0.2	30	0.7	15	0.3	7	0.1
Unknown	1	0.0	1	0.0	0	0.0	2	0.0	9	0.2	2	0.0	0	0.0
not reported	18		14		17		27		15		16		31	
<b>Total</b>	<b>3879</b>	<b>100.0</b>	<b>3815</b>	<b>100.0</b>	<b>4308</b>	<b>100.0</b>	<b>4269</b>	<b>100.0</b>	<b>4277</b>	<b>100.0</b>	<b>4610</b>	<b>100.0</b>	<b>4802</b>	<b>100.0</b>

Donor Cause of Death	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MVA	1352	34.9	1157	30.3	1204	27.9	1122	26.3	934	21.8	1018	22.1	1197	24.9
Gunshot/Stab	599	15.4	653	17.1	715	16.6	771	18.1	798	18.7	842	18.3	165	3.4
Cerebro-vascular	1085	28.0	1177	30.9	1399	32.5	1456	34.1	1537	35.9	1674	36.3	1824	38.0
Head Trauma	374	9.6	398	10.4	477	11.1	434	10.2	486	11.4	522	11.3	1056	22.0
Asphyxiation	87	2.2	93	2.4	125	2.9	119	2.8	92	2.2	106	2.3	109	2.3
Drowning	47	1.2	44	1.2	50	1.2	34	0.8	44	1.0	50	1.1	28	0.6
Drug Intoxication	50	1.3	31	0.8	27	0.6	27	0.6	31	0.7	18	0.4	22	0.5
Cardio-vascular	89	2.3	89	2.3	72	1.7	72	1.7	75	1.8	89	1.9	97	2.0
Other	162	4.2	167	4.4	206	4.8	212	5.0	250	5.9	243	5.3	55	1.1
Unknown	34	0.9	26	0.7	33	0.8	22	0.5	27	0.6	54	1.2	240	5.0
not reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>3879</b>	<b>100.0</b>	<b>3815</b>	<b>100.0</b>	<b>4308</b>	<b>100.0</b>	<b>4269</b>	<b>100.0</b>	<b>4277</b>	<b>100.0</b>	<b>4610</b>	<b>100.0</b>	<b>4802</b>	<b>100.0</b>

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 4**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**Liver Donors**

Donor Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	93	5.2	93	3.9	78	2.7	95	3.9	68	2.0	74	2.0	68	1.7
1-5	168	9.2	178	7.5	180	6.3	179	5.7	167	5.0	167	4.4	174	4.3
6-10	107	5.8	121	5.1	124	4.3	131	4.1	130	3.9	133	3.5	143	3.5
11-17	349	19.3	360	15.2	418	14.6	440	13.9	469	14.1	579	15.4	608	14.9
18-34	775	42.3	996	41.9	1154	40.2	1221	38.6	1143	34.3	1248	33.1	1300	31.9
35-49	292	15.9	471	19.8	630	21.9	691	21.6	784	23.5	813	21.6	957	23.5
50-64	45	2.5	151	6.4	274	9.5	378	11.9	491	14.7	598	15.9	667	16.3
65+	1	0.1	6	0.3	13	0.5	32	1.0	83	2.5	153	4.1	164	4.0
not reported	1		1		0		0		0		0		13	
Total	1834	100.0	2377	100.0	2871	100.0	3167	100.0	3335	100.0	3765	100.0	4094	100.0

Donor Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	683	37.2	810	34.1	1033	36.0	1162	36.7	1253	37.6	1402	37.2	1577	38.5
Male	1151	62.8	1567	65.9	1838	64.0	2005	63.3	2082	62.4	2363	62.8	2517	61.5
not reported	0		0		0		0		0		0		0	
Total	1834	100.0	2377	100.0	2871	100.0	3167	100.0	3335	100.0	3765	100.0	4094	100.0

Donor Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	933	50.9	1175	49.5	1358	47.3	1553	49.0	1629	48.8	1841	48.9	1979	48.3
A	695	37.9	883	37.2	1140	39.7	1197	37.8	1251	37.5	1404	37.3	1538	37.6
B	170	9.3	265	11.2	294	10.2	319	10.1	347	10.4	429	11.4	440	10.7
AB	36	2.0	52	2.2	77	2.7	98	3.1	168	3.2	91	2.4	137	3.3
not reported	0		2		2		0		0		0		0	
Total	1834	100.0	2377	100.0	2871	100.0	3167	100.0	3335	100.0	3765	100.0	4094	100.0

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 4**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**Liver Donors**

Donor Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	1575	86.2	1964	83.0	2350	82.2	2542	80.7	2622	78.9	2937	78.2	3212	78.9
Black	150	8.2	203	8.6	303	10.6	319	10.1	376	11.3	447	11.9	446	11.9
Hispanic	89	4.9	153	6.5	177	6.2	252	8.0	251	7.6	306	8.2	329	8.1
Asian	10	0.5	36	1.5	20	0.7	30	1.0	47	1.4	47	1.3	78	1.9
Other	3	0.2	7	0.3	8	0.3	5	0.2	19	0.6	15	0.4	4	0.1
Unknown	1	0.1	2	0.1	1	0.0	2	0.1	8	0.2	2	0.1	0	0.0
not reported	6		12		12		17		12		11		25	
<b>Total</b>	<b>1834</b>	<b>100.0</b>	<b>2377</b>	<b>100.0</b>	<b>2871</b>	<b>100.0</b>	<b>3167</b>	<b>100.0</b>	<b>3335</b>	<b>100.0</b>	<b>3765</b>	<b>100.0</b>	<b>4094</b>	<b>100.0</b>

Donor Cause of Death	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MVA	657	35.8	768	32.3	826	28.8	834	26.3	736	22.1	851	22.6	1022	25.0
Gunshot/Stab	298	16.2	423	17.8	503	17.5	610	19.3	653	19.6	710	18.9	134	3.3
Cerebro-vascular	416	22.7	645	27.1	866	30.2	1006	31.8	1157	34.7	1324	35.2	1511	36.9
Head Trauma	191	10.4	254	10.7	328	11.4	347	11.0	399	12.0	431	11.4	965	23.6
Asphyxiation	65	3.5	75	3.2	86	3.0	95	3.0	86	2.4	89	2.4	94	2.3
Drowning	32	1.7	35	1.5	41	1.4	36	0.9	40	1.2	41	1.1	21	0.5
Drug Intoxication	16	0.9	13	0.5	13	0.5	16	0.5	28	0.7	16	0.3	16	0.4
Cardio-vascular	28	1.5	28	1.0	31	1.1	49	1.5	46	1.4	68	1.8	73	1.8
Other	111	6.1	121	5.1	154	5.4	163	5.1	182	5.5	213	5.7	46	1.1
Unknown	20	1.1	10	0.4	23	0.8	17	0.5	20	0.6	20	0.7	213	5.2
not reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>1834</b>	<b>100.0</b>	<b>2377</b>	<b>100.0</b>	<b>2871</b>	<b>100.0</b>	<b>3167</b>	<b>100.0</b>	<b>3335</b>	<b>100.0</b>	<b>3765</b>	<b>100.0</b>	<b>4094</b>	<b>100.0</b>

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 5**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**Pancreas Donors**

Donor Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	2	0.3	1	0.1	4	0.4	4	0.4	7	0.7	3	0.2	6	0.4
1-5	19	3.3	15	1.9	25	2.6	7	0.7	7	0.7	14	1.1	17	1.3
6-10	17	2.9	25	3.1	28	2.9	24	2.3	25	2.5	22	1.6	32	2.4
11-17	98	17.0	126	15.8	147	15.5	157	14.7	184	18.3	225	18.1	247	18.2
18-34	290	50.3	387	48.4	427	44.9	490	46.0	423	42.1	544	43.7	549	40.5
35-49	108	18.7	191	23.9	235	24.7	275	25.8	248	24.7	281	22.6	337	24.9
50-64	43	7.5	52	6.5	80	8.4	106	9.9	94	9.4	138	11.1	152	11.2
65+	0	0.0	2	0.3	5	0.5	3	0.3	16	1.6	17	1.6	16	1.2
not reported	0		0		0		0		0		0		3	
Total	577	100.0	799	100.0	951	100.0	1066	100.0	1004	100.0	1244	100.0	1359	100.0

Donor Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	201	34.8	261	32.7	337	35.4	382	35.8	347	34.6	412	33.1	472	34.7
Male	376	65.2	538	67.3	614	64.6	684	64.2	657	65.4	832	66.9	887	65.3
not reported	0		0		0		0		0		0		0	
Total	577	100.0	799	100.0	951	100.0	1066	100.0	1004	100.0	1244	100.0	1359	100.0

Donor Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	260	45.1	397	49.7	473	49.7	512	48.0	480	47.8	604	48.6	669	49.2
A	235	40.7	313	39.2	355	37.3	413	38.7	389	38.7	461	37.1	510	37.5
B	68	11.8	74	9.3	94	9.9	113	10.6	99	9.9	142	11.4	142	10.4
AB	14	2.4	15	1.9	29	3.0	28	2.6	36	3.6	37	3.0	38	2.8
not reported	0		0		0		0		0		0		0	
Total	577	100.0	799	100.0	951	100.0	1066	100.0	1004	100.0	1244	100.0	1359	100.0

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 5**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**Pancreas Donors**

Donor Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	500	87.1	681	85.4	794	83.8	888	83.8	846	84.3	1051	84.7	1112	82.4
Black	41	7.1	55	6.9	95	10.0	84	7.9	99	9.9	109	8.8	124	9.2
Hispanic	29	5.1	53	6.6	51	5.4	77	7.3	45	4.5	60	5.3	91	6.7
Asian	2	0.3	5	0.6	4	0.4	11	1.0	8	0.8	13	1.0	20	1.5
Other	2	0.3	2	0.3	3	0.3	2	0.2	5	0.5	2	0.2	2	0.1
Unknown	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
not reported	3		2		4		4		1		3		10	
Total	577	100.0	799	100.0	951	100.0	1066	100.0	1004	100.0	1244	100.0	1359	100.0

Donor Cause of Death	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MVA	202	35.0	264	33.0	289	29.4	303	28.4	227	22.6	324	26.0	381	28.0
Gunshot/Stab	105	18.2	175	21.9	193	20.3	225	21.1	242	24.1	289	23.2	56	4.1
Cerebro-vascular	152	26.3	218	27.3	280	29.4	325	30.5	324	32.3	388	31.2	428	31.5
Head Trauma	60	10.4	74	9.3	102	10.7	116	10.3	116	11.6	126	10.1	362	26.6
Asphyxiation	10	1.7	10	2.0	23	2.4	27	2.5	20	2.0	25	2.0	23	1.7
Drowning	5	0.9	1	0.1	8	0.8	3	0.4	7	0.7	10	0.8	9	0.7
Drug Intoxication	4	1.4	13	1.3	5	0.5	5	0.5	5	0.5	4	0.3	5	0.3
Cardio-vascular	18	2.3	4	0.5	7	0.5	4	0.4	4	0.9	18	1.4	22	1.6
Other	10	3.3	20	3.5	44	4.6	52	4.9	50	5.0	50	4.0	13	1.0
Unknown	3	0.5	9	1.1	9	0.9	6	0.6	4	0.4	10	0.8	60	4.4
not reported	0		0		0		0		0		0		0	
Total	577	100.0	799	100.0	951	100.0	1066	100.0	1004	100.0	1244	100.0	1359	100.0

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.



**Table 6**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**Heart Donors**

Donor Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	27	1.5	59	3.3	68	3.1	92	4.2	65	2.9	84	3.4	72	2.9
1-5	31	1.7	38	2.1	67	3.1	77	3.5	80	3.8	77	3.2	89	3.5
6-10	40	2.2	29	1.6	39	1.8	40	2.2	65	2.9	59	2.4	54	2.1
11-17	316	17.7	273	15.3	322	14.9	329	15.0	370	16.5	455	18.6	453	18.0
18-34	992	55.6	943	53.0	1110	51.2	1060	48.2	959	42.7	1048	42.9	1013	40.2
35-49	343	19.2	381	21.4	481	22.2	488	22.2	550	24.5	513	21.0	615	24.4
50-64	35	2.9	56	3.1	80	3.7	101	4.6	146	6.5	190	7.8	208	8.2
65+	1	0.1	1	0.1	1	0.0	2	0.1	6	0.3	16	0.7	16	0.7
not reported	0		2		0		0		0		0		5	
Total	1785	100.0	1782	100.0	2168	100.0	2198	100.0	2247	100.0	2442	100.0	2527	100.0

Donor Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	506	28.3	498	27.9	655	30.2	695	31.6	712	31.7	767	31.4	790	31.3
Male	1279	71.7	1284	72.1	1513	69.8	1503	68.4	1535	68.3	1675	68.6	1737	68.7
not reported	0		0		0		0		0		0		0	
Total	1785	100.0	1782	100.0	2168	100.0	2198	100.0	2247	100.0	2442	100.0	2527	100.0

Donor Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	888	49.8	911	51.2	1074	49.5	1092	49.7	1130	50.3	1248	51.1	1286	50.9
A	684	38.3	662	37.2	833	38.4	815	37.1	828	36.8	898	36.8	941	37.2
B	170	9.5	167	9.4	217	10.0	234	10.6	221	9.8	243	10.0	240	9.5
AB	42	2.4	41	2.3	44	2.0	57	2.6	68	3.0	53	2.2	60	2.4
not reported	1		1		0		0		0		0		0	
Total	1785	100.0	1782	100.0	2168	100.0	2198	100.0	2247	100.0	2442	100.0	2527	100.0

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 6**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**Heart Donors**

Donor Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	1514	85.2	1480	83.5	1782	82.6	1763	80.6	1769	79.0	1876	77.1	1958	77.9
Black	146	8.2	150	8.5	212	9.8	218	10.0	243	10.9	294	12.1	300	11.9
Hispanic	109	6.1	123	6.9	149	6.9	182	8.3	187	8.4	229	9.4	219	8.7
Asian	6	0.3	16	0.9	11	0.5	18	0.8	21	0.9	22	0.9	36	1.4
Other	2	0.1	3	0.2	4	0.2	4	0.2	13	0.6	10	0.4	1	0.0
Unknown	0	0.0	0	0.0	0	0.0	1	0.0	5	0.2	2	0.1	0	0.0
not reported	8		10		10		12		9		9		13	
<b>Total</b>	<b>1785</b>	<b>100.0</b>	<b>1782</b>	<b>100.0</b>	<b>2168</b>	<b>100.0</b>	<b>2198</b>	<b>100.0</b>	<b>2247</b>	<b>100.0</b>	<b>2442</b>	<b>100.0</b>	<b>2527</b>	<b>100.0</b>

Donor Cause of Death	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MVA	713	39.9	606	34.0	722	33.3	671	30.5	561	25.0	657	26.9	745	29.5
Gunshot/Stab	380	21.3	393	22.1	461	21.3	500	22.7	552	24.6	567	23.2	118	4.7
Cerebro-vascular	368	20.6	417	23.4	503	23.2	538	24.5	598	26.6	628	25.7	708	28.0
Head Trauma	184	10.3	213	12.0	277	12.8	252	11.5	303	13.5	310	12.7	705	27.9
Asphyxiation	25	1.4	35	2.0	48	2.2	65	3.0	45	2.0	59	2.4	48	1.9
Drowning	8	0.4	6	0.3	14	0.6	16	0.7	20	0.9	19	0.8	8	0.3
Drug Intoxication	15	1.1	15	0.8	15	0.7	12	0.6	15	0.7	13	0.5	13	0.5
Cardio-vascular	12	0.7	14	0.8	14	0.6	15	0.7	14	0.6	21	0.9	20	0.8
Other	66	3.7	73	4.1	100	4.6	115	5.2	127	5.7	155	6.3	29	1.1
Unknown	10	0.6	12	0.7	10	0.5	14	0.6	15	0.7	13	0.5	133	5.3
not reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>1785</b>	<b>100.0</b>	<b>1782</b>	<b>100.0</b>	<b>2168</b>	<b>100.0</b>	<b>2198</b>	<b>100.0</b>	<b>2247</b>	<b>100.0</b>	<b>2442</b>	<b>100.0</b>	<b>2527</b>	<b>100.0</b>

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 7**  
**Cadaveric Donor Characteristics -- 1988 to 1994**

**Lung Donors**

Donor Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	0	0.0	1	0.5	1	0.4	2	0.5	5	0.0	7	0.0	8	0.9
1-5	3	2.3	4	2.1	0	2.9	10	2.5	0	1.1	17	2.2	22	2.4
6-10	4	3.1	5	2.6	0	0.0	15	3.8	28	5.3	20	2.5	22	2.4
11-17	33	25.4	41	21.5	49	17.8	90	22.8	196	20.1	151	19.1	157	17.1
18-34	70	53.8	107	56.0	148	53.8	180	45.6	228	43.3	346	43.8	353	38.5
35-49	10	13.8	32	16.8	63	22.9	83	21.0	121	23.0	175	22.2	245	26.7
50-64	2	1.5	1	0.5	5	1.8	14	3.5	30	5.7	65	8.2	97	10.6
65+	0	0.0	0	0.0	1	0.4	1	0.3	3	0.6	0	1.1	12	1.3
not reported	0		0		0		0		0		0		2	
Total	130	100.0	191	100.0	275	100.0	395	100.0	527	100.0	790	100.0	918	100.0

Donor Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	45	34.6	59	30.9	95	34.5	129	32.7	179	34.0	263	33.3	340	37.0
Male	85	65.4	132	69.1	180	65.5	266	67.3	348	66.0	527	66.7	578	63.0
not reported	0		0		0		0		0		0		0	
Total	130	100.0	191	100.0	275	100.0	395	100.0	527	100.0	790	100.0	918	100.0

Donor Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	61	46.9	102	53.4	142	51.6	217	54.9	262	49.7	392	49.6	458	49.9
A	54	41.5	74	38.7	101	38.7	134	33.9	196	37.2	282	35.7	342	37.3
B	11	8.5	0	4.2	22	8.0	34	8.0	56	10.6	90	12.5	94	10.2
AB	4	3.1	7	3.7	10	3.8	10	2.5	13	2.5	17	2.2	24	2.6
not reported	0		0		0		0		0		0		0	
Total	130	100.0	191	100.0	275	100.0	395	100.0	527	100.0	790	100.0	918	100.0

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

Table 7  
Cadaveric Donor Characteristics -- 1988 to 1994

## Lung Donors

Donor Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	111	85.4	152	80.9	224	82.1	318	80.9	417	79.4	607	77.2	725	79.7
Black	12	9.2	14	7.4	25	9.2	44	11.2	74	14.1	112	14.2	105	11.5
Hispanic	6	4.6	22	11.6	23	8.4	26	7.1	27	5.1	61	7.8	63	6.9
Asian	1	0.8	2	1.1	1	0.3	3	0.8	5	1.0	5	0.3	16	1.8
Other	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1	1	0.1
Unknown	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0
not reported	0		1		2		2		2		4		8	
Total	130	100.0	191	100.0	275	100.0	395	100.0	527	100.0	790	100.0	918	100.0

Donor Cause of Death	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MVA	46	35.4	51	26.7	80	29.1	95	24.1	113	21.4	176	22.3	210	22.9
Gunshot/Stab	33	25.4	61	31.9	69	25.1	132	33.4	157	29.8	220	27.8	30	4.1
Cerebro-vascular	26	26.6	50	26.2	82	29.8	105	26.6	157	29.8	225	28.5	311	33.9
Head Trauma	10	13.8	10	9.4	30	10.9	30	9.1	58	11.0	94	11.9	264	28.8
Asphyxiation	1	0.8	2	1.0	4	1.5	5	1.3	6	1.1	12	1.5	15	1.6
Drowning	0	0.0	0	0.0	0	0.0	2	0.5	1	0.2	3	0.4	1	0.1
Drug Intoxication	1	0.8	0	0.0	1	0.3	2	0.5	3	0.5	2	0.3	6	0.7
Cardio-vascular	1	0.8	2	1.0	6	2.2	1	0.3	1	0.2	13	1.6	17	1.9
Other	4	3.1	7	3.7	9	3.3	14	3.5	26	4.9	35	4.4	17	1.9
Unknown	0	0.0	0	0.0	0	0.0	3	0.8	5	0.9	10	1.3	30	4.2
not reported	0		0		0		0		0		0		0	
Total	130	100.0	191	100.0	275	100.0	395	100.0	527	100.0	790	100.0	918	100.0

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 8**  
**Living Donor Characteristics -- 1988 to 1994**

**All Donors**

Donor Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	1	0.0
1-5	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0
6-10	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
11-17	0	0.5	7	0.4	0	0.3	4	0.2	1	0.0	4	0.1	5	0.2
18-34	868	47.6	868	45.4	959	45.2	1044	43.2	1121	43.6	1237	42.8	1238	41.2
35-49	716	39.2	751	39.3	851	40.1	1055	43.6	1068	41.5	1198	41.4	1284	42.8
50-64	220	12.1	266	13.9	280	13.2	297	12.3	349	13.6	424	14.7	433	14.4
65+	12	0.7	20	1.0	20	1.2	19	0.8	33	1.3	20	1.0	34	1.1
not reported	0		1		2		0		0		5		14	
<b>Total</b>	<b>1825</b>	<b>100.0</b>	<b>1914</b>	<b>100.0</b>	<b>2125</b>	<b>100.0</b>	<b>2419</b>	<b>100.0</b>	<b>2572</b>	<b>100.0</b>	<b>2898</b>	<b>100.0</b>	<b>3010</b>	<b>100.0</b>

Donor Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	998	54.7	1043	54.5	1184	55.7	1343	55.5	1440	56.0	1637	56.5	1679	55.9
Male	826	45.3	870	45.5	941	44.3	1076	44.5	1132	44.0	1261	43.5	1326	44.1
not reported	1		1		0		0		0		0		5	
<b>Total</b>	<b>1825</b>	<b>100.0</b>	<b>1914</b>	<b>100.0</b>	<b>2125</b>	<b>100.0</b>	<b>2419</b>	<b>100.0</b>	<b>2572</b>	<b>100.0</b>	<b>2898</b>	<b>100.0</b>	<b>3010</b>	<b>100.0</b>

Donor Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	1106	60.7	1193	62.6	1258	59.5	1424	59.0	1608	62.9	1754	60.8	1827	60.8
A	561	30.8	527	27.6	642	30.4	757	31.4	729	28.5	851	29.5	906	30.1
B	138	7.6	170	8.9	184	8.7	201	8.3	197	7.7	254	8.8	249	8.3
AB	18	1.0	17	0.9	31	1.5	32	1.3	22	0.9	24	0.8	24	0.8
not reported	2		7		10		5		16		15		4	
<b>Total</b>	<b>1825</b>	<b>100.0</b>	<b>1914</b>	<b>100.0</b>	<b>2125</b>	<b>100.0</b>	<b>2419</b>	<b>100.0</b>	<b>2572</b>	<b>100.0</b>	<b>2898</b>	<b>100.0</b>	<b>3010</b>	<b>100.0</b>

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 8**  
**Living Donor Characteristics -- 1988 to 1994**

**All Donors**

Donor Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	1383	77.2	1449	77.4	1603	77.3	1782	75.0	1848	73.4	2041	71.7	2148	72.8
Black	211	11.8	215	11.5	220	10.6	288	12.1	322	12.8	403	14.2	423	14.3
Hispanic	161	9.0	166	8.9	209	10.1	247	10.4	282	11.2	338	11.9	294	10.0
Asian	30	1.7	35	1.9	32	1.5	49	2.1	50	2.0	62	2.2	86	2.9
Other	6	0.3	7	0.4	9	0.4	9	0.4	14	0.6	4	0.1	1	0.0
not reported	34		42		52		44		50		50		50	
Total	1825	100.0	1914	100.0	2125	100.0	2419	100.0	2572	100.0	2898	100.0	3010	100.0

Donor Relation	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Parent	515	29.6	552	30.2	571	30.1	671	28.3	668	26.7	747	27.5	668	25.3
Child	166	9.5	166	8.8	205	10.8	241	10.2	362	14.5	372	13.7	343	13.0
Identical Twin*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Full Sibling	952	54.7	990	54.2	979	51.6	1293	54.6	1236	49.4	1309	48.2	1257	47.6
Half Sibling	2	0.1	3	0.2	1	0.1	4	0.2	7	0.3	8	0.3	35	1.3
Other Relative	35	2.0	31	1.7	43	2.3	47	2.0	70	2.8	94	3.5	133	5.0
Spouse Unrel.	49	2.3	55	3.0	50	3.1	50	2.5	80	3.2	114	4.2	128	4.8
Other Unrel.	31	1.8	35	1.9	40	2.1	52	2.2	80	3.2	71	2.6	68	2.6
not reported	84		88		228		52		69		184		378	
Total	1825	100.0	1914	100.0	2125	100.0	2419	100.0	2572	100.0	2898	100.0	3010	100.0

\* Identical twin data not collected prior to 1994.

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 9**  
**Living Donor Characteristics -- 1988 to 1994**

**Kidney Donors**

Donor Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0
1-5	0	0.0	1	3.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6-10	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.3
11-17	0	0.5	7	0.4	6	0.3	4	0.2	0	0.0	4	0.1	5	0.2
18-34	860	47.5	862	45.4	941	44.9	1027	43.0	1098	43.3	1202	42.3	1182	40.6
35-49	713	39.3	743	39.1	842	40.2	1042	43.0	1058	41.7	1184	41.7	1256	43.1
50-64	218	12.0	266	14.0	278	13.3	296	12.4	346	13.6	422	14.9	430	14.8
65+	12	0.7	23	1.1	26	1.2	19	0.8	33	1.3	28	1.0	34	1.2
not reported	0		1		2		0		0		5		13	
Total	1812	100.0	1900	100.0	2096	100.0	2388	100.0	2535	100.0	2846	100.0	2921	100.0

Donor Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	989	54.6	1037	54.6	1167	55.7	1326	55.5	1413	55.7	1607	56.5	1624	55.7
Male	822	45.4	862	45.4	929	44.3	1062	44.5	1122	44.3	1239	43.5	1292	44.3
not reported	1		1		0		0		0		0		5	
Total	1812	100.0	1900	100.0	2096	100.0	2388	100.0	2535	100.0	2846	100.0	2921	100.0

Donor Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	1099	60.7	1189	62.8	1241	59.5	1413	59.3	1582	62.8	1725	60.9	1770	60.7
A	558	30.8	519	27.4	631	30.2	745	31.3	719	28.5	832	29.4	878	30.1
B	136	7.5	169	8.9	184	8.8	194	8.1	196	7.8	250	8.8	245	8.4
AB	17	0.9	16	0.8	31	1.5	31	1.3	22	0.9	24	0.8	24	0.8
not reported	2		7		9		5		16		15		4	
Total	1812	100.0	1900	100.0	2096	100.0	2388	100.0	2535	100.0	2846	100.0	2921	100.0

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 9**  
**Living Donor Characteristics -- 1988 to 1994**

**Kidney Donors**

Donor Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	1370	77.1	1435	77.2	1575	77.1	1755	74.8	1821	73.4	1998	71.5	2079	72.6
Black	211	11.0	215	11.0	219	10.7	288	12.3	316	12.7	399	14.3	416	14.5
Hispanic	161	9.1	166	8.9	209	10.2	245	10.4	279	11.3	333	11.0	282	9.8
Asian	30	1.7	35	1.9	32	1.6	48	2.0	53	2.0	62	2.2	85	3.0
Other	6	0.3	7	0.4	9	0.4	9	0.4	14	0.4	6	0.1	1	0.0
not reported	34		42		52		43		55		53		58	
Total	1812	100.0	1900	100.0	2096	100.0	2388	100.0	2535	100.0	2846	100.0	2921	100.0

Donor Relation	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Parent	513	29.7	550	30.3	550	29.8	651	27.8	639	25.9	711	26.6	613	24.0
Child	166	9.6	166	8.8	205	11.0	241	10.3	361	14.6	372	13.9	343	13.4
Identical Twin*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.3
Full Sibling	950	54.9	986	54.4	977	52.2	1292	55.2	1236	50.1	1306	48.9	1248	48.8
Half Sibling	2	0.1	3	0.2	1	0.1	6	0.2	7	0.3	6	0.3	33	1.3
Other Relative	35	2.0	31	1.7	43	2.3	47	2.0	79	2.0	94	3.5	128	4.7
Spouse Unrel.	40	2.3	55	3.0	58	3.1	59	2.5	79	3.2	113	4.2	128	5.0
Other Unrel.	24	1.4	29	1.6	28	1.5	47	2.0	75	3.0	65	2.4	65	2.5
not reported	82		86		226		47		68		178		371	
Total	1812	100.0	1900	100.0	2096	100.0	2388	100.0	2535	100.0	2846	100.0	2921	100.0

\* Identical twin data not collected prior to 1994.

Source: UNOS OPTN data as of October 4, 1995.

Note: Percentages are based on totals excluding not reported cases.



## Notes on Transplant Recipient Characteristics

### INTRODUCTION

The following tables provide frequency counts and percentages of certain recipient demographic and medical factors for U.S. organ transplant recipients by type of transplant procedure, for 1988 through 1994.

Table 10 highlights all U.S. Transplants by Organ and Donor Type.

Transplant recipient characteristics are presented as follows:

Table 11	Cadaveric Kidney Recipients
Table 12	Living Donor Kidney Recipients
Table 13	Liver Recipients
Table 14	Pancreas Recipients
Table 15	Heart Recipients
Table 16	Lung Recipients
Table 17	Heart-Lung Recipients

### NOTES ON RECIPIENT DATA

These data are based primarily on UNOS Transplant Candidate Registration (TCR) and Transplant Recipient Registration (TRR) forms. Transplant counts are based on the OPTN donor feedback process, which begins the process of tracking a transplant based on donor organ allocation, or on live-donor transplant reports from transplant centers. When a patient is wait-listed or receives a live-donor transplant, a TCR form is completed by a transplant center and sent to UNOS for processing. The TRR form is completed by a transplant center after a transplant, and is sent to the appropriate organ-specific registry subcontractor for processing. (After April 1991, all TRR forms for heart, heart-lung, and lung transplants were sent directly to UNOS. After April 1994, all TRR forms for pancreas transplants were sent directly to UNOS.) After processing and validation, each registry subcontractor sends the data to UNOS on a scheduled basis to be uploaded into the UNOS database.

Because living-donor liver, pancreas, heart (from

heart-lung recipients who donate their viable heart) and lung transplants are relatively rare, recipients of such transplants are not described separately in the data tables. See Table 10 for a breakdown on transplants for all organs by cadaveric donor versus living donor.

Tables 11-17 show, for particular characteristics, the number and percentage of transplants by category, for each year, for that type of transplant, according to the UNOS Scientific Registry database on October 7, 1995. Some characteristics may have "not reported" values. This occurs when forms are still outstanding, or are still being validated by UNOS or the particular subcontractor registry. The percentages in the tables are based on the total reported categories, excluding the "not reported" cases. The data are subject to change due to future data submission or correction.

### Notes Concerning Particular Factors

- Patient Description, Kidney Transplant status for pancreas transplants, Type of Procedure (heart and lung only), and Diagnosis (for all organs except pancreas) -- These data are collected via the TRR form. "Not reported" cases are accounted for primarily by data being missing or reported as unknown on TRR forms, or by TRR forms being delinquent or not linking to the transplant data. The Kidney Transplant categories for pancreas recipients categorize these patients according to their kidney transplant status. They are categorized as simultaneous kidney-pancreas recipients, pancreas recipients with a previous kidney transplant, and pancreas recipients with no previous (or simultaneous) kidney transplant. In the Type of Procedure categories for lung transplants, lung lobe transplants are included in the single lung category. The Diagnosis categories for each organ type are broad classifications of the recipients' indications for transplant.

- Age, Sex, Blood Type, Race, and Citizenship -- These data are collected via the Transplant Candidate Registration (TCR) Form. "Not reported" cases are accounted for primarily by delinquent or incomplete TCR forms or the inability to link TCR forms with their corresponding transplant records due to incorrect patient identifiers. The Asian race category includes Pacific Islanders, which is a separate category on the current TCR form. Patients were included in the Hispanic category if their race was indicated as Hispanic on TCR forms submitted before April 1994. They also were included in this category if the current TCR form indicated the patient to be of Hispanic ethnicity, regardless of the patient's race. In the Citizenship table, Foreign Nationals are non-U.S. citizens, and include both resident and non-resident aliens.
- Previous Transplant -- These data are collected on the TRR form for all organ transplants except liver. In the latter case, previous transplant status is determined by checking the database for any record of a previous transplant for each recipient as well as by linking to the liver transplant data collected for the *1994 Report of Center Specific Graft and Patient Survival Rates*. "Not reported" cases are accounted for primarily by delinquent or incomplete TRR forms, or the inability to link to the transplant data.
- PRA -- PRA (Panel Reactive Antibody), at time of transplant, is shown only for kidney recipients. This item is taken from the Recipient Histocompatibility (RH) Form. "Not reported" cases are accounted for primarily by delinquent or incomplete RH forms or the inability to link RH forms with the transplant data.
- Relation of Donor to Recipient -- This variable is shown only for living donor kidney transplants. The data are collected on the Living Donor Registration (LDR) Form. "Not reported" cases are accounted for primarily by delinquent or incomplete LDR forms or the inability to link LDR forms with the transplant data.
- Level of HLA Mismatch -- This variable is shown only for kidney transplants and represents the number of HLA antigens found in the donor that are not shared by the recipient. This value is based on the six HLA antigens (two each for the A, B, and DR loci) reported for both the donor, on the donor histocompatibility (DH) form, and the recipient, on the recipient histocompatibility (RH) form. "Not reported" cases are accounted for primarily by delinquent or incomplete DH or RH forms, or the inability to link both a RH form and a DH form for a given transplant. Mismatched antigens are identified according to current UNOS criteria regarding "split" and "parent" antigens.
- Recipient Description at Time of Transplant -- This variable refers to the patient's condition immediately prior to the transplant procedure. In these tables, *Hospitalized* refers to patients hospitalized but not in the intensive care unit. *Intensive Care* refers to patients in the ICU but not on life support, while *Life Support* refers to patients on any form of life support. Some modes of life support may be administered outside the ICU, or even outside the hospital (e.g., left ventricular assist devices).
- For cadaveric donor kidney recipients, whether they received a simultaneous kidney-pancreas transplant is determined by linking kidney transplants to pancreas transplants to ascertain whether the recipient received the donor's pancreas concurrently with a kidney.

**Table 10**  
**U.S. Transplants by Organ and Donor Type -- 1988 to 1994**

Organ/Donor Type		Year						
		1988	1989	1990	1991	1992	1993	1994
Kidney	Cadaveric	7230	7086	7784	7732	7697	8170	8384
	Living	1811	1902	2095	2390	2534	2851	3007
	<b>Total</b>	<b>9041</b>	<b>8988</b>	<b>9879</b>	<b>10122</b>	<b>10231</b>	<b>11021</b>	<b>11391</b>
Liver	Cadaveric	1713	2199	2676	2932	3031	3404	3592
	Living	0	2	14	22	33	36	60
	<b>Total</b>	<b>1713</b>	<b>2201</b>	<b>2690</b>	<b>2954</b>	<b>3064</b>	<b>3440</b>	<b>3652</b>
Pancreas	Cadaveric	244	413	526	530	554	772	840
	Living	5	4	2	1	3	2	2
	<b>Total</b>	<b>249</b>	<b>417</b>	<b>528</b>	<b>531</b>	<b>557</b>	<b>774</b>	<b>842</b>
Heart	Cadaveric	1669	1696	2096	2121	2170	2295	2337
	Living	7	9	12	4	1	2	3
	<b>Total</b>	<b>1676</b>	<b>1705</b>	<b>2108</b>	<b>2125</b>	<b>2171</b>	<b>2297</b>	<b>2340</b>
Lung	Cadaveric	33	93	202	401	535	659	708
	Living	0	0	1	4	0	7	14
	<b>Total</b>	<b>33</b>	<b>93</b>	<b>203</b>	<b>405</b>	<b>535</b>	<b>666</b>	<b>722</b>
Heart-Lung	Cadaveric	74	67	52	51	48	60	70
	Living	0	0	0	0	0	0	0
	<b>Total</b>	<b>74</b>	<b>67</b>	<b>52</b>	<b>51</b>	<b>48</b>	<b>60</b>	<b>70</b>
<b>Total</b>	Cadaveric	10963	11554	13336	13767	14035	15360	15931
	Living	1823	1917	2124	2421	2571	2898	3086
	<b>Total</b>	<b>12786</b>	<b>13471</b>	<b>15460</b>	<b>16188</b>	<b>16606</b>	<b>18258</b>	<b>19017</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 11**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Cadaveric Kidney Recipients**

Age (Years) at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	0	0.0	2	0.0	0	0.1	2	0.0	1	0.0	2	0.0	1	0.0
1-5	64	0.9	55	0.8	59	0.8	45	0.6	53	0.7	51	0.6	41	0.5
6-10	79	1.1	84	1.2	79	1.0	71	0.9	50	0.6	69	0.8	76	0.9
11-17	238	3.3	205	2.9	216	2.8	174	2.3	173	2.2	172	2.1	250	3.0
18-34	2026	28.0	2061	29.1	2166	27.6	2110	27.3	2016	26.2	2047	25.1	1923	22.9
35-49	2878	39.6	2790	39.4	3044	39.1	3060	39.6	3030	39.4	3206	39.2	3313	39.5
50-64	1741	24.1	1687	23.8	1941	24.9	1954	25.3	2006	26.1	2225	27.2	2317	27.6
65+	202	2.8	201	2.8	269	3.5	315	4.1	366	4.8	398	4.9	460	5.5
not reported	2		1		4		1		2		0		3	
Total	7230	100.0	7086	100.0	7784	100.0	7732	100.0	7697	100.0	8170	100.0	8384	100.0

Recipient Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	4714	65.3	4635	65.5	5114	65.9	5018	64.9	4875	63.6	5235	64.1	5099	61.0
Black	1622	22.5	1567	22.1	1714	22.1	1711	22.1	1741	22.7	1834	22.5	2077	24.8
Hispanic	504	7.9	531	7.5	537	6.9	612	7.9	638	8.3	700	8.6	742	8.9
Asian	176	2.4	171	2.4	218	2.8	244	3.2	293	3.8	275	3.4	310	3.7
Other	206	2.9	173	2.4	179	2.3	145	1.9	114	1.5	123	1.5	131	1.6
not reported	0		0		22		2		36		3		25	
Total	7230	100.0	7086	100.0	7784	100.0	7732	100.0	7697	100.0	8170	100.0	8384	100.0

Recipient Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	2848	39.4	2785	39.3	3042	39.1	3045	39.4	3086	40.1	3253	39.8	3257	38.8
Male	4382	60.6	4301	60.7	4736	60.9	4687	60.6	4611	59.9	4917	60.2	5127	61.2
not reported	0		0		6		0		0		0		0	
Total	7230	100.0	7086	100.0	7784	100.0	7732	100.0	7697	100.0	8170	100.0	8384	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 11**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Cadaveric Kidney Recipients**

Recipient Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
D	3319	45.9	3232	45.7	3469	44.6	3499	45.3	3535	46.0	3713	45.5	3881	46.3
A	2742	37.9	2679	37.8	3076	39.6	2967	38.4	2905	37.8	3168	38.8	3129	37.3
B	840	11.6	840	12.0	881	11.3	905	11.7	860	11.2	934	11.4	958	11.4
AB	328	4.5	319	4.5	351	4.5	361	4.7	393	5.1	352	4.3	414	4.9
not reported	1		7		7		0		4		3		2	
Total	7230	100.0	7086	100.0	7784	100.0	7732	100.0	7697	100.0	8170	100.0	8384	100.0

Previous Transplants	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	6072	84.3	5942	84.2	6501	84.6	6515	84.5	6550	85.3	7046	87.3	6826	86.8
Yes	1131	15.7	1116	15.8	1182	15.4	1195	15.5	1126	14.7	1025	12.7	1042	13.2
not reported	27		28		101		22		21		99		516	
Total	7230	100.0	7086	100.0	7784	100.0	7732	100.0	7697	100.0	8170	100.0	8384	100.0

Recipient Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U. S. Citizen	6387	92.4	6434	94.2	7033	94.6	7323	96.1	7386	96.4	7866	96.6	8034	97.1
Foreign National	230	3.3	199	2.9	219	2.9	244	3.2	221	2.9	263	3.2	232	2.8
Unknown	298	4.3	198	2.9	179	2.4	50	0.7	54	0.7	14	0.2	11	0.1
not reported	315		255		353		115		36		27		107	
Total	7230	100.0	7086	100.0	7784	100.0	7732	100.0	7697	100.0	8170	100.0	8384	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 11**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Cadaveric Kidney Recipients**

Recipient Description at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Not Hospitalized	6582	91.9	6474	92.9	7197	94.9	7426	97.4	7216	96.1	7663	96.7	7766	97.7
Hospitalized	406	5.7	337	4.8	336	4.3	154	2.0	233	3.1	218	2.6	127	1.6
In Intensive Care	163	2.3	147	2.1	36	0.5	34	0.4	40	0.5	27	0.3	40	0.5
On Life Support	10	0.1	9	0.1	18	0.2	10	0.1	18	0.2	18	0.2	10	0.2
not reported	69		119		197		108		190		249		435	
<b>Total</b>	<b>7230</b>	<b>100.0</b>	<b>7086</b>	<b>100.0</b>	<b>7784</b>	<b>100.0</b>	<b>7732</b>	<b>100.0</b>	<b>7697</b>	<b>100.0</b>	<b>8170</b>	<b>100.0</b>	<b>8384</b>	<b>100.0</b>

Primary Diagnosis	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Glomerulonephritis	2076	30.2	1998	29.3	2112	28.5	2006	26.9	1899	25.0	1939	24.4	1144	22.2
Diabetes	1494	21.7	1585	23.3	1718	23.1	1827	24.5	1753	23.1	2076	26.1	1442	27.9
Hypertensive Nephrosclerosis	867	14.1	867	12.7	880	11.9	1166	15.6	1292	17.0	1209	15.2	657	12.7
Polycystic Kidneys	699	10.2	608	8.9	608	9.4	659	8.8	723	9.5	738	9.3	430	8.3
Nephritis/Nephropathy	589	8.6	592	8.7	603	8.1	552	7.4	496	6.5	457	5.7	368	7.1
Systemic Lupus Erythematosus	207	3.2	207	3.0	200	2.7	217	2.9	236	3.1	237	3.1	161	3.1
Other	829	12.1	958	14.1	1215	16.4	1038	13.9	1195	15.7	1296	16.3	962	18.6
not reported	359		271		361		267		103		218		3220	
<b>Total</b>	<b>7230</b>	<b>100.0</b>	<b>7086</b>	<b>100.0</b>	<b>7784</b>	<b>100.0</b>	<b>7732</b>	<b>100.0</b>	<b>7697</b>	<b>100.0</b>	<b>8170</b>	<b>100.0</b>	<b>8384</b>	<b>100.0</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 11**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Cadaveric Kidney Recipients**

PRA at Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0-19	5804	82.9	5574	84.7	5984	87.4	6744	88.1	6744	88.8	7309	90.2	7364	90.4
20-79	958	13.7	777	11.8	683	10.0	724	9.5	635	8.4	620	7.7	600	7.4
80+	239	3.4	229	3.5	182	2.7	185	2.4	217	2.9	175	2.2	186	2.3
not reported	229		506		935		79		101		66		234	
Total	7230	100.0	7086	100.0	7784	100.0	7732	100.0	7697	100.0	8170	100.0	8384	100.0

Level of HLA Mismatch	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0	234	3.6	298	4.9	377	5.7	487	6.5	517	6.0	637	6.0	661	8.0
1	262	4.0	254	4.2	315	4.0	306	4.1	326	4.4	362	4.0	388	4.7
2	772	11.9	764	12.5	852	12.9	982	13.1	1007	13.5	1092	13.8	1010	12.3
3	1645	25.4	1451	23.8	1695	25.7	1835	24.5	1847	24.8	1928	24.3	1972	24.0
4	1900	29.3	1779	29.2	1843	28.0	2135	28.5	2032	27.3	2176	27.4	2388	29.0
5	1262	19.5	1183	19.4	1142	17.3	1316	17.6	1299	17.4	1300	16.6	1368	16.6
6	413	4.4	363	6.0	361	5.5	426	5.7	424	5.7	441	5.6	438	5.3
not reported	742		994		1199		245		245		234		159	
Total	7230	100.0	7086	100.0	7784	100.0	7732	100.0	7697	100.0	8170	100.0	8384	100.0

Simultaneous Kidney-Pancreas	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	7060	97.6	6752	95.3	7325	94.1	7280	94.2	7204	93.6	7509	91.9	7639	91.1
Yes	170	2.4	334	4.7	459	5.9	452	5.8	493	6.4	661	8.1	745	8.9
not reported	0		0		0		0		0		0		0	
Total	7230	100.0	7086	100.0	7784	100.0	7732	100.0	7697	100.0	8170	100.0	8384	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 12**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Living Donor Kidney Recipients**

Age (Years) at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	7	0.4	5	0.3	3	0.1	8	0.3	3	0.1	3	0.2	3	0.1
1-5	53	2.9	61	3.2	58	2.8	75	3.1	68	2.7	95	3.3	52	1.7
6-10	45	2.5	62	3.3	67	3.2	93	3.9	74	2.9	66	2.3	63	2.1
11-17	170	9.4	161	8.5	158	7.5	175	7.3	169	6.7	202	7.1	186	6.2
18-34	841	46.5	811	42.7	894	42.7	952	39.8	929	36.7	1052	36.9	1091	36.3
35-49	499	27.6	561	29.5	638	30.5	754	31.5	846	33.4	902	31.7	1028	34.2
50-64	185	10.2	234	12.3	250	11.9	310	13.0	392	15.5	474	16.6	523	17.4
65+	10	0.6	8	0.3	26	1.2	23	1.0	53	2.1	52	1.8	61	2.0
not reported	1		1		1		0		0		2		0	
Total	1811	100.0	1902	100.0	2095	100.0	2390	100.0	2534	100.0	2851	100.0	3007	100.0

Recipient Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	1392	76.9	1446	76.1	1610	77.3	1744	73.0	1810	72.5	1989	76.1	2046	68.2
Black	214	11.8	228	12.0	228	10.9	297	12.4	313	12.5	405	14.3	428	14.3
Hispanic	137	7.6	149	7.6	158	7.6	253	10.6	261	10.5	329	11.8	352	11.7
Asian	31	1.7	30	1.6	34	1.6	48	2.0	58	2.3	71	2.5	121	4.0
Other	35	1.9	47	2.5	53	2.5	47	2.0	55	2.2	42	1.5	55	1.8
not reported	2		2		12		1		37		15		5	
Total	1811	100.0	1902	100.0	2095	100.0	2390	100.0	2534	100.0	2851	100.0	3007	100.0

Recipient Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	711	39.3	780	41.0	915	43.7	1018	42.6	1101	43.4	1172	41.1	1270	42.2
Male	1099	60.7	1121	59.0	1179	56.3	1372	57.4	1433	56.6	1679	58.9	1737	57.8
not reported	1		1		1		0		0		0		0	
Total	1811	100.0	1902	100.0	2095	100.0	2390	100.0	2534	100.0	2851	100.0	3007	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.



**Table 12**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Living Donor Kidney Recipients**

Recipient Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	837	46.4	916	48.3	960	46.2	1073	44.9	1204	47.6	1285	45.1	1354	45.0
A	706	39.1	695	36.6	778	37.4	956	40.0	949	37.5	1107	38.9	1177	39.1
B	192	10.6	228	12.0	254	12.2	272	11.4	288	11.4	353	12.4	365	12.1
AB	70	3.9	59	3.1	86	4.1	89	3.7	89	3.5	192	3.6	111	3.7
not reported	6		4		17		0		4		4		0	
Total	1811	100.0	1902	100.0	2095	100.0	2390	100.0	2534	100.0	2851	100.0	3007	100.0

Previous Transplants	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	1657	91.5	1758	92.6	1921	92.1	2183	91.7	2313	91.6	2582	91.7	2541	90.8
Yes	153	8.5	141	7.4	164	7.9	198	8.3	213	8.4	234	8.3	258	9.2
not reported	1		3		10		9		8		35		208	
Total	1811	100.0	1902	100.0	2095	100.0	2390	100.0	2534	100.0	2851	100.0	3007	100.0

Recipient Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U. S. Citizen	1577	91.9	1641	92.3	1650	86.8	2309	96.7	2429	96.9	2755	97.2	2793	96.5
Foreign National	46	2.7	38	2.1	62	3.3	78	3.3	77	3.1	77	2.7	101	3.5
Unknown	93	5.4	98	5.5	188	9.9	0	0.0	1	0.0	1	0.0	0	0.0
not reported	95		125		195		3		27		18		113	
Total	1811	100.0	1902	100.0	2095	100.0	2390	100.0	2534	100.0	2851	100.0	3007	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 12**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Living Donor Kidney Recipients**

Recipient Description at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Not Hospitalized	1665	92.9	1786	94.8	2003	97.1	2311	98.5	2435	98.5	2720	98.0	2766	97.9
Hospitalized	89	5.0	57	3.0	56	2.7	33	1.4	34	1.4	46	1.7	43	1.5
In Intensive Care	36	2.0	41	2.2	2	0.1	3	0.1	4	0.2	7	0.3	12	0.4
On Life Support	3	0.2	0	0.0	1	0.0	0	0.0	0	0.0	3	0.1	3	0.1
not reported	18		18		33		43		61		75		183	
<b>Total</b>	<b>1811</b>	<b>100.0</b>	<b>1902</b>	<b>100.0</b>	<b>2095</b>	<b>100.0</b>	<b>2390</b>	<b>100.0</b>	<b>2534</b>	<b>100.0</b>	<b>2851</b>	<b>100.0</b>	<b>3007</b>	<b>100.0</b>

Primary Diagnosis	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Glomerulo-nephritis	599	35.0	599	32.7	636	31.8	718	31.2	750	30.1	811	30.1	507	26.8
Diabetes	385	22.5	381	20.8	451	22.5	496	21.6	457	18.3	525	19.5	438	23.1
Nephritis/Nephropathy	193	11.3	200	10.9	224	11.2	208	9.0	212	8.5	214	7.9	164	8.7
Hypertensive Nephrosclerosis	125	7.3	136	7.4	114	5.7	204	8.9	267	10.7	266	9.9	194	10.2
Polycystic Kidneys	63	3.7	81	4.4	109	5.4	125	5.4	147	5.9	143	5.3	104	5.5
Systemic Lupus Erythematosus	58	3.4	76	4.2	85	4.2	94	4.1	92	3.7	122	4.5	71	3.8
Other	288	16.8	358	19.6	382	19.1	455	19.8	569	22.8	617	22.9	415	21.9
not reported	100		71		94		90		40		153		1114	
<b>Total</b>	<b>1811</b>	<b>100.0</b>	<b>1902</b>	<b>100.0</b>	<b>2095</b>	<b>100.0</b>	<b>2390</b>	<b>100.0</b>	<b>2534</b>	<b>100.0</b>	<b>2851</b>	<b>100.0</b>	<b>3007</b>	<b>100.0</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 12**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Living Donor Kidney Recipients**

PRA at Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0-19	1389	87.7	1456	90.3	1573	90.8	2107	92.8	2242	93.1	2550	93.5	2644	92.6
20-79	147	9.3	125	7.7	120	6.9	132	5.8	137	5.7	138	5.1	177	6.2
80+	48	3.0	32	2.0	39	2.3	32	1.4	28	1.2	39	1.4	35	1.2
not reported	227		289		363		119		127		124		151	
Total	1811	100.0	1902	100.0	2095	100.0	2390	100.0	2534	100.0	2851	100.0	3007	100.0

Level of HLA Mismatch	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0	393	25.6	355	22.3	380	22.1	526	23.2	512	21.1	565	20.5	524	18.8
1	187	12.2	169	10.6	182	10.6	219	9.6	234	9.6	266	9.6	264	9.5
2	408	26.6	413	26.0	460	26.7	588	25.9	624	25.7	705	25.5	705	25.2
3	440	28.7	509	32.0	532	30.9	743	32.7	805	33.2	920	33.3	882	31.6
4	50	3.3	71	4.5	84	4.9	102	4.5	126	5.2	163	5.9	171	6.1
5	33	2.2	51	3.2	64	3.7	67	3.0	81	3.3	99	3.6	183	6.6
6	22	1.4	21	1.3	20	1.2	25	1.1	45	1.9	43	1.6	64	2.3
not reported	278		313		373		120		107		90		214	
Total	1811	100.0	1902	100.0	2095	100.0	2390	100.0	2534	100.0	2851	100.0	3007	100.0

Relation of Donor to Recipient	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Parent	513	29.7	552	30.4	556	29.7	653	27.9	637	25.8	713	26.7	610	23.9
Offspring	165	9.5	160	8.8	206	11.0	241	10.3	360	14.6	373	14.0	343	13.4
Sibling	952	55.1	989	54.5	978	52.3	1296	55.3	1244	50.5	1315	49.2	1285	50.4
Other	59	3.4	60	3.3	71	3.8	94	4.0	145	5.9	159	5.9	186	7.3
Spouse	40	2.3	55	3.0	58	3.1	59	2.5	79	3.2	113	4.2	128	5.0
not reported	82		86		226		47		69		178		455	
Total	1811	100.0	1902	100.0	2095	100.0	2390	100.0	2534	100.0	2851	100.0	3007	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 13**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Liver Recipients**

Age (Years) at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	88	5.1	121	5.5	145	5.4	145	4.9	136	4.4	118	3.4	169	4.4
1-5	169	9.9	291	9.1	190	7.1	190	6.7	191	6.2	220	6.4	227	6.2
6-10	70	4.1	61	2.8	69	2.8	70	2.4	64	2.1	85	2.5	72	2.0
11-17	61	4.7	71	3.2	169	4.1	88	3.0	104	3.4	99	2.9	95	2.8
18-34	291	17.0	323	14.7	353	13.1	332	11.2	343	11.2	311	9.3	330	9.3
35-49	539	31.5	739	33.0	909	33.0	974	33.0	1054	34.4	1179	34.3	1309	35.9
50-64	446	26.0	639	29.0	825	30.7	1003	34.0	1017	33.2	1247	36.3	1265	34.7
65+	29	1.7	46	2.1	90	3.3	144	4.9	155	5.1	181	5.3	192	5.3
not reported	0		0		0		0		0		0		2	
Total	1713	100.0	2201	100.0	2690	100.0	2954	100.0	3064	100.0	3440	100.0	3652	100.0

Recipient Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	1375	80.5	1746	79.4	2106	78.4	2299	77.9	2315	75.6	2632	76.6	2796	76.7
Black	157	9.2	178	8.1	213	7.9	210	7.1	218	7.1	277	8.1	288	7.9
Hispanic	97	5.7	134	6.1	190	7.1	232	7.9	277	9.0	303	8.8	356	9.8
Asian	42	2.5	72	3.3	74	2.8	84	2.8	141	4.6	101	2.9	93	2.6
Other	37	2.2	70	3.2	103	3.8	128	4.3	111	3.6	124	3.6	111	3.0
not reported	5		1		4		1		2		3		8	
Total	1713	100.0	2201	100.0	2690	100.0	2954	100.0	3064	100.0	3440	100.0	3652	100.0

Recipient Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	847	49.4	1031	46.8	1228	45.7	1371	46.4	1345	43.9	1556	45.2	1578	43.2
Male	866	50.6	1170	53.2	1462	54.3	1583	53.6	1719	56.1	1884	54.8	2074	56.8
not reported	0		0		0		0		0		0		0	
Total	1713	100.0	2201	100.0	2690	100.0	2954	100.0	3064	100.0	3440	100.0	3652	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 13**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Liver Recipients**

Recipient Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
D	767	44.8	948	43.1	1143	42.5	1277	43.2	1327	43.3	1487	43.3	1602	43.9
B	679	39.3	857	38.9	1124	41.8	1181	40.0	1220	39.8	1398	40.7	1446	39.6
B	209	12.2	312	14.2	301	11.2	356	12.1	374	12.2	421	12.2	446	12.2
AB	58	3.4	84	3.8	121	4.5	140	4.7	143	4.7	131	3.8	158	4.3
not reported	0		0		1		0		0		3		0	
Total	1713	100.0	2201	100.0	2690	100.0	2954	100.0	3064	100.0	3440	100.0	3652	100.0

Previous Transplants*	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	1466	85.6	1844	83.8	2301	85.5	2580	87.3	2703	88.2	3064	89.1	3253	89.1
Yes	247	14.4	357	16.2	389	14.5	374	12.7	361	11.8	376	10.9	399	10.9
not reported	0		0		0		0		0		0		0	
Total	1713	100.0	2201	100.0	2690	100.0	2954	100.0	3064	100.0	3440	100.0	3652	100.0

Recipient Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U. S. Citizen	1583	93.0	2062	94.7	2461	92.9	2829	95.8	2937	95.9	3317	96.5	3379	96.3
Foreign National	69	4.1	67	3.1	115	4.5	115	3.9	123	4.0	115	3.3	127	3.6
Unknown	51	3.0	48	2.2	70	2.6	9	0.3	1	0.0	4	0.1	2	0.1
not reported	10		24		41		1		3		4		144	
Total	1713	100.0	2201	100.0	2690	100.0	2954	100.0	3064	100.0	3440	100.0	3652	100.0

\* These data also include those collected for the 1994 Report of Center Specific Graft and Patient Survival Rates.

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 13**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Liver Recipients**

Recipient Description at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Not Hospitalized	701	40.9	864	39.3	1300	48.3	1641	55.6	1694	55.3	2031	59.4	1983	56.5
Hospitalized	454	26.5	504	22.9	571	21.2	550	18.6	628	20.5	670	19.6	755	21.5
In Intensive Care	181	10.6	272	12.4	308	11.4	265	9.0	246	8.0	213	6.3	339	9.7
On Life Support	376	22.0	558	25.4	511	19.0	496	16.8	495	16.2	438	12.8	435	12.4
not reported	1		3		0		2		1		18		140	
<b>Total</b>	<b>1713</b>	<b>100.0</b>	<b>2201</b>	<b>100.0</b>	<b>2690</b>	<b>100.0</b>	<b>2954</b>	<b>100.0</b>	<b>3064</b>	<b>100.0</b>	<b>3440</b>	<b>100.0</b>	<b>3652</b>	<b>100.0</b>

Primary Diagnosis	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Non-Cholestatic Cirrhosis	687	40.1	1949	45.5	1372	51.0	1567	53.2	1700	56.0	1949	57.6	1912	54.8
Cholestatic Liver Disease/Cirrhosis	391	22.8	423	19.3	455	16.9	531	18.0	500	16.5	584	17.3	523	15.0
Biliary Atresia	229	13.4	275	12.4	279	10.4	264	9.0	247	8.0	264	7.8	275	7.9
Fulminant Liver Failure	146	7.9	170	7.7	226	8.4	195	6.6	213	7.0	213	6.3	231	6.6
Metabolic Disease	164	6.1	125	5.4	146	5.4	157	5.3	164	5.4	195	5.7	164	4.7
Malignant Neoplasms	94	5.5	123	5.4	123	4.9	125	4.2	96	3.2	110	3.3	85	2.4
Other	71	4.1	85	3.9	88	3.3	107	3.6	118	3.9	99	2.9	299	8.6
not reported	1		4		1		8		26		56		163	
<b>Total</b>	<b>1713</b>	<b>100.0</b>	<b>2201</b>	<b>100.0</b>	<b>2690</b>	<b>100.0</b>	<b>2954</b>	<b>100.0</b>	<b>3064</b>	<b>100.0</b>	<b>3440</b>	<b>100.0</b>	<b>3652</b>	<b>100.0</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 14**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Pancreas Recipients**

Age (Years) at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	1	0.1
1-5	1	0.4	2	0.5	0	0.0	1	0.2	1	0.2	4	0.5	0	0.0
6-10	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3	0	0.0
11-17	0	0.0	0	0.0	4	0.6	0	0.0	1	0.2	0	0.0	2	6.2
18-34	125	50.2	211	50.6	251	47.5	228	42.9	252	45.2	323	41.9	329	39.1
35-49	120	48.2	195	46.8	255	48.3	281	52.9	279	50.1	410	53.2	469	55.7
50-64	3	1.2	0	2.2	18	3.4	20	3.6	24	4.3	31	4.0	41	4.9
65+	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
not reported	0		0		0		0		0		4		0	
<b>Total</b>	<b>249</b>	<b>100.0</b>	<b>417</b>	<b>100.0</b>	<b>528</b>	<b>100.0</b>	<b>531</b>	<b>100.0</b>	<b>557</b>	<b>100.0</b>	<b>774</b>	<b>100.0</b>	<b>842</b>	<b>100.0</b>

Recipient Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	238	95.6	399	95.7	500	94.7	482	90.8	499	89.6	702	91.3	717	85.7
Black	0	3.6	12	2.9	20	3.6	23	4.3	32	5.7	40	5.2	52	6.2
Hispanic	2	0.8	2	0.5	2	0.4	16	3.0	12	2.2	0	1.2	44	5.3
Asian	0	0.0	2	0.5	4	0.6	1	0.2	2	0.4	2	0.3	5	0.6
Other	0	0.0	2	0.5	2	0.4	0	1.7	12	2.2	16	2.1	19	2.3
not reported	0		0		0		0		0		5		5	
<b>Total</b>	<b>249</b>	<b>100.0</b>	<b>417</b>	<b>100.0</b>	<b>528</b>	<b>100.0</b>	<b>531</b>	<b>100.0</b>	<b>557</b>	<b>100.0</b>	<b>774</b>	<b>100.0</b>	<b>842</b>	<b>100.0</b>

Recipient Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	106	42.6	194	46.5	194	36.7	224	42.2	250	44.9	318	41.2	366	43.5
Male	143	57.4	223	53.5	334	63.3	307	57.8	307	55.1	453	58.8	476	56.5
not reported	0		0		0		0		0		3		0	
<b>Total</b>	<b>249</b>	<b>100.0</b>	<b>417</b>	<b>100.0</b>	<b>528</b>	<b>100.0</b>	<b>531</b>	<b>100.0</b>	<b>557</b>	<b>100.0</b>	<b>774</b>	<b>100.0</b>	<b>842</b>	<b>100.0</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 14**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Pancreas Recipients**

Recipient Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	111	44.6	192	46.0	253	47.9	231	43.5	243	43.6	367	47.6	398	47.3
A	108	43.4	171	41.0	199	37.7	216	40.7	227	40.8	278	36.1	319	37.9
B	24	9.6	45	10.8	51	9.7	61	11.5	59	10.6	87	11.3	92	10.9
AB	6	2.4	9	2.2	25	4.7	23	4.3	28	5.0	39	5.1	33	3.9
not reported	0		0		0		0		0		3		0	
Total	249	100.0	417	100.0	528	100.0	531	100.0	557	100.0	774	100.0	842	100.0

Previous Transplants	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	231	92.8	394	94.5	510	96.6	518	97.6	539	96.8	746	96.4	811	96.3
Yes	18	7.2	23	5.5	18	3.4	13	2.4	18	3.2	28	3.6	31	3.7
not reported	0		0		0		0		0		0		0	
Total	249	100.0	417	100.0	528	100.0	531	100.0	557	100.0	774	100.0	842	100.0

Recipient Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U. S. Citizen	242	99.2	407	99.3	473	98.1	529	99.6	550	98.9	762	99.1	805	99.5
Foreign National	1	0.4	2	0.5	1	0.2	2	0.4	5	0.5	5	0.2	4	0.5
Unknown	1	0.4	1	0.2	0	1.7	0	0.0	1	0.2	1	0.1	0	0.0
not reported	5		7		46		0		1		5		33	
Total	249	100.0	417	100.0	528	100.0	531	100.0	557	100.0	774	100.0	842	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.



**Table 14**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Pancreas Recipients**

Recipient Description at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Not Hospitalized	240	99.4	407	97.8	521	98.7	527	99.4	545	97.8	759	99.0	787	98.1
Hospitalized	5	2.0	3	0.7	2	0.4	2	0.4	10	1.8	6	0.8	10	1.2
In Intensive Care	3	9.2	5	9.2	3	3.6	1	9.2	2	0.4	1	0.1	4	0.5
On Life Support	1	0.4	2	0.5	2	0.4	0	0.0	0	0.0	1	0.1	1	0.1
not reported	0		0		0		1		0		7		40	
<b>Total</b>	<b>249</b>	<b>100.0</b>	<b>417</b>	<b>100.0</b>	<b>528</b>	<b>100.0</b>	<b>531</b>	<b>100.0</b>	<b>557</b>	<b>100.0</b>	<b>774</b>	<b>100.0</b>	<b>842</b>	<b>100.0</b>

Kidney Transplants	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Simultaneous Kidney	170	68.3	334	80.1	459	86.9	452	80.1	493	88.5	661	85.6	748	89.4
Previous Kidney	28	9.2	36	8.6	31	5.9	28	5.3	28	3.0	62	8.0	54	6.5
No Previous Kidney	56	22.5	37	11.3	37	7.2	51	8.6	37	8.6	49	6.3	36	4.2
not reported	0		0		0		0		0		2		5	
<b>Total</b>	<b>249</b>	<b>100.0</b>	<b>417</b>	<b>100.0</b>	<b>528</b>	<b>100.0</b>	<b>531</b>	<b>100.0</b>	<b>557</b>	<b>100.0</b>	<b>774</b>	<b>100.0</b>	<b>842</b>	<b>100.0</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 15**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Heart Recipients**

Age (Years) at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	39	2.3	74	4.3	90	4.3	125	5.9	90	4.1	108	4.7	93	4.0
1-5	21	1.3	22	1.3	40	2.3	53	2.5	63	2.9	55	2.4	67	2.9
6-10	20	1.2	17	1.0	23	1.1	20	0.9	23	1.1	33	1.4	39	1.7
11-17	44	2.6	41	2.6	61	2.9	63	3.0	59	2.7	77	3.4	68	2.9
18-34	191	11.4	186	10.9	176	8.3	174	8.2	176	8.1	203	8.8	178	7.6
35-49	493	29.4	499	29.3	589	27.9	557	26.2	532	24.5	537	23.4	549	23.5
50-64	844	50.4	825	48.4	1048	49.7	1060	49.9	1143	52.6	1177	51.3	1249	53.4
65+	24	1.4	41	2.4	72	3.4	73	3.4	85	3.9	104	4.5	97	4.1
not reported	0		0		0		0		0		3		0	
Total	1676	100.0	1705	100.0	2108	100.0	2125	100.0	2171	100.0	2297	100.0	2340	100.0

Recipient Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	1461	87.2	1457	85.5	1776	84.3	1761	82.9	1774	81.8	1871	81.5	1888	80.9
Black	145	8.7	147	8.6	175	8.3	217	10.2	218	10.0	239	10.4	271	11.6
Hispanic	42	2.5	56	3.3	98	4.7	85	4.0	101	4.7	102	4.4	99	4.2
Asian	1	0.1	5	0.3	0	0.4	25	1.2	36	1.7	35	1.5	29	1.2
Other	26	1.6	40	2.3	40	2.3	37	1.7	41	1.9	40	2.1	47	2.9
not reported	1		0		2		0		1		2		0	
Total	1676	100.0	1705	100.0	2108	100.0	2125	100.0	2171	100.0	2297	100.0	2340	100.0

Recipient Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	347	20.7	345	20.2	451	21.4	485	22.8	505	23.3	494	21.5	560	23.9
Male	1329	79.3	1360	79.8	1656	78.6	1640	77.2	1666	76.7	1802	78.5	1780	76.1
not reported	0		0		1		0		0		1		0	
Total	1676	100.0	1705	100.0	2108	100.0	2125	100.0	2171	100.0	2297	100.0	2340	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 15**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Heart Recipients**

Recipient Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	623	37.2	641	37.6	769	36.5	811	38.2	832	38.3	857	37.3	914	39.1
A	767	45.8	760	44.6	958	45.3	948	44.6	978	45.0	1028	44.6	1016	43.4
B	207	12.4	213	12.5	257	12.2	263	12.4	244	11.2	296	12.9	305	13.0
AB	79	4.7	91	5.3	124	5.9	103	4.8	117	5.4	114	5.0	105	4.5
not reported	0		0		0		0		0		2		0	
Total	1676	100.0	1705	100.0	2108	100.0	2125	100.0	2171	100.0	2297	100.0	2340	100.0

Previous Transplants	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	1631	97.3	1663	97.5	2054	97.4	2062	97.0	2107	97.1	2213	96.8	1871	97.1
Yes	45	2.7	42	2.5	54	2.6	63	3.0	62	2.9	72	3.2	55	2.9
not reported	0		0		0		0		2		12		414	
Total	1676	100.0	1705	100.0	2108	100.0	2125	100.0	2171	100.0	2297	100.0	2340	100.0

Recipient Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U. S. Citizen	1654	98.0	1672	98.4	2061	98.0	2081	98.3	2134	98.5	2247	98.6	2216	98.4
Foreign National	13	0.8	29	1.6	29	1.3	22	1.0	29	1.4	31	1.4	32	1.4
Unknown	5	0.3	0	0.0	13	0.6	15	0.7	3	0.1	2	0.1	3	0.1
not reported	4		6		6		7		5		17		89	
Total	1676	100.0	1705	100.0	2108	100.0	2125	100.0	2171	100.0	2297	100.0	2340	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 15**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Heart Recipients**

Recipient Description at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Not Hospitalized	707	42.2	981	51.7	969	46.1	977	46.0	955	44.1	937	41.0	832	38.3
Hospitalized	241	14.4	115	6.7	172	8.2	140	6.6	177	8.2	126	5.5	56	2.6
In Intensive Care	436	26.0	422	24.8	631	30.0	506	23.8	482	22.2	504	22.1	112	5.2
On Life Support	292	17.4	286	16.8	328	15.6	501	23.6	553	25.5	716	31.4	1172	54.0
not reported	0		1		8		1		4		14		168	
Total	1676	100.0	1705	100.0	2108	100.0	2125	100.0	2171	100.0	2297	100.0	2340	100.0

Primary Diagnosis	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Cardiomyopathy	611	36.6	643	37.8	766	36.5	897	42.3	953	44.0	981	43.0	1305	56.2
Coronary Artery Disease	843	50.4	812	47.7	1030	49.0	866	40.8	882	40.7	946	41.5	716	30.8
Congenital Heart Disease	66	4.1	110	6.5	148	7.0	188	8.9	162	7.5	184	8.1	162	7.0
Valvular Heart Disease	92	5.5	77	4.5	88	4.2	73	3.4	63	2.9	66	2.9	53	2.3
Retransplant/Graft Failure	45	2.7	41	2.4	54	2.6	62	2.9	63	2.9	70	3.1	54	2.2
Other	11	0.7	18	1.1	15	0.7	34	1.6	43	2.0	35	1.5	34	1.5
not reported	5		4		7		5		5		15		19	
Total	1676	100.0	1705	100.0	2108	100.0	2125	100.0	2171	100.0	2297	100.0	2340	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 15**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Heart Recipients**

Type of Procedure	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Heterotopic	18	1.1	13	0.8	15	0.7	15	0.7	14	0.6	6	0.3	5	0.2
Orthotopic	1658	98.9	1692	99.2	2092	99.3	2110	99.3	2157	99.4	2279	99.7	2168	99.8
not reported	0		0		1		0		0		12		167	
Total	1676	100.0	1705	100.0	2108	100.0	2125	100.0	2171	100.0	2297	100.0	2340	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 16**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Lung Recipients**

Age (Years) at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	0	0.0	1	1.1	0	0.0	2	0.5	0	0.0	2	0.3	6	0.8
1-5	0	0.0	0	0.0	2	1.0	5	1.2	6	1.1	4	0.6	3	0.4
6-10	0	0.0	1	1.1	1	0.5	6	1.5	9	1.7	7	1.1	6	0.8
11-17	1	3.0	1	1.1	6	3.0	20	4.9	22	4.1	22	3.3	16	2.2
18-34	5	15.2	21	22.6	45	22.2	92	22.7	96	17.9	124	18.6	133	18.4
35-49	15	45.5	37	39.8	80	39.4	148	36.5	186	34.8	197	29.6	198	27.4
50-64	12	36.4	32	34.4	66	32.5	129	31.9	210	39.3	297	44.6	341	47.2
65+	0	0.0	0	0.0	3	1.5	3	0.7	6	1.1	13	2.0	19	2.6
not reported	0		0		0		0		0		0		0	
Total	33	100.0	93	100.0	203	100.0	405	100.0	535	100.0	666	100.0	722	100.0

Recipient Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	32	97.0	85	92.4	191	94.1	364	90.1	471	88.0	620	93.1	645	89.3
Black	0	0.0	2	2.2	0	3.9	13	3.2	30	5.6	22	3.3	29	4.0
Hispanic	1	3.0	5	5.6	0	2.0	17	4.2	11	2.1	9	1.4	27	3.7
Asian	0	0.0	0	0.0	0	0.0	4	1.0	5	0.9	6	0.9	0	0.0
Other	0	0.0	0	0.0	0	0.0	0	1.5	18	3.4	0	1.4	15	2.1
not reported	0		1		0		1		0		0		0	
Total	33	100.0	93	100.0	203	100.0	405	100.0	535	100.0	666	100.0	722	100.0

Recipient Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	11	33.3	46	49.5	121	59.6	216	53.3	279	52.1	356	53.5	384	53.2
Male	22	66.7	47	50.5	82	40.4	189	46.7	256	47.9	309	46.5	338	46.8
not reported	0		0		0		0		0		1		0	
Total	33	100.0	93	100.0	203	100.0	405	100.0	535	100.0	666	100.0	722	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 16**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Lung Recipients**

Recipient Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	11	33.3	38	40.9	83	40.9	193	47.7	223	41.7	266	40.0	320	44.3
A	10	54.5	43	46.2	87	42.9	157	38.8	223	41.7	278	41.8	298	41.3
A	2	6.1	0	8.6	23	11.3	40	9.9	69	12.9	89	13.4	72	10.0
AB	2	6.1	4	4.3	10	4.9	15	3.7	20	3.7	32	4.8	32	4.4
not reported	0		0		0		0		0		1		0	
<b>Total</b>	<b>33</b>	<b>100.0</b>	<b>93</b>	<b>100.0</b>	<b>203</b>	<b>100.0</b>	<b>405</b>	<b>100.0</b>	<b>535</b>	<b>100.0</b>	<b>666</b>	<b>100.0</b>	<b>722</b>	<b>100.0</b>

Previous Transplants	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	31	93.9	88	94.6	195	96.1	390	96.3	517	96.6	652	98.2	573	96.3
Yes	2	6.1	5	5.4	8	3.9	15	3.7	18	3.4	12	1.8	22	3.7
not reported	0		0		0		0		0		2		127	
<b>Total</b>	<b>33</b>	<b>100.0</b>	<b>93</b>	<b>100.0</b>	<b>203</b>	<b>100.0</b>	<b>405</b>	<b>100.0</b>	<b>535</b>	<b>100.0</b>	<b>666</b>	<b>100.0</b>	<b>722</b>	<b>100.0</b>

Recipient Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U. S. Citizen	31	93.9	90	96.8	200	99.5	389	96.8	522	97.6	662	99.4	702	98.7
Foreign National	2	6.1	2	2.2	1	0.5	7	1.7	11	2.1	4	0.6	4	1.3
Unknown	0	0.0	1	1.1	0	0.0	0	1.5	2	0.4	0	0.0	0	0.0
not reported	0		0		2		3		0		0		11	
<b>Total</b>	<b>33</b>	<b>100.0</b>	<b>93</b>	<b>100.0</b>	<b>203</b>	<b>100.0</b>	<b>405</b>	<b>100.0</b>	<b>535</b>	<b>100.0</b>	<b>666</b>	<b>100.0</b>	<b>722</b>	<b>100.0</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 16**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Lung Recipients**

Recipient Description at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Not Hospitalized	20	60.6	73	78.5	176	89.3	331	81.7	434	81.1	589	81.7	552	85.3
Hospitalized	8	24.2	13	14.0	10	5.1	38	9.4	56	10.5	40	6.0	54	8.3
In Intensive Care	3	4.1	5	5.4	3	1.5	14	3.5	14	3.4	14	1.7	12	1.9
On Life Support	2	6.1	2	2.2	8	4.1	22	5.4	27	5.0	24	3.6	29	4.5
not reported	0		0		6		0		0		2		75	
Total	33	100.0	93	100.0	203	100.0	405	100.0	535	100.0	666	100.0	722	100.0

Primary Diagnosis	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Emphysema/COPD	7	21.2	19	20.4	42	21.5	106	26.6	177	33.1	267	40.4	279	39.5
Cystic Fibrosis	2	6.1	6	6.5	15	7.7	55	13.3	71	13.3	99	15.0	104	14.7
Alpha-1 - Antitrypsin Deficiency	8	24.2	18	19.4	41	21.0	59	13.0	78	13.0	72	10.9	62	8.8
Idiopathic Pulmonary Fibrosis	18	39.4	20	21.0	20	12.3	59	12.5	69	12.9	69	10.9	70	11.2
Primary Pulmonary Hypertension	9	0.0	9	9.7	35	17.9	62	13.0	55	19.4	53	8.0	65	9.2
Congenital Lung Disease	3	0.0	5	5.4	8	0.0	22	5.5	14	2.6	32	4.1	21	3.0
Retransplant/Graft Failure	2	4.1	5	5.4	8	4.1	15	3.8	14	3.4	14	1.7	20	3.4
Other	1	3.0	11	11.8	21	10.8	40	10.3	53	9.9	56	8.8	72	10.2
not reported	3		0		8		8		0		5		16	
Total	33	100.0	93	100.0	203	100.0	405	100.0	535	100.0	666	100.0	722	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.



**Table 16**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Lung Recipients**

Type of Procedure	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Double Lung	20	60.6	23	24.7	57	28.1	113	27.9	170	31.8	228	34.2	266	36.8
Single Lung	13	39.4	70	75.3	146	71.9	292	72.1	365	68.2	438	65.8	456	63.2
not reported	0		0		0		0		0		0		0	
Total	33	100.0	93	100.0	203	100.0	405	100.0	535	100.0	666	100.0	722	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 17**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Heart-Lung Recipients**

Age (Years) at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	0	0.0	1	1.5	0	0.0	0	0.0	1	2.1	0	0.0	0	0.0
1-5	2	2.7	1	1.5	3	5.8	2	3.9	3	6.3	7	11.7	5	7.1
6-10	3	4.1	3	4.5	0	0.0	2	3.9	1	2.1	0	0.0	3	4.3
11-17	0	4.1	2	3.9	3	5.8	0	11.8	5	10.4	7	11.7	7	10.0
18-34	31	41.9	29	43.3	23	44.2	17	33.3	18	37.5	25	41.7	22	31.4
35-49	20	35.1	27	40.3	20	38.5	18	35.3	18	37.5	13	21.7	28	40.0
50-64	0	4.1	4	6.0	3	5.8	0	11.8	2	4.2	0	13.3	5	7.1
65+	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
not reported	0		0		0		0		0		0		0	
Total	74	100.0	67	100.0	52	100.0	51	100.0	48	100.0	60	100.0	70	100.0

Recipient Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	69	93.2	63	94.0	49	94.2	45	88.2	49	83.3	52	88.1	58	82.9
Black	3	4.1	1	1.5	0	0.0	2	3.9	3	6.3	5	8.5	2	2.9
Hispanic	1	1.4	3	4.5	2	3.8	1	2.0	1	6.3	1	1.7	3	4.3
Asian	0	0.0	0	0.0	0	0.0	0	0.0	1	2.1	0	0.0	4	5.7
Other	1	1.4	0	0.0	1	1.9	3	5.9	0	0.0	1	1.7	3	4.3
not reported	0		0		0		0		0		1		0	
Total	74	100.0	67	100.0	52	100.0	51	100.0	48	100.0	60	100.0	70	100.0

Recipient Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	42	56.8	36	53.7	29	55.8	28	54.9	21	43.8	39	65.0	41	58.6
Male	32	43.2	31	46.3	23	44.2	23	45.1	27	56.3	21	35.0	29	41.4
not reported	0		0		0		0		0		0		0	
Total	74	100.0	67	100.0	52	100.0	51	100.0	48	100.0	60	100.0	70	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 17**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Heart-Lung Recipients**

Recipient Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	29	39.2	24	35.8	18	34.6	22	43.1	23	47.9	29	48.3	24	34.3
A	31	41.9	34	50.7	28	53.8	22	43.1	19	39.6	26	43.3	34	48.6
B	10	13.5	7	10.4	4	7.7	4	7.8	4	8.3	1	1.7	8	11.4
AB	4	5.4	2	3.0	2	3.8	3	5.9	2	4.2	4	6.7	4	5.7
not reported	0		0		0		0		0		0		0	
Total	74	100.0	67	100.0	52	100.0	51	100.0	48	100.0	60	100.0	70	100.0

Previous Transplants	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	72	97.3	66	98.5	50	96.2	50	98.0	48	100.0	57	96.6	60	100.0
Yes	2	2.7	1	1.5	2	3.8	1	2.0	0	0.0	2	3.4	0	0.0
not reported	0		0		0		0		0		1		10	
Total	74	100.0	67	100.0	52	100.0	51	100.0	48	100.0	60	100.0	70	100.0

Recipient Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U. S. Citizen	72	97.3	65	98.5	50	96.2	47	94.0	46	95.8	57	95.0	69	98.6
Foreign National	2	2.7	1	1.5	2	4.0	2	4.0	1	2.1	2	3.3	1	1.4
Unknown	0	0.0	0	0.0	0	0.0	1	2.0	1	2.1	1	1.7	0	0.0
not reported	0		1		0		1		0		0		0	
Total	74	100.0	67	100.0	52	100.0	51	100.0	48	100.0	60	100.0	70	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

**Table 17**  
**Transplant Recipient Characteristics -- 1988 to 1994**

**Heart-Lung Recipients**

Recipient Description at Time of Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Not Hospitalized	40	62.2	56	83.6	42	80.8	40	78.4	42	66.7	47	78.3	54	85.7
Hospitalized	13	17.6	4	6.0	6	11.5	5	9.8	5	10.4	2	3.3	3	4.8
In Intensive Care	0	12.2	0	0.0	3	5.8	0	7.8	3	6.3	0	10.0	0	0.0
On Life Support	6	8.1	1	1.5	1	1.9	2	3.9	8	16.7	5	8.3	6	9.5
not reported	0		0		0		0		0		0		7	
Total	74	100.0	67	100.0	52	100.0	51	100.0	48	100.0	60	100.0	70	100.0

Primary Diagnosis	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Congenital Lung Disease	14	19.4	22	32.8	11	25.0	26	51.0	26	54.2	30	50.0	30	58.1
Primary Pulmonary Hypertension	39	54.2	21	31.3	15	28.8	13	25.5	11	22.9	14	23.3	16	25.8
Cystic Fibrosis	3	11.1	11	16.4	3	17.3	5	0.0	3	4.2	3	1.7	3	4.8
Alpha-1 - Antitrypsin Deficiency	2	2.8	8	11.9	5	9.6	2	3.9	1	2.1	1	1.7	0	0.0
Emphysema/ COPD	3	4.2	3	0.0	2	3.8	1	2.0	2	4.2	3	5.0	2	3.2
Retransplant/ Graft Failure	3	2.8	1	1.5	2	3.8	1	2.0	0	0.0	2	3.3	0	0.0
Other	4	5.6	4	6.0	6	11.5	3	5.9	6	12.5	9	15.0	5	8.1
not reported	2		0		0		0		0		0		8	
Total	74	100.0	67	100.0	52	100.0	51	100.0	48	100.0	60	100.0	70	100.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: Percentages are based on totals excluding not reported cases.

## Notes on Graft and Patient Survival

### INTRODUCTION

The following tables show graft and patient survival rates, for selected recipient demographic and medical factors, which vary by organ.

Table 18 highlights One-Year Graft and Patient Survival for all organs. Table 19 highlights Graft and Patient Survival for all organs at one, two, and three years.

For each organ, the graft survival data are shown first, followed by patient survival data. Organ-specific tables are presented as follows:

Table 20	Cadaveric Kidney Graft Survival Rates
Table 21	Cadaveric Kidney Patient Survival Rates
Table 22	Living Donor Kidney Graft Survival Rates
Table 23	Living Donor Kidney Patient Survival Rates
Table 24	Liver Graft Survival Rates
Table 25	Liver Patient Survival Rates
Table 26	Pancreas Graft Survival Rates
Table 27	Pancreas Patient Survival Rates
Table 28	Heart Graft Survival Rates
Table 29	Heart Patient Survival Rates
Table 30	Lung Graft Survival Rates
Table 31	Lung Patient Survival Rates
Table 32	Heart-Lung Graft Survival Rates
Table 33	Heart-Lung Patient Survival Rates

Factors included in all the organ-specific tables are: recipient age, race, gender, blood type, previous transplantation, citizenship, patient description at time of transplant, donor age, center volume, and primary diagnosis (except for pancreas). For specific organs, additional factors are: PRA at transplant and level of HLA mismatch (kidney only), simultaneous kidney-pancreas (cadaveric donor kidney only), relation of donor to recipient (living donor kidney only), kidney transplant status (pancreas only), procedure type (heart and lung only), and waiting list status at the time of transplant (liver and heart, for 1992-93 only).

### NOTES ON SURVIVAL RATE DATA

The data are based primarily on UNOS Transplant Candidate Registration (TCR) forms, UNOS Transplant Recipient Registration (TRR) forms, and Transplant Recipient Follow-up (TRF) forms, for the cohort of organ transplants performed between October 1, 1987, and December 31, 1993. Data are subject to change based on future data submission or correction.

Descriptions of the demographic and medical factors used in this analysis can be found in the notes on Transplant Recipient Characteristics. Three additional factors included in these tables are donor age, center volume, and waiting list status at transplant.

Donor age is obtained from the Donor Registration form. Cases of "not reported" are accounted for by delinquent or incomplete forms or the inability to link the forms with the transplant data.

Center volume is calculated from the database for each transplant and center, as the number of transplants within one year previous (between 1 and 365 days before the transplant). Here, cadaveric and living donor kidney transplants are counted together, as are heart-lung and lung transplants. For heart and/or lung, the database contains all U.S. transplants, including those performed before the inception of the Scientific Registry, so the center volume can be computed for every thoracic transplant. For other organs, the database includes transplants performed on or after October 1, 1987. Therefore, the center volume for the year preceding any transplant can be computed only after October 1, 1988, after one full year of data collection. Center volumes are considered "not reported" for transplants performed prior to October 1, 1988. For each organ, the categories for center volume are approximate quintiles (about 20% of the reported values).

As noted previously, liver and heart graft and patient survival rates by waiting list status code are included in this report for the first time. For liver and heart transplants, the waiting list status at

transplant was determined by linking each transplant back to the waiting-list "history file," a file which was intended to track centers' changes to the waiting list over time. The waiting list database was not designed for the purpose of research, and the history file is reasonably reliable starting with wait-list registrations in 1991. To obtain good linkage between the transplant data and the history file, the survival analysis was limited to the 1992-93 period. The waiting list status represents the patient's degree of medical urgency; status levels 1 and 2 for heart and 1 through 4 for liver, with 1 being the most urgent.

The value N shown in each table represents the number of transplants for which a survival time could be determined. This number may be different for graft and patient survival, due to transplants for which the patient status was reported but the graft status was not reported, or vice versa. For graft survival, survival time for each transplant was calculated as the number of days from the date of transplant to the date of graft failure (if applicable) or the latest follow-up date. For patient survival, survival time for each transplant was calculated as the number of days from the date of transplant to the date of death (if applicable) or the latest follow-up date. Patient survival times were censored at retransplant; that is, for patients who were retransplanted, patient survival time was the time between transplant and retransplant, and deaths, if they occurred, were only attributed to their last transplant. Each of these tables also provides the standard errors (statistical measures of precision) along with each survival rate. Categories that include relatively few transplants generally exhibit large standard errors. This is an important consideration when comparing survival rates within the tables.

The survival rate calculations were performed using the statistical procedure LIFETEST in version 6.06 of SAS (Statistical Analysis System). Using LIFETEST, the survival rates were estimated using the Kaplan-Meier method (Kaplan E.L., Meier P., Nonparametric estimation from incomplete observations. *JASA* 1958, 53:457-481) and standard errors were estimated using Greenwood's formula (Kalbfleisch, J.D. and Prentice, R.L. (1980), *The Statistical Analysis of Failure Time Data*, New York: John Wiley & Sons, Inc.).

For completeness, all categories of demographic and medical factors were listed in the tables, including those with no transplants in the cohort (N=0). For these cases, the absence of survival rates is indicated by the dash symbol (—). Also, survival rates were not listed for the "not reported" categories, since these are not legitimate categories for any factor, so the abbreviation n.c. (not computed) was used for survival rates for these categories. Finally, in categories which had insufficient follow-up data to allow computation of survival rates at particular time points, the abbreviation n.d. (not determined) was used.

**Table 18**  
**One-Year Graft and Patient Survival Rates**  
**January 1988 through December 1993**

**U.S. Transplants -- All Organs**

**Graft Survival by Organ and Year of Transplant**

Organ	1988		1989		1990		1991		1992		1993	
	%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Cadaveric Donor Kidney	75.7	0.5	78.4	0.5	79.6	0.5	83.6	0.4	83.6	0.3	83.2	0.4
Living Donor Kidney	88.8	0.4	96.6	0.7	91.3	0.6	92.9	0.5	91.4	0.6	91.9	0.5
Liver	64.3	1.2	63.8	1.0	67.5	0.9	70.2	0.9	72.2	0.9	73.4	0.8
Pancreas	63.4	3.1	70.5	2.2	66.7	2.1	74.7	1.9	77.9	1.8	73.8	1.6
Heart	80.8	1.0	81.4	0.9	82.8	0.8	80.5	0.9	81.3	0.8	81.5	0.8
Lung	42.4	8.6	58.1	5.1	70.9	3.2	67.1	2.3	68.8	2.0	75.9	1.7
Heart-Lung	51.4	5.8	54.9	6.1	67.3	6.5	62.0	6.9	66.0	6.9	69.3	6.1

**Patient Survival by Organ and Year of Transplant**

Organ	1988		1989		1990		1991		1992		1993	
	%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Cadaveric Donor Kidney	92.1	0.3	92.5	0.4	92.9	0.4	94.6	0.3	93.6	0.3	94.1	0.3
Living Donor Kidney	96.6	0.4	97.4	0.4	97.3	0.4	97.7	0.3	97.1	0.3	97.2	0.4
Liver	77.1	1.1	76.0	1.0	78.6	0.9	79.3	0.9	81.1	0.7	81.6	0.7
Pancreas	86.9	2.2	88.8	1.6	88.1	1.4	92.5	1.2	91.6	1.2	91.9	1.0
Heart	82.0	0.9	82.3	0.9	83.7	0.8	81.7	0.8	82.2	0.8	82.3	0.8
Lung	47.0	8.9	59.3	5.2	73.9	3.1	70.2	2.3	69.5	2.0	76.9	1.7
Heart-Lung	52.4	5.8	54.9	6.1	67.3	6.5	62.0	6.9	66.0	6.9	69.3	6.1

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

**Table 19**  
**Graft and Patient Survival Rates at One, Two, and Three Years**  
**October 1987 through December 1993**

Organ/Survival Type		N	1 Year Survival		2 Year Survival		3 Year Survival	
			%	Std. Err.	%	Std. Err.	%	Std. Err.
Cadaveric Donor Kidney	Graft Survival	47010	80.6	0.2	74.8	0.2	69.0	0.2
	Patient Survival	47033	93.3	0.1	90.4	0.1	87.4	0.2
Living Donor Kidney	Graft Survival	13881	91.2	0.2	87.7	0.3	83.9	0.3
	Patient Survival	13881	97.2	0.1	95.9	0.2	94.3	0.2
Liver	Graft Survival	16370	69.1	0.4	64.4	0.4	61.1	0.4
	Patient Survival	16370	79.2	0.3	75.4	0.4	72.7	0.4
Pancreas	Graft Survival	3084	72.0	0.8	66.9	0.9	61.6	1.0
	Patient Survival	3084	90.4	0.5	86.8	0.6	83.3	0.8
Heart	Graft Survival	12421	81.4	0.4	76.9	0.4	72.9	0.4
	Patient Survival	12421	82.3	0.3	78.1	0.4	74.4	0.4
Lung	Graft Survival	1936	70.0	1.0	60.4	1.2	52.7	1.4
	Patient Survival	1936	71.6	1.0	63.3	1.2	55.8	1.4
Heart-Lung	Graft Survival	360	60.5	2.6	52.4	2.7	48.1	2.8
	Patient Survival	360	60.8	2.6	52.9	2.7	48.9	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Note: N denotes the number of transplants for which a survival time could be determined and may be different between graft and patient survival due to differences in the reporting of graft and patient status for some patients. The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).



**Table 20**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Age (Years) at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	18	66.7	11.1	43.7	11.9	43.7	11.9	35.0	12.3
1-5	329	76.2	2.4	69.8	2.6	66.8	2.7	83.5	2.4
6-10	449	82.7	1.8	78.3	2.6	73.0	2.2	60.1	2.4
11-17	1198	84.5	1.1	76.7	1.2	69.8	1.3	61.3	1.6
18-34	12810	86.9	0.8	81.0	0.8	74.9	0.4	68.7	0.5
35-49	18554	87.1	0.2	81.2	0.3	75.7	0.4	70.1	0.3
50-64	11873	86.5	0.4	80.0	0.3	74.6	0.4	69.2	0.5
65+	1773	86.1	0.8	77.1	1.0	71.6	1.1	64.5	1.3
not reported	6	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Recipient Race	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	30497	85.6	0.2	81.0	0.2	76.4	0.4	71.4	0.3
Black	10481	85.6	0.8	77.8	0.8	68.4	0.5	60.1	0.5
Hispanic	3570	89.3	0.8	83.5	0.8	77.5	0.7	71.5	0.9
Asian	1396	89.8	0.8	83.5	1.0	80.4	1.1	76.2	1.3
Other	987	87.7	1.1	82.3	1.3	76.3	1.5	70.8	1.7
not reported	79	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated for the not reported categories.

**Table 20**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Recipient Gender	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	18594	86.5	0.3	80.4	0.3	75.1	0.3	69.7	0.4
Male	28416	86.8	0.2	80.7	0.2	74.5	0.3	68.5	0.3
not reported	0	—	—	—	—	—	—	—	—
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Recipient Blood Type	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
O	21358	87.3	0.2	81.4	0.3	75.8	0.3	70.2	0.4
A	18053	86.4	0.3	80.0	0.3	74.3	0.3	68.4	0.4
B	5428	86.3	0.3	79.8	0.3	73.7	0.3	67.7	0.7
AB	2148	86.3	0.8	79.8	0.3	72.3	1.0	64.9	1.1
not reported	23	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Previous Transplants	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	39963	87.6	0.2	81.5	0.2	75.7	0.2	69.8	0.3
Yes	6983	81.5	0.5	75.3	0.5	70.0	0.6	64.3	0.6
not reported	64	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated for the not reported categories.

**Table 20**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Recipient Citizenship	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	43557	86.7	0.2	80.6	0.2	74.7	0.2	68.8	0.2
Foreign National	1401	89.9	0.8	84.2	1.0	79.2	1.2	72.9	1.5
Unknown	884	84.5	1.2	78.4	1.4	72.6	1.5	68.4	1.6
not reported	1168	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Recipient Description at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	44019	87.0	0.2	81.0	0.2	75.2	0.2	69.4	0.2
Hospitalized	1734	83.8	0.9	76.0	1.9	70.3	1.1	63.9	1.2
In Intensive Care	485	76.0	1.9	66.5	2.2	60.2	2.3	55.7	2.4
On Life Support	81	42.9	5.5	37.1	5.5	31.9	5.5	31.9	5.5
not reported	691	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated for the not reported categories.

**Table 20**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Donor Age (Years)	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	181	74.1	3.5	70.0	3.5	63.0	3.5	60.4	4.0
1-5	1608	79.7	1.6	72.2	1.6	66.1	1.2	60.4	1.3
6-10	1932	82.6	0.4	74.8	1.0	69.0	1.6	60.4	1.2
11-17	6848	88.4	0.4	83.1	0.5	70.0	0.5	72.4	0.6
18-34	18263	88.4	0.2	83.9	0.3	78.7	0.4	73.4	0.6
35-49	10788	88.4	0.4	79.6	0.4	73.5	0.4	67.4	0.5
50-64	6518	83.4	0.5	75.6	0.5	68.5	0.6	61.2	0.7
65+	864	80.6	1.6	69.3	1.6	69.3	1.6	52.5	2.0
not reported	8	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Center Volume	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-32	8294	87.2	0.4	81.4	0.4	75.6	0.5	69.3	0.6
33-54	8168	87.0	0.4	81.4	0.4	75.8	0.5	69.3	0.6
55-78	7664	87.5	0.4	81.5	0.4	75.7	0.5	74.1	0.6
79-125	7840	87.0	0.4	81.9	0.4	76.6	0.5	74.1	0.6
126+	7964	87.5	0.4	81.5	0.4	75.8	0.5	70.7	0.6
not reported	7080	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated for the not reported categories.

**Table 20**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Primary Diagnosis	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Glomerulo-nephritis	12452	86.5	0.3	80.7	0.4	75.3	0.4	69.6	0.4
Diabetes	10779	86.8	0.4	80.3	0.4	74.4	0.4	68.8	0.5
Hypertensive Nephrosclerosis	6600	87.3	0.3	80.2	0.5	71.8	0.6	63.7	0.8
Polycystic Kidneys	4286	80.7	0.5	82.2	0.6	78.6	0.6	74.6	0.8
Nephritis/ Nephropathy	3416	87.8	0.6	81.7	0.7	77.4	0.7	72.8	0.8
Systemic Lupus Erythematosus	1356	85.9	1.0	78.7	1.1	72.8	1.3	67.1	0.4
Other	6731	85.7	0.4	80.3	0.5	74.4	0.4	68.1	0.6
not reported	1390	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

PRA at Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-19	39214	87.6	0.2	81.7	0.2	76.0	0.2	70.1	0.3
20-79	4582	82.3	0.6	75.5	0.6	69.3	0.7	64.0	0.8
80+	1258	77.3	1.2	70.5	1.3	65.3	1.4	60.8	1.5
not reported	1956	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated for the not reported categories.

**Table 20**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Level of HLA Mismatch	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0	2567	90.9	0.8	86.7	0.7	83.3	0.8	79.4	0.9
1	1886	88.3	0.7	83.2	0.4	78.0	1.0	72.4	1.1
2	5605	89.1	0.4	83.4	0.8	78.0	0.8	72.4	0.7
3	10676	87.3	0.4	81.9	0.4	75.8	0.9	73.0	0.5
4	12224	86.2	0.4	79.7	0.4	74.4	0.4	67.6	0.5
5	7743	85.1	0.4	78.0	0.5	72.3	0.5	66.4	0.6
6	2514	84.4	0.7	77.8	0.4	73.0	0.9	65.5	1.0
not reported	3795	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Simultaneous Kidney-Pancreas	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	44432	86.5	0.2	80.4	0.2	74.5	0.2	68.6	0.2
Yes	2578	90.2	0.6	83.3	0.7	78.8	0.8	75.0	0.9
not reported	0	—	—	—	—	—	—	—	—
Overall	47010	86.7	0.2	80.6	0.2	74.8	0.2	69.0	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated for the not reported categories.

**Table 21**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Age (Years) at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	18	77.8	0.5	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
1-5	331	94.8	1.2	89.4	1.7	87.6	2.0	86.5	2.0
6-10	450	97.5	0.7	95.6	1.0	96.7	1.1	94.4	1.1
11-17	1202	98.3	0.3	97.1	0.5	96.2	0.6	94.4	0.7
18-34	12816	98.0	0.5	96.1	0.2	96.1	0.2	92.4	0.3
35-49	18561	96.8	0.1	93.9	0.2	91.1	0.2	88.1	0.3
50-64	11875	94.8	0.2	90.3	0.3	86.2	0.3	82.0	0.4
65+	1774	92.7	0.6	85.4	0.9	80.7	1.0	73.5	1.2
not reported	6	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Recipient Race	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	30512	98.3	0.1	92.4	0.2	90.0	0.2	86.9	0.2
Black	10486	96.7	0.2	93.5	0.2	96.7	0.3	87.6	0.4
Hispanic	3572	97.6	0.3	95.2	0.3	92.7	0.5	90.0	0.6
Asian	1397	96.8	0.5	93.5	0.7	91.4	0.5	89.2	1.0
Other	987	96.5	0.6	92.7	0.9	90.0	1.1	87.8	1.2
not reported	79	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 21**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Recipient Gender	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	18598	96.8	0.1	93.8	0.2	91.1	0.2	88.5	0.3
Male	28435	96.3	0.1	93.0	0.2	89.9	0.2	86.7	0.2
not reported	0	—	—	—	—	—	—	—	—
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Recipient Blood Type	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
O	21369	96.5	0.4	93.4	0.2	90.6	0.2	87.8	0.3
A	18062	96.0	0.4	93.3	0.2	90.3	0.2	87.3	0.3
B	5430	96.2	0.4	92.9	0.4	96.0	0.4	87.8	0.5
AB	2149	96.0	0.4	93.1	0.6	89.7	0.7	85.8	0.5
not reported	23	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Previous Transplants	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	39965	96.5	0.1	93.3	0.1	90.3	0.2	87.3	0.2
Yes	6987	96.3	0.2	93.1	0.3	90.9	0.4	87.9	0.4
not reported	81	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.



**Table 21**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Recipient Citizenship	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	43575	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2
Foreign National	1401	98.0	0.4	94.6	0.7	92.2	0.8	89.9	1.0
Unknown	885	95.3	0.7	91.1	1.0	88.6	1.1	86.2	1.2
not reported	1172	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Recipient Description at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	44023	96.7	0.1	93.6	0.1	90.7	0.1	87.6	0.2
Hospitalized	1734	95.5	0.5	91.0	0.7	87.3	0.8	85.3	0.9
In Intensive Care	485	90.5	1.4	87.1	1.6	84.7	1.7	81.7	1.9
On Life Support	81	53.5	5.6	43.6	5.7	37.5	5.9	37.5	5.9
not reported	710	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 21**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Donor Age (Years)	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	182	96.3	1.5	92.9	2.0	88.3	2.0	89.3	2.6
1-5	1610	96.5	0.8	93.3	0.8	89.5	0.8	86.7	1.6
6-10	1934	96.8	0.8	92.7	0.4	90.2	0.7	87.6	0.4
11-17	6854	96.8	0.2	94.0	0.4	91.6	0.4	88.8	0.4
18-34	18265	96.8	0.1	94.1	0.2	91.5	0.2	88.9	0.3
35-49	10794	96.8	0.2	92.8	0.8	88.9	0.4	96.8	0.4
50-64	6522	95.7	0.3	91.7	0.3	87.8	0.4	83.8	0.5
65+	864	95.0	0.4	89.3	1.1	83.9	1.4	81.2	1.6
not reported	8	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Center Volume	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-32	8297	96.3	0.2	93.0	0.4	96.8	0.4	96.8	0.4
33-54	8170	96.8	0.2	93.0	0.8	96.5	0.4	87.8	0.4
55-78	7671	96.8	0.2	93.7	0.4	90.9	0.8	88.1	0.4
79-125	7848	97.1	0.2	94.3	0.4	91.9	0.4	89.2	0.4
126+	7965	96.6	0.2	93.3	0.3	90.5	0.4	87.7	0.4
not reported	7082	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 21**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Primary Diagnosis	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		Glomerulo-nephritis	12454	97.1	0.2	94.7	0.2	92.7	0.2
Diabetes	10781	95.3	0.2	90.6	0.3	86.0	0.4	81.8	0.4
Hypertensive Nephrosclerosis	6600	96.7	0.2	93.6	0.3	90.1	0.4	86.3	0.5
Polycystic Kidneys	4286	97.4	0.2	94.2	0.4	91.9	0.4	89.4	0.5
Nephritis/Nephropathy	3416	97.4	0.3	95.0	0.4	93.6	0.4	91.4	0.5
Systemic Lupus Erythematosus	1356	97.1	0.5	94.9	0.5	93.2	0.7	91.5	0.9
Other	6732	96.1	0.2	93.0	0.3	90.6	0.4	86.0	0.4
not reported	1408	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

PRA at Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		0-19	39231	96.7	0.1	93.6	0.1	90.7	0.2
20-79	4584	96.1	0.3	92.5	0.4	89.7	0.5	86.3	0.6
80+	1259	94.6	0.6	91.5	0.8	88.0	1.0	84.8	1.1
not reported	1959	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 21**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Cadaveric Kidney Transplants**

Level of HLA Mismatch	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0	2567	96.9	0.4	94.2	0.5	91.9	0.4	89.8	0.7
1	1886	96.7	0.4	94.3	0.5	91.9	0.7	87.9	0.8
2	5607	96.9	0.2	93.9	0.4	91.0	0.4	88.0	0.5
3	10680	96.9	0.2	93.9	0.2	91.9	0.3	88.0	0.3
4	12226	96.9	0.2	92.9	0.2	89.8	0.3	87.1	0.3
5	7747	96.9	0.2	93.9	0.3	94.2	0.4	87.9	0.3
6	2518	96.9	0.4	92.9	0.5	89.3	0.7	86.3	0.8
not reported	3802	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Simultaneous Kidney-Pancreas	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	44455	96.5	0.1	93.4	0.1	90.5	0.1	87.5	0.2
Yes	2578	95.9	0.4	91.2	0.6	87.9	0.7	85.1	0.8
not reported	0	—	—	—	—	—	—	—	—
Overall	47033	96.5	0.1	93.3	0.1	90.4	0.1	87.4	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 22**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Age (Years) at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	34	85.3	6.1	79.0	7.1	75.0	7.1	70.8	8.4
1-5	422	87.3	1.6	85.1	1.7	83.6	1.8	81.3	2.0
6-10	416	91.7	1.4	96.1	1.5	86.4	1.8	81.9	2.1
11-17	1065	94.3	0.7	90.7	0.9	85.3	1.1	79.3	1.4
18-34	5617	94.4	0.3	91.9	0.3	88.0	0.5	83.9	0.5
35-49	4275	95.6	0.3	92.6	0.3	89.7	0.5	86.9	0.6
50-64	1882	93.3	0.6	89.0	0.7	86.0	0.6	81.6	1.0
65+	170	91.3	2.2	81.4	3.1	79.7	3.3	76.6	3.8
not reported	0	—	—	—	—	—	—	—	—
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Recipient Race	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	10236	94.3	0.2	91.4	0.3	88.5	0.3	85.0	0.4
Black	1721	92.6	0.6	88.0	0.3	90.7	1.6	74.3	1.2
Hispanic	1307	95.6	0.3	92.6	0.7	89.6	0.3	85.3	1.2
Asian	269	96.1	1.2	94.8	1.4	90.2	2.1	87.0	2.5
Other	284	96.7	1.1	94.7	1.4	91.8	1.8	90.1	2.0
not reported	64	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 22**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Recipient Gender	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	5831	94.1	0.3	91.1	0.4	87.3	0.5	83.2	0.5
Male	8050	94.1	0.3	91.3	0.3	88.1	0.4	84.4	0.5
not reported	0	—	—	—	—	—	—	—	—
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Recipient Blood Type	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
D	6417	93.8	0.3	90.9	0.4	87.3	0.4	83.3	0.5
A	5307	94.6	0.3	91.9	0.4	88.7	0.5	84.9	0.6
B	1610	93.9	0.6	90.5	0.7	86.2	0.9	82.4	1.1
AB	510	93.3	1.1	90.3	1.3	88.1	1.5	84.4	1.8
not reported	37	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Previous Transplants	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	12738	94.2	0.2	91.4	0.3	87.9	0.3	84.1	0.4
Yes	1127	92.2	0.8	89.5	0.9	86.0	1.1	81.5	1.3
not reported	16	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 22**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Recipient Citizenship	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		U. S. Citizen	12645	93.9	0.2	91.0	0.3	87.5	0.3
Foreign National	380	97.2	0.9	95.0	1.2	91.1	1.7	88.7	2.0
Unknown	389	95.8	1.0	92.5	1.4	88.8	1.6	87.0	1.8
not reported	467	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Recipient Description at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		Not Hospitalized	13239	94.1	0.2	91.3	0.2	87.8	0.3
Hospitalized	333	91.9	1.5	88.5	1.8	84.6	2.0	80.4	2.3
In Intensive Care	102	91.9	2.8	84.5	3.7	82.3	3.9	75.2	4.5
On Life Support	7	57.1	18.7	57.1	18.7	n.d.	n.d.	n.d.	n.d.
not reported	200	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 22**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Donor Age (Years)	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	1	100.0	0.0	100.0	0.0	n.d.	n.d.	n.d.	n.d.
1-5	1	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
6-10	1	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
11-17	31	93.5	0.0	90.3	5.3	90.3	5.3	86.2	0.5
18-34	6140	94.2	0.3	91.6	0.0	88.4	0.0	84.7	0.5
35-49	5705	90.3	0.3	91.5	0.3	88.4	0.5	82.4	0.5
50-64	1859	92.9	0.0	89.6	0.7	85.3	0.0	81.2	1.0
65+	138	94.9	1.9	89.6	2.6	81.0	3.6	78.5	3.9
not reported	5	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Center Volume	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-32	2493	93.5	0.5	90.5	0.0	86.8	0.7	93.5	0.8
33-54	2253	94.8	0.0	92.1	0.6	88.7	0.7	85.4	0.0
55-78	2493	94.8	0.5	91.9	0.0	88.4	0.7	83.7	0.0
79-125	2591	94.4	0.5	92.1	0.5	89.4	0.0	85.4	0.0
126+	2328	94.2	0.5	91.0	0.6	88.3	0.7	84.5	0.9
not reported	1773	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.



**Table 22**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Primary Diagnosis	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Glomerulo-nephritis	4224	94.9	0.3	92.0	0.4	88.8	0.5	85.2	0.6
Diabetes	2758	93.9	0.5	90.1	0.6	86.4	0.7	81.9	0.8
Nephritis/ Nephropathy	1287	94.4	0.6	91.7	0.8	88.8	0.4	85.4	1.1
Hypertensive Nephrosclerosis	1137	94.9	0.4	90.7	0.4	86.4	1.1	80.6	1.3
Polycystic Kidneys	687	94.9	0.4	92.0	1.0	89.4	1.2	87.1	1.3
Systemic Lupus Erythematosus	536	93.8	1.0	91.5	1.2	86.7	1.5	83.1	1.8
Other	2732	93.9	0.5	91.2	0.5	88.1	0.6	83.8	0.8
not reported	520	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

PRA at Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-19	11548	94.3	0.2	91.5	0.3	88.2	0.3	84.4	0.4
20-79	820	92.5	0.9	88.3	1.1	84.3	1.3	80.9	1.5
80+	220	88.9	2.1	85.5	2.4	82.9	2.6	76.8	3.1
not reported	1293	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 22**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Level of HLA Mismatch	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0	2804	96.8	0.3	95.1	0.4	93.0	0.5	89.6	0.7
1	1290	93.2	0.7	90.9	0.8	86.7	1.0	83.0	1.2
2	3259	94.0	0.4	90.9	0.5	86.0	0.6	82.8	0.7
3	4013	93.0	0.5	89.5	0.5	86.1	0.6	82.1	0.7
4	609	93.0	1.0	89.7	1.2	85.2	1.5	82.8	1.7
5	399	94.6	1.1	91.1	1.5	87.8	1.7	84.1	2.1
6	177	90.3	2.2	85.2	2.7	79.4	3.2	74.3	3.7
not reported	1330	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Relation of Donor to Recipient	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Parent	3709	92.9	0.4	90.3	0.5	85.8	0.5	81.4	0.7
Offspring	1534	93.1	0.7	88.4	0.8	85.8	0.9	82.3	1.1
Sibling	6960	95.1	0.3	92.6	0.3	89.6	0.5	86.0	0.5
Other	594	93.8	1.0	90.1	1.2	86.0	1.5	82.2	1.8
Spouse	416	92.0	1.3	89.7	1.5	85.4	1.8	82.4	2.1
not reported	668	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	94.1	0.2	91.2	0.2	87.7	0.3	83.9	0.3

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 23**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Age (Years) at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	34	94.1	4.0	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
1-5	422	97.6	0.7	96.3	0.9	95.7	1.0	94.5	1.2
6-10	416	99.2	0.9	98.0	0.5	98.4	0.6	98.0	0.8
11-17	1065	99.4	0.2	98.0	0.4	97.7	0.5	97.1	0.6
18-34	5617	99.1	0.4	98.0	0.2	96.7	0.3	95.5	0.3
35-49	4275	98.0	0.2	97.6	0.2	96.1	0.3	94.2	0.3
50-64	1882	97.7	0.4	94.4	0.5	92.4	0.6	89.3	0.8
65+	170	94.3	1.8	85.6	2.9	82.9	3.2	81.4	3.5
not reported	0	—	—	—	—	—	—	—	—
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Recipient Race	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	10236	98.8	0.1	97.2	0.2	95.9	0.2	94.4	0.3
Black	1721	98.6	0.3	96.8	0.4	94.5	0.6	92.2	0.8
Hispanic	1307	99.0	0.3	97.3	0.5	96.4	0.5	95.5	0.7
Asian	269	99.6	0.4	99.2	0.6	98.6	0.8	97.7	1.2
Other	284	98.5	0.7	96.9	1.1	96.0	1.3	95.4	1.4
not reported	64	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 23**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Recipient Gender	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	5831	98.6	0.2	97.1	0.2	95.7	0.3	94.2	0.3
Male	8050	98.9	0.1	97.3	0.2	96.0	0.2	94.3	0.3
not reported	0	—	—	—	—	—	—	—	—
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Recipient Blood Type	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
O	6417	98.8	0.1	97.2	0.2	95.7	0.3	94.2	0.3
A	5307	98.8	0.2	97.3	0.2	96.1	0.3	94.6	0.4
B	1610	98.9	0.3	97.1	0.4	95.5	0.6	93.5	0.7
AB	510	98.0	0.6	96.7	0.8	95.7	0.9	94.7	1.1
not reported	37	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Previous Transplants	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	12738	98.8	0.1	97.2	0.1	95.9	0.2	94.4	0.2
Yes	1127	98.7	0.3	96.8	0.5	94.9	0.7	92.9	0.9
not reported	16	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 23**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Recipient Citizenship	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	12645	98.7	0.1	97.1	0.2	95.8	0.2	94.2	0.2
Foreign National	380	99.7	0.3	98.4	0.7	97.1	1.0	96.5	1.2
Unknown	389	98.7	0.6	97.6	0.8	95.9	1.0	94.9	1.2
not reported	467	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Recipient Description at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	13239	98.8	0.1	97.3	0.1	95.9	0.2	94.4	0.2
Hospitalized	333	98.8	0.6	95.7	1.1	93.6	1.4	93.6	1.7
In Intensive Care	102	96.9	1.8	93.8	2.3	93.6	2.5	93.6	3.1
On Life Support	7	71.4	17.1	71.4	17.1	n.d.	n.d.	n.d.	n.d.
not reported	200	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 23**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Donor Age (Years)	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	1	100.0	0.3	100.0	0.0	n.d.	n.d.	n.d.	n.d.
1-5	1	100.0	0.0	100.0	0.3	100.0	0.0	100.0	0.6
6-10	1	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
11-17	31	100.0	0.0	96.0	3.2	96.0	3.2	n.d.	n.d.
18-34	6140	94.7	0.1	97.3	0.2	96.0	0.3	94.7	0.3
35-49	5705	98.9	0.1	97.3	0.2	96.0	0.3	84.4	0.3
50-64	1859	98.4	0.3	96.0	0.0	95.4	0.5	93.3	0.7
65+	138	98.5	1.0	93.2	2.2	89.4	2.8	84.4	3.6
not reported	5	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Center Volume	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-32	2493	98.5	0.2	96.7	0.4	95.9	0.4	94.2	0.5
33-54	2253	98.9	0.2	97.3	0.3	95.8	0.3	94.4	0.6
55-78	2443	99.2	0.2	97.6	0.3	95.8	0.0	94.1	0.6
79-125	2591	96.0	0.2	97.7	0.3	96.0	0.3	99.2	0.5
126+	2328	99.0	0.2	97.2	0.4	96.0	0.4	94.2	0.6
not reported	1773	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 23**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Primary Diagnosis	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Glomerulo-nephritis	4224	99.0	0.2	97.9	0.2	97.2	0.3	96.8	0.3
Diabetes	2758	98.3	0.3	95.8	0.4	92.9	0.5	89.6	0.7
Nephritis/ Nephropathy	1287	99.1	0.3	97.2	0.5	96.4	0.5	96.4	0.6
Hypertensive Nephrosclerosis	1137	98.8	0.4	96.8	0.5	99.1	0.4	93.3	0.9
Polycystic Kidneys	687	99.0	0.4	97.9	0.4	96.3	0.4	94.4	1.0
Systemic Lupus Erythematosus	536	99.1	0.4	98.7	0.5	97.7	0.7	96.4	0.9
Other	2732	98.8	0.2	97.2	0.3	96.2	0.4	94.9	0.5
not reported	520	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

PRA at Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-19	11548	98.8	0.1	97.3	0.2	96.0	0.2	94.5	0.2
20-79	820	98.1	0.5	95.2	0.8	93.9	0.9	92.4	1.0
80+	220	97.6	1.0	95.2	1.5	93.0	1.8	89.3	2.4
not reported	1293	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 23**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Living Donor Kidney Transplants**

Level of HLA Mismatch	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0	2804	99.2	0.2	98.0	0.5	97.4	0.5	95.4	0.3
4	1290	98.2	0.4	98.2	0.5	94.0	0.7	92.9	0.8
2	3259	98.7	0.2	96.8	0.3	95.3	0.4	93.6	0.5
4	4013	98.7	0.2	97.4	0.3	98.2	0.3	94.5	0.3
4	609	99.3	0.3	97.5	0.6	96.1	0.5	95.5	1.0
5	399	98.0	0.5	96.8	0.9	94.0	1.3	92.9	1.5
6	177	97.1	1.3	93.0	1.3	90.0	2.3	98.7	2.7
not reported	1330	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Relation of Donor to Recipient	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Parent	3709	99.1	0.2	98.0	0.2	97.1	0.3	98.0	0.3
Offspring	1534	97.6	0.6	93.9	0.6	91.6	0.5	99.3	0.3
Sibling	6960	98.9	0.6	97.6	0.2	96.3	0.2	94.0	0.3
Other	594	97.8	0.6	95.4	0.4	94.3	1.0	93.3	1.2
Spouse	416	99.0	0.5	97.5	0.8	94.7	1.2	93.7	1.4
not reported	668	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	13881	98.8	0.1	97.2	0.1	95.9	0.2	94.3	0.2

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.



**Table 24**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Liver Transplants**

Age (Years) at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	764	67.9	1.7	62.1	1.8	57.6	1.8	54.8	1.9
1-5	1209	71.8	1.8	65.3	1.4	69.8	1.8	58.8	1.5
6-10	433	76.0	2.0	70.5	2.2	67.9	2.3	66.1	2.3
11-17	559	76.0	1.8	69.8	1.8	67.5	2.0	64.5	2.1
18-34	2011	77.2	0.9	68.7	1.3	63.3	1.1	59.8	1.1
35-49	5497	79.1	0.6	71.5	0.6	66.4	0.7	62.6	0.7
50-64	5249	77.0	0.6	64.5	0.6	64.3	0.7	60.8	0.7
65+	648	77.0	1.7	67.2	1.8	62.2	2.0	58.8	2.1
not reported	0	—	—	—	—	—	—	—	—
Overall	16370	77.0	0.3	69.1	0.4	64.4	0.4	61.1	0.4

Recipient Race	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	12734	77.5	0.4	69.8	0.4	65.3	0.4	61.9	0.5
Black	1274	71.8	1.8	64.2	1.8	58.8	1.8	55.0	1.5
Hispanic	1239	77.5	1.2	76.0	1.8	64.5	1.8	62.6	1.5
Asian	526	77.2	1.8	61.3	2.1	55.3	2.2	52.7	2.3
Other	578	76.8	1.8	69.6	1.9	66.0	2.0	63.8	2.1
not reported	19	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	77.0	0.3	69.1	0.4	64.4	0.4	61.1	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 24**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Liver Transplants**

Recipient Gender	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		Female	7530	77.1	0.5	69.7	0.5	65.6	0.6
Male	8840	77.0	0.4	68.5	0.5	63.5	0.5	59.7	0.6
not reported	0	—	—	—	—	—	—	—	—
Overall	16370	77.0	0.3	69.1	0.4	64.4	0.4	61.1	0.4

Recipient Blood Type	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		O	7087	76.9	0.5	69.1	0.6	64.3	0.6
●	6583	77.9	0.5	70.0	0.6	65.6	0.6	62.1	0.6
⊖	2008	74.9	1.6	66.0	1.1	61.1	1.1	57.7	1.2
AB	686	75.4	1.6	68.5	1.6	64.7	1.6	62.0	1.9
not reported	6	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	77.0	0.3	69.1	0.4	64.4	0.4	61.1	0.4

Previous Transplants	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		No	14229	79.7	0.3	72.0	0.4	67.4	0.4
Yes	2141	59.3	1.1	49.8	1.1	44.7	1.1	41.7	1.1
not reported	0	—	—	—	—	—	—	—	—
Overall	16370	77.0	0.3	69.1	0.4	64.4	0.4	61.1	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 24**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Liver Transplants**

Recipient Citizenship	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	15465	77.1	0.3	69.2	0.4	64.6	0.4	61.3	0.4
Foreign National	619	77.0	1.7	67.4	1.9	61.3	2.0	59.4	2.1
Unknown	199	72.9	3.2	67.8	3.3	64.3	3.4	58.3	3.5
not reported	87	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	77.0	0.3	69.1	0.4	64.4	0.4	61.1	0.4

Recipient Description at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	8350	84.4	0.5	77.1	0.5	72.5	0.5	68.5	0.6
Hospitalized	3460	78.4	0.7	69.3	0.8	64.2	0.8	60.5	0.9
In Intensive Care	1585	72.9	1.1	64.2	1.2	58.7	1.3	56.5	1.3
On Life Support	2955	56.9	0.5	48.9	0.5	45.4	0.5	43.7	0.9
not reported	20	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	77.0	0.3	69.1	0.4	64.4	0.4	61.1	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 24**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Liver Transplants**

Donor Age (Years)	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	504	66.6	2.1	58.6	2.2	53.9	2.2	52.4	2.3
1-5	1031	75.0	1.3	70.6	1.4	66.4	1.5	64.8	1.5
6-10	748	75.5	1.6	69.7	1.7	66.5	1.4	63.3	1.0
11-17	2583	81.1	0.8	73.7	0.8	70.1	0.8	66.4	1.0
18-34	6369	79.0	0.5	71.1	0.8	66.6	0.8	63.0	0.6
35-49	3286	74.8	0.8	66.2	0.8	61.2	0.8	58.6	0.9
50-64	1604	71.8	1.1	62.9	1.2	55.5	3.3	50.6	1.0
65+	212	66.6	3.3	56.3	3.4	49.6	3.4	42.6	0.9
not reported	33	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	77.0	0.3	69.1	0.4	64.4	0.4	61.1	0.4

Center Volume	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-23	3073	74.4	0.8	66.9	0.8	62.9	0.9	59.2	0.9
24-45	2885	77.8	0.8	70.3	0.8	65.6	0.8	62.4	1.0
46-92	2971	79.0	0.7	71.8	0.8	67.3	0.8	64.8	0.9
93-159	2922	80.6	0.7	72.5	0.8	67.2	0.8	63.0	1.0
160+	2954	76.3	0.8	67.8	0.9	62.9	0.9	59.1	1.0
not reported	1565	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	77.0	0.3	69.1	0.4	64.4	0.4	61.1	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 24**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Liver Transplants**

Primary Diagnosis	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		Non-Cholestatic Cirrhosis	8385	78.5	0.4	70.2	0.5	65.0	0.5
Cholestatic Liver Disease/Cirrhosis	2954	81.2	0.7	74.5	0.7	71.6	0.8	69.0	0.9
Biliary Atresia	1594	71.8	1.1	66.2	1.2	63.2	1.2	60.8	1.3
Fulminant Liver Failure	1178	62.3	1.4	56.2	1.4	53.0	1.6	51.6	1.5
Metabolic Disease	887	77.4	1.4	71.0	1.5	66.9	1.6	65.0	1.7
Malignant Neoplasms	691	79.9	1.5	59.6	1.9	44.3	2.0	35.9	2.0
Other	589	72.5	1.4	65.3	2.0	60.5	2.1	57.7	2.1
not reported	92	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	77.0	0.3	69.1	0.4	64.4	0.4	61.1	0.4

Waiting List Status at Transplant*	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		1	1205	67.5	1.4	60.5	1.4	55.6	1.5
2	1448	81.1	1.0	72.6	1.2	66.3	1.4	61.4	1.9
3	2908	86.2	0.6	79.9	0.7	75.0	0.9	66.3	1.7
4	191	87.9	2.4	83.7	2.7	73.2	3.6	n.d.	n.d.
not reported	741	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	6493	80.1	0.5	72.8	0.6	67.5	0.6	61.0	1.0

\* Data for 1992 and 1993 only.

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 25**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Liver Transplants**

Age (Years) at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	764	79.6	1.5	76.0	1.0	73.9	1.7	72.0	1.8
1-5	1209	82.5	1.1	78.5	1.2	75.8	1.3	74.8	1.4
6-10	433	89.6	1.5	85.6	1.0	84.0	1.0	83.1	2.4
11-17	559	85.5	1.5	81.6	1.7	81.6	1.7	80.3	1.4
18-34	2011	86.9	0.8	81.3	0.8	77.0	1.0	73.5	1.1
35-49	5497	86.9	0.5	81.6	0.5	77.0	0.8	74.5	0.7
50-64	5249	83.8	0.5	76.4	0.8	72.5	0.7	69.1	0.7
65+	648	83.3	1.5	73.4	1.0	68.0	2.0	64.2	2.2
not reported	0	—	—	—	—	—	—	—	—
Overall	16370	85.1	0.3	79.2	0.3	75.4	0.4	72.7	0.4

Recipient Race	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	12734	85.5	0.3	79.6	0.4	76.2	0.4	73.3	0.4
Black	1274	80.7	1.1	74.8	1.3	70.9	1.3	68.5	1.5
Hispanic	1239	86.0	1.0	80.9	1.2	76.0	1.3	75.5	1.4
Asian	526	63.5	1.7	69.0	2.1	63.5	2.3	61.3	2.4
Other	578	86.3	1.5	80.4	1.7	77.0	1.9	74.8	2.1
not reported	19	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	85.1	0.3	79.2	0.3	75.4	0.4	72.7	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 25**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Liver Transplants**

Recipient Gender	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	7530	85.2	0.4	79.8	0.5	76.7	0.5	74.5	0.6
Male	8840	85.1	0.4	78.6	0.5	74.3	0.5	71.1	0.5
not reported	0	—	—	—	—	—	—	—	—
Overall	16370	85.1	0.3	79.2	0.3	75.4	0.4	72.7	0.4

Recipient Blood Type	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
O	7087	84.9	0.4	79.0	0.5	75.2	0.4	72.8	0.6
A	6583	80.0	0.4	80.0	0.5	76.3	0.4	73.1	0.6
B	2008	83.7	0.9	77.0	1.6	73.1	1.1	70.5	1.1
AB	686	83.7	1.6	78.7	1.6	75.2	1.6	73.3	1.9
not reported	6	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	85.1	0.3	79.2	0.3	75.4	0.4	72.7	0.4

Previous Transplants	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	14229	88.0	0.3	82.4	0.3	78.6	0.4	75.8	0.4
Yes	2141	65.9	1.1	57.9	1.1	54.6	1.1	52.3	1.2
not reported	0	—	—	—	—	—	—	—	—
Overall	16370	85.1	0.3	79.2	0.3	75.4	0.4	72.7	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 25**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Liver Transplants**

Recipient Citizenship	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	15465	85.1	0.3	79.2	0.3	75.5	0.4	72.8	0.4
Foreign National	619	87.1	1.4	78.9	1.7	73.5	2.0	71.6	2.1
Unknown	199	80.3	2.9	76.9	3.1	72.9	3.3	66.7	3.5
not reported	87	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	85.1	0.3	79.2	0.3	75.4	0.4	72.7	0.4

Recipient Description at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	8350	91.8	0.4	86.7	0.4	83.0	0.4	79.7	0.5
Hospitalized	3460	86.1	0.6	79.2	0.7	75.0	0.6	72.0	0.9
In Intensive Care	1585	81.7	1.0	75.1	1.1	70.0	1.2	68.2	1.3
On Life Support	2955	66.5	0.9	59.5	1.0	56.9	1.0	55.4	1.0
not reported	20	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	85.1	0.3	79.2	0.3	75.4	0.4	72.7	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.



**Table 25**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Liver Transplants**

Donor Age (Years)	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	504	81.0	1.0	76.0	2.0	74.6	2.1	73.5	2.2
1-5	1031	84.0	1.2	81.0	1.3	78.5	1.4	77.9	1.4
6-10	748	84.5	1.4	80.8	1.5	78.7	1.6	77.3	1.7
11-17	2583	86.9	0.7	81.5	0.8	78.8	0.8	75.2	0.9
18-34	6369	86.2	0.4	80.8	0.5	76.3	0.8	73.2	0.6
35-49	3286	84.3	0.7	77.7	0.8	73.1	0.8	71.1	0.9
50-64	1604	83.0	1.0	75.3	1.1	68.7	1.4	63.8	1.5
65+	212	75.3	3.1	65.7	3.5	59.8	3.9	54.1	5.2
not reported	33	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	85.1	0.3	79.2	0.3	75.4	0.4	72.7	0.4

Center Volume	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-23	3073	81.0	0.7	75.8	0.8	72.3	0.8	69.1	0.9
24-45	2885	84.7	0.7	79.1	0.8	75.1	0.8	72.4	0.9
46-92	2971	87.2	0.8	82.3	0.7	79.0	0.8	77.1	0.9
93-159	2922	88.1	0.8	81.7	0.7	77.5	0.8	74.9	0.9
160+	2954	86.6	0.7	79.6	0.8	75.5	0.9	72.1	1.0
not reported	1565	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	85.1	0.3	79.2	0.3	75.4	0.4	72.7	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 25**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Liver Transplants**

Primary Diagnosis	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Non-Cholestatic Cirrhosis	8385	85.5	0.7	79.3	0.5	75.2	0.5	72.2	0.6
Cholestatic Liver Disease/Cirrhosis	2954	89.2	0.6	84.9	0.7	82.6	0.7	80.4	0.8
Biliary Atresia	1594	83.9	1.0	80.7	1.0	79.8	1.1	78.4	1.1
Fulminant Liver Failure	1178	74.5	1.3	69.4	1.4	67.2	0.5	66.6	1.5
Metabolic Disease	887	86.0	1.2	81.1	1.3	79.1	1.3	77.7	1.5
Malignant Neoplasms	691	85.9	1.4	85.9	1.4	49.6	2.1	41.0	2.2
Other	589	80.9	1.7	75.8	1.0	72.2	2.0	69.4	2.1
not reported	92	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	16370	85.1	0.3	79.2	0.3	75.4	0.4	72.7	0.4

Waiting List Status at Transplant*	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
4	1205	75.8	1.4	69.8	1.4	65.5	1.4	n.d.	n.d.
2	1448	87.6	0.9	80.7	1.1	76.1	1.3	72.8	1.8
3	2908	92.7	0.5	88.1	0.6	84.9	0.8	78.7	1.6
4	191	92.5	1.4	90.1	2.2	80.6	3.4	n.d.	n.d.
not reported	741	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	6493	86.9	0.4	81.3	0.5	77.4	0.6	73.1	1.0

\* Data for 1992 and 1993 only.

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 26**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Pancreas Transplants**

Age (Years) at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	1	100.0	0.0	100.0	0.0	n.d.	n.d.	n.d.	n.d.
1-5	8	50.0	17.7	37.5	17.1	12.5	11.7	n.d.	n.d.
6-10	2	100.0	0.0	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
11-17	5	60.0	21.9	60.0	21.9	60.0	21.9	40.0	21.9
18-34	1405	81.7	1.0	72.8	1.2	67.6	1.3	62.8	1.4
35-49	1553	82.6	1.0	71.9	1.1	67.3	1.2	61.5	1.4
50-64	106	81.1	3.8	66.7	4.6	59.8	4.9	54.2	5.4
65+	3	—	—	—	—	—	—	—	—
not reported	3	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	82.0	0.7	72.0	0.8	66.9	0.9	61.6	1.0

Recipient Race	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	2846	81.9	0.7	71.7	0.8	66.7	0.9	61.4	1.0
Black	139	84.2	3.1	78.3	3.5	73.5	3.9	66.0	4.6
Hispanic	43	85.8	5.4	73.8	6.8	73.8	6.8	69.2	7.8
Asian	11	90.9	8.7	81.8	11.6	n.d.	n.d.	n.d.	n.d.
Other	41	80.5	6.2	70.7	7.1	57.7	8.9	57.7	8.9
not reported	4	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	82.0	0.7	72.0	0.8	66.9	0.9	61.6	1.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 26**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Pancreas Transplants**

Recipient Gender	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	1300	82.3	1.1	71.9	1.3	66.6	1.3	61.5	1.5
Male	1781	81.9	0.9	72.0	1.1	67.3	1.1	61.8	1.3
not reported	3	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	82.0	0.7	72.0	0.8	66.9	0.9	61.6	1.0

Recipient Blood Type	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
O	1417	82.3	1.0	73.2	1.2	69.2	1.3	63.1	1.4
●	1204	81.7	1.1	70.8	1.3	64.3	1.3	59.4	4.5
⊖	330	83.3	2.1	74.5	2.4	69.8	2.6	65.0	2.8
AB	130	78.4	3.6	64.0	4.4	62.0	4.4	60.3	4.5
not reported	3	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	82.0	0.7	72.0	0.8	66.9	0.9	61.6	1.0

Previous Transplants	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	2964	82.4	0.7	73.2	0.8	68.4	0.9	63.3	1.0
Yes	120	71.7	4.1	42.4	4.5	30.7	4.4	22.0	4.1
not reported	0	—	—	—	—	—	—	—	—
Overall	3084	82.0	0.7	72.0	0.8	66.9	0.9	61.6	1.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 26**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Pancreas Transplants**

Recipient Citizenship	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	2989	82.2	0.7	72.3	0.8	67.4	0.9	62.2	1.0
Foreign National	17	70.6	11.1	58.8	11.9	51.5	12.5	51.5	12.5
Unknown	13	92.3	7.4	84.6	10.0	53.8	13.8	44.9	14.1
not reported	65	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	82.0	0.7	72.0	0.8	66.9	0.9	61.6	1.0

Recipient Description at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	3035	82.2	0.7	72.2	0.8	67.3	0.9	62.0	1.0
Hospitalized	28	85.7	0.0	67.9	0.0	52.8	9.6	48.0	9.8
In Intensive Care	15	66.7	12.2	60.0	12.6	46.7	12.9	37.3	13.3
On Life Support	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
not reported	6	—	—	—	—	—	—	—	—
Overall	3084	82.0	0.7	72.0	0.8	66.9	0.9	61.6	1.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 26**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Pancreas Transplants**

Donor Age (Years)	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	6	83.3	15.2	66.7	19.2	n.d.	n.d.	n.d.	n.d.
1-5	12	50.0	14.4	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
6-10	68	86.7	4.1	79.1	5.0	75.6	5.3	70.9	6.0
11-17	618	85.2	1.3	76.7	1.7	72.1	1.8	67.6	2.1
18-34	1528	84.2	0.9	73.8	4.1	69.1	1.2	63.8	1.3
35-49	685	78.3	1.6	66.6	1.8	61.1	1.8	56.2	2.1
50-64	161	66.3	3.7	58.7	3.9	51.0	4.1	40.3	4.4
65+	6	33.3	19.2	33.3	19.2	n.d.	n.d.	n.d.	n.d.
not reported	0	—	—	—	—	—	—	—	—
Overall	3084	82.0	0.7	72.0	0.8	66.9	0.9	61.6	1.0

Center Volume	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-5	629	80.4	1.8	70.8	1.8	65.5	2.0	61.1	2.1
6-10	579	80.6	1.8	71.8	1.8	67.8	2.0	63.1	2.2
11-17	530	83.7	1.8	73.6	1.8	68.0	2.1	61.0	2.3
18-45	600	86.3	1.3	79.1	1.7	73.8	1.8	69.3	2.0
46+	533	81.6	1.7	67.7	2.0	60.7	2.2	55.4	2.5
not reported	213	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	82.0	0.7	72.0	0.8	66.9	0.9	61.6	1.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 26**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Pancreas Transplants**

Kidney Transplants	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Simultaneous Kidney	2591	84.1	0.7	76.3	0.9	72.5	0.9	67.6	1.0
Previous Kidney	209	70.3	3.2	46.3	3.5	32.4	3.4	24.5	3.2
No Previous Kidney	284	71.1	2.7	51.8	3.0	42.6	3.0	36.5	3.0
not reported	0	—	—	—	—	—	—	—	—
Overall	3084	82.0	0.7	72.0	0.8	66.9	0.9	61.6	1.0

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 27**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Pancreas Transplants**

Age (Years) at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	8	100.0	0.0	100.0	0.0	n.d.	n.d.	n.d.	n.d.
1-5	8	57.1	18.7	42.9	18.7	14.3	13.2	n.d.	n.d.
6-10	2	100.0	0.0	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
11-17	8	60.0	21.9	60.0	21.9	60.0	21.9	40.0	21.9
18-34	1405	95.8	0.5	92.3	0.7	89.1	0.9	86.3	1.0
35-49	1553	95.2	0.5	89.7	0.8	86.0	0.9	82.2	1.1
50-64	106	97.1	1.6	81.2	3.9	76.3	4.4	69.9	5.3
65+	3	—	—	—	—	—	—	—	—
not reported	8	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	95.4	0.4	90.4	0.5	86.8	0.6	83.3	0.8

Recipient Race	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	2846	85.6	4.4	90.6	0.8	87.2	0.7	83.6	0.8
Black	139	92.8	2.2	88.3	2.8	84.4	3.3	81.4	3.8
Hispanic	43	90.5	4.5	85.6	5.5	n.d.	n.d.	n.d.	n.d.
Asian	11	100.0	0.0	90.6	0.5	n.d.	n.d.	n.d.	n.d.
Other	41	97.5	2.5	90.0	4.7	85.5	6.3	85.5	6.3
not reported	4	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	95.4	0.4	90.4	0.5	86.8	0.6	83.3	0.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.



**Table 27**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Pancreas Transplants**

Recipient Gender	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	1300	95.8	0.6	90.7	0.8	86.7	1.0	83.7	1.2
Male	1781	95.2	0.5	90.2	0.7	87.0	0.8	83.1	1.0
not reported	3	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	95.4	0.4	90.4	0.5	86.8	0.6	83.3	0.8

Recipient Blood Type	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
O	1417	95.0	0.6	90.4	0.6	87.1	0.9	82.7	1.1
A	1204	95.5	0.6	90.3	0.6	86.9	1.0	84.4	1.2
A	330	97.0	0.6	91.0	1.0	86.6	2.6	82.2	2.4
AB	130	95.2	1.9	91.1	2.6	86.6	3.3	84.9	3.6
not reported	3	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	95.4	0.4	90.4	0.5	86.8	0.6	83.3	0.8

Previous Transplants	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	2964	95.3	0.4	90.5	0.5	87.0	0.7	83.6	0.8
Yes	120	97.5	1.4	87.8	3.1	82.0	3.8	75.9	4.6
not reported	0	—	—	—	—	—	—	—	—
Overall	3084	95.4	0.4	90.4	0.5	86.8	0.6	83.3	0.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 27**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Pancreas Transplants**

Recipient Citizenship	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		U. S. Citizen	2989	95.6	0.4	90.7	0.5	87.2	0.6
Foreign National	17	88.2	7.8	81.9	9.5	72.8	12.0	72.8	12.0
Unknown	13	92.3	7.4	92.3	7.4	84.6	10.0	76.2	12.1
not reported	65	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	95.4	0.4	90.4	0.5	86.8	0.6	83.3	0.8

Recipient Description at Time of Transplant	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		Not Hospitalized	3035	95.8	0.4	90.7	0.5	87.3	0.4
Hospitalized	28	85.7	6.6	82.1	7.2	69.4	9.1	69.4	9.1
In Intensive Care	15	71.4	12.1	71.4	12.1	57.1	13.2	47.6	14.0
On Life Support	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
not reported	6	—	—	—	—	—	—	—	—
Overall	3084	95.4	0.4	90.4	0.5	86.8	0.6	83.3	0.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 27**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Pancreas Transplants**

Donor Age (Years)	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	6	100.0	0.9	83.3	15.2	n.d.	n.d.	n.d.	n.d.
0-5	12	72.7	13.4	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
6-10	68	95.5	2.6	92.3	3.3	90.5	3.7	88.0	4.3
11-17	618	96.4	0.8	91.0	1.2	88.3	1.4	86.4	1.5
18-34	1528	95.3	0.5	90.3	0.8	86.8	0.9	83.3	1.1
35-49	685	95.2	0.8	90.9	1.1	86.4	1.4	82.7	1.7
50-64	161	94.2	1.9	87.6	2.7	82.5	3.2	73.5	4.3
65+	6	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
not reported	6	—	—	—	—	—	—	—	—
Overall	3084	95.4	0.4	90.4	0.5	86.8	0.6	83.3	0.8

Center Volume	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-5	629	94.5	0.9	88.9	1.3	95.5	1.5	84.1	1.8
6-10	579	94.9	0.9	94.9	1.2	87.1	1.5	83.5	1.8
11-17	530	96.4	0.9	91.3	1.3	87.8	1.5	84.1	1.8
18-45	600	95.3	0.9	91.0	1.2	88.7	1.3	86.9	1.5
46+	533	96.9	0.8	90.9	1.3	85.1	1.7	81.9	2.0
not reported	213	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	3084	95.4	0.4	90.4	0.5	86.8	0.6	83.3	0.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 27**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Pancreas Transplants**

Kidney Transplants	N	3 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		Simultaneous Kidney	2591	95.7	0.7	91.1	0.6	87.9	0.7
Previous Kidney	209	96.6	1.3	89.5	2.2	82.6	2.9	78.7	3.3
No Previous Kidney	284	92.0	1.6	84.2	2.2	80.0	2.5	75.4	2.9
not reported	0	—	—	—	—	—	—	—	—
Overall	3084	95.4	0.4	90.4	0.5	86.8	0.6	83.3	0.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 28**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Age (Years) at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		< 1	531	78.8	1.6	66.0	2.4	61.6	2.2
1-5	266	85.0	2.2	73.9	2.7	71.6	2.8	69.9	2.9
6-10	137	89.7	2.0	79.2	3.5	72.8	4.0	68.2	4.3
11-17	353	89.5	1.6	82.9	2.0	76.1	2.4	69.4	2.7
18-34	1142	91.8	0.8	82.6	1.1	76.6	1.3	72.9	1.4
35-49	3324	92.9	0.3	84.4	0.8	80.2	0.7	75.6	0.8
50-64	6261	91.8	0.3	81.4	0.5	77.2	0.5	73.6	0.6
65+	403	80.3	1.6	76.2	2.4	71.4	2.3	65.5	2.6
not reported	4	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Recipient Race	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		White	10403	91.3	0.3	81.7	0.3	77.7	0.3
Black	1162	92.0	0.8	78.8	1.2	71.5	1.6	66.7	1.5
Hispanic	494	90.9	1.6	80.3	1.6	74.0	2.4	68.5	2.3
Asian	111	93.7	2.3	89.5	3.8	75.7	4.3	70.0	5.1
Other	245	92.7	1.7	81.4	2.5	74.2	2.9	68.3	3.2
not reported	6	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 28**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Recipient Gender	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	2700	88.9	0.6	79.0	0.8	74.1	0.9	70.0	0.9
Male	9719	91.8	0.3	82.0	0.4	77.7	0.4	73.7	0.5
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Recipient Blood Type	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
O	4644	90.7	0.4	80.9	0.6	76.7	0.6	72.2	0.7
A	5607	91.1	0.4	81.8	0.5	77.3	0.6	73.6	0.6
B	1524	92.6	0.7	80.8	1.0	75.7	1.1	71.9	1.2
AB	644	91.4	1.1	82.0	1.5	77.6	1.7	73.7	1.8
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Previous Transplants	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	12064	91.5	0.3	82.1	0.4	77.6	0.4	73.7	0.4
Yes	349	79.7	2.2	56.6	2.7	50.4	2.7	45.8	2.8
not reported	8	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 28**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Recipient Citizenship	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	12187	91.2	0.3	81.4	0.4	76.9	0.4	73.0	0.4
Foreign National	155	89.7	2.4	83.5	3.0	75.7	3.7	72.2	4.0
Unknown	39	89.7	4.9	74.1	7.1	66.2	7.6	57.9	8.0
not reported	40	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Recipient Description at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	5587	93.4	0.3	84.0	0.5	79.9	0.5	75.7	0.6
Hospitalized	1021	94.1	0.7	81.8	1.2	76.6	1.3	71.8	1.5
In Intensive Care	3057	92.0	0.5	82.2	0.7	77.8	0.8	74.2	0.6
On Life Support	2734	84.7	0.7	74.8	0.8	69.8	0.5	66.0	1.0
not reported	22	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 28**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Donor Age (Years)	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	409	78.5	2.4	64.6	2.4	64.6	2.5	57.6	2.6
1-5	357	84.0	1.9	73.4	2.4	70.4	2.5	68.2	2.6
6-10	260	86.1	2.4	75.1	2.7	69.9	2.5	66.7	3.1
11-17	2004	92.8	0.8	83.9	0.8	80.5	0.8	76.7	1.0
18-34	6120	93.4	0.3	84.2	0.5	79.8	0.5	75.6	0.6
35-49	2716	89.6	0.8	79.3	0.8	73.5	0.8	64.6	0.9
50-64	543	84.7	1.5	73.0	1.9	68.1	2.1	62.9	2.3
65+	11	90.9	0.7	72.7	13.4	72.7	13.4	72.7	13.4
not reported	1	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Center Volume	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-10	2571	89.3	0.6	79.1	0.8	74.4	0.8	70.6	0.9
11-17	2493	90.6	0.6	81.0	0.8	76.7	0.8	73.0	0.9
18-26	2560	93.4	0.5	84.6	0.7	80.8	0.8	76.6	0.9
27-38	2409	91.9	0.6	82.5	0.8	77.9	0.8	74.2	0.9
39+	2388	90.6	0.6	79.5	0.8	74.7	0.9	69.9	1.0
not reported	0	—	—	—	—	—	—	—	—
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.



**Table 28**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Primary Diagnosis	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Coronary Artery Disease	5567	91.8	1.4	82.2	1.5	77.5	0.6	73.6	0.6
Cardiomyopathy	4969	93.2	0.4	83.8	0.5	79.4	0.6	75.3	0.7
Congenital Heart Disease	875	80.8	1.3	71.1	1.5	66.5	1.6	63.9	1.7
Valvular Heart Disease	469	89.8	1.4	81.6	1.8	77.5	2.0	73.5	2.1
Retransplant/ Graft Failure	346	79.5	2.2	56.6	2.7	50.3	2.7	45.7	2.8
Other	160	90.6	2.3	86.2	2.7	80.6	3.2	77.7	3.5
not reported	35	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Type of Procedure	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Heterotopic	84	83.3	4.1	65.3	5.2	58.0	5.4	48.2	5.6
Orthotopic	12330	91.2	0.3	81.5	0.4	77.0	0.4	73.1	0.4
not reported	7	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.2	0.3	81.4	0.4	76.9	0.4	72.9	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 28**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Waiting List Status at Transplant*	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
1	2336	90.8	0.6	81.0	0.8	75.7	1.0	69.1	1.4
2	1734	92.3	0.6	82.3	0.9	78.4	1.0	72.4	1.5
not reported	383	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	4453	91.3	0.4	81.4	0.6	76.6	0.7	70.2	1.0

\* Data for 1992 and 1993 only.

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 29**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Age (Years) at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	531	79.8	1.7	67.6	2.1	63.4	2.2	60.4	2.3
1-5	266	85.3	2.2	75.3	2.7	74.4	2.7	73.2	2.8
6-10	137	89.7	2.6	79.8	3.5	73.4	3.9	68.8	4.3
11-17	353	90.9	1.5	85.0	1.9	78.3	2.3	73.2	2.6
18-34	1142	92.9	0.4	84.4	1.1	78.6	1.3	75.3	1.4
35-49	3324	93.4	0.4	85.4	0.4	81.5	0.7	77.3	0.8
50-64	6261	92.3	0.4	82.2	0.5	78.2	0.5	74.4	0.8
65+	403	88.5	1.6	74.4	2.1	71.6	2.3	65.7	2.6
not reported	4	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Recipient Race	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	10403	91.7	0.4	82.7	0.4	78.9	0.3	75.4	0.3
Black	1162	92.2	0.8	79.7	1.2	72.7	1.3	68.3	1.5
Hispanic	494	91.6	1.2	82.2	1.7	75.7	2.6	70.7	2.2
Asian	111	94.6	2.1	82.2	3.7	77.3	4.2	71.5	5.1
Other	245	92.7	1.7	81.4	2.5	74.6	2.8	70.4	3.1
not reported	6	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 29**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Recipient Gender	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	2700	89.7	0.6	80.3	0.8	75.5	0.8	71.7	0.9
Male	9719	92.3	0.3	82.9	0.4	78.9	0.4	75.2	0.5
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Recipient Blood Type	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
D	4644	91.1	0.4	81.6	0.6	77.6	0.6	73.4	0.7
A	5607	91.9	0.4	83.0	0.5	78.9	0.4	75.5	0.6
B	1524	92.9	0.7	81.7	1.0	76.6	1.1	73.2	1.2
AB	644	92.9	1.1	92.9	1.5	79.2	1.0	75.7	1.8
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Previous Transplants	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	12064	92.1	0.2	83.0	0.3	78.9	0.4	75.2	0.4
Yes	349	80.2	2.1	57.8	2.7	51.8	2.7	48.4	2.8
not reported	8	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 29**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Recipient Citizenship	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	12187	91.8	0.2	82.4	0.3	78.2	0.4	74.6	0.4
Foreign National	155	89.7	2.4	84.1	3.0	76.2	3.7	72.8	4.0
Unknown	39	89.7	4.9	74.1	7.1	66.2	7.6	57.9	8.0
not reported	40	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Recipient Description at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	5587	93.8	0.3	84.8	0.5	81.0	0.5	77.0	0.6
Hospitalized	1021	94.3	0.7	82.8	1.2	77.7	1.3	73.5	1.4
In Intensive Care	3057	92.5	0.5	83.1	0.7	79.1	0.7	75.8	0.8
On Life Support	2734	85.7	0.7	76.3	0.8	71.4	0.8	67.9	1.0
not reported	22	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 29**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Donor Age (Years)	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	409	79.2	2.4	65.9	2.4	62.4	2.5	59.7	2.6
1-5	357	84.8	1.9	75.2	2.3	72.4	2.4	70.7	2.5
6-10	260	88.3	2.0	77.0	2.7	72.2	2.4	69.5	3.1
11-17	2004	93.1	0.9	84.8	0.9	81.2	0.9	77.6	1.0
18-34	6120	93.9	0.3	85.2	0.9	81.0	0.5	77.2	0.6
35-49	2716	90.4	0.9	80.0	0.9	74.9	0.9	71.2	0.9
50-64	543	85.2	1.5	73.9	1.9	69.0	2.4	64.3	2.3
65+	11	90.0	0.7	72.7	13.4	72.7	13.4	72.7	13.4
not reported	1	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Center Volume	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-10	2571	90.0	0.9	80.0	0.9	75.5	0.9	71.7	0.9
11-17	2493	91.1	0.8	81.9	0.8	77.7	0.8	74.2	0.9
18-26	2560	93.9	0.9	85.6	0.7	82.0	0.9	78.1	0.9
27-38	2409	92.6	0.9	83.8	0.9	79.6	0.9	76.2	0.9
39+	2388	91.1	0.6	80.3	0.8	75.9	0.9	71.8	1.0
not reported	0	—	—	—	—	—	—	—	—
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 29**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Primary Diagnosis	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Coronary Artery Disease	5567	92.4	0.4	83.0	0.5	78.9	0.6	78.9	0.6
Cardiomyopathy	4969	93.7	0.3	84.8	0.5	80.7	0.6	76.8	0.6
Congenital Heart Disease	875	82.0	1.3	72.7	0.5	68.5	1.6	66.4	1.7
Valvular Heart Disease	469	90.2	1.3	82.2	1.8	78.4	1.9	75.3	2.1
Retransplant/ Graft Failure	346	79.8	2.2	57.6	2.7	51.5	2.7	48.1	2.8
Other	160	93.0	2.0	88.4	2.0	82.7	3.1	79.7	3.4
not reported	35	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Type of Procedure	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Heterotopic	84	84.5	4.0	69.4	5.1	61.7	5.4	54.1	5.7
Orthotopic	12330	91.8	0.2	82.4	0.3	78.3	0.4	74.6	0.4
not reported	7	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	12421	91.7	0.2	82.3	0.3	78.1	0.4	74.4	0.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 29**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart Transplants**

Waiting List Status at Transplant*	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
1	2336	91.3	0.6	82.0	0.8	77.1	0.9	70.7	1.4
2	1734	92.8	0.6	83.1	0.9	79.3	1.0	73.7	1.5
not reported	383	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	4453	91.8	0.4	82.3	0.6	77.7	0.7	71.7	1.0

\* Data for 1992 and 1993 only.

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.



**Table 30**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Lung Transplants**

Age (Years) at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	5	40.0	17.9	40.0	21.9	n.d.	n.d.	n.d.	n.d.
1-5	17	82.4	9.2	64.2	11.8	n.d.	n.d.	n.d.	n.d.
6-10	25	72.0	9.0	64.0	9.0	51.2	11.2	n.d.	n.d.
11-17	69	85.5	4.2	63.5	5.8	59.6	6.1	35.8	8.6
18-34	385	86.2	1.8	72.6	2.3	59.3	2.7	53.7	3.0
35-49	665	83.3	1.8	69.8	1.8	60.6	2.0	54.3	2.2
50-64	745	89.2	1.8	69.8	1.7	61.8	1.8	52.3	2.3
65+	25	91.7	5.6	70.0	9.5	49.5	12.1	49.5	12.1
not reported	0	—	—	—	—	—	—	—	—
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Recipient Race	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	1765	86.7	0.8	70.7	1.8	61.4	1.2	54.2	1.4
Black	74	81.0	4.6	67.3	5.5	53.5	6.2	n.d.	n.d.
Hispanic	47	80.9	5.7	61.8	7.1	49.9	7.4	40.0	7.8
Asian	15	46.7	8.8	46.7	12.9	31.1	12.4	0.0	0.0
Other	33	78.8	7.1	66.3	8.3	58.0	9.1	n.d.	n.d.
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 30**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Lung Transplants**

Recipient Gender	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	1028	87.1	1.0	72.4	1.4	62.7	1.6	54.5	1.9
Male	907	85.2	1.2	67.2	1.6	57.7	1.7	50.6	2.0
not reported	1	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Recipient Blood Type	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
O	816	87.2	1.2	70.9	1.6	60.5	1.6	53.1	2.1
A	805	85.2	1.3	69.0	1.6	59.6	1.8	52.2	2.1
B	231	86.1	2.3	71.2	3.9	62.0	3.9	54.2	4.1
AB	83	85.5	3.9	65.9	5.2	61.5	5.5	50.3	6.4
not reported	1	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Previous Transplants	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	1875	87.0	0.8	71.0	1.1	61.4	1.2	53.6	1.4
Yes	59	59.3	6.4	35.6	6.2	28.5	5.9	25.7	6.0
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 30**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Lung Transplants**

Recipient Citizenship	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	1897	86.4	0.8	70.3	1.1	60.8	1.2	52.9	1.4
Foreign National	25	80.0	8.0	51.7	10.1	37.6	10.1	n.d.	n.d.
Unknown	9	100.0	0.0	77.8	13.9	66.7	15.7	66.7	15.7
not reported	5	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Recipient Description at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	1625	87.9	0.8	72.8	1.1	63.4	1.3	55.6	1.5
Hospitalized	165	84.2	2.8	61.5	3.8	52.2	4.0	43.9	4.3
In Intensive Care	54	88.9	4.3	59.3	6.7	48.5	7.0	45.5	7.2
On Life Support	54	56.0	5.4	37.3	5.4	28.6	5.2	26.2	5.2
not reported	8	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 30**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Lung Transplants**

Donor Age (Years)	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	0	77.8	13.9	77.8	13.9	77.8	13.9	n.d.	n.d.
1-5	18	83.3	8.8	42.8	12.0	n.d.	n.d.	n.d.	n.d.
6-10	44	86.3	5.2	67.9	7.1	57.7	8.1	35.2	11.5
11-17	405	85.7	1.7	67.6	2.3	58.7	2.6	51.8	2.9
18-34	978	86.3	4.1	71.5	1.5	61.4	1.7	54.4	1.9
35-49	410	87.6	1.6	69.8	2.3	69.8	2.5	51.4	3.0
50-64	72	86.1	4.1	70.7	5.4	57.3	6.3	54.9	6.5
65+	0	—	—	—	—	—	—	—	—
not reported	0	—	—	—	—	—	—	—	—
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Center Volume	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-5	448	81.5	1.6	67.6	2.2	55.7	2.3	48.5	2.6
6-10	340	84.7	2.3	68.1	2.5	56.3	2.8	49.3	3.2
11-17	394	86.8	1.7	70.8	2.3	61.9	2.6	49.6	3.2
18-30	385	88.1	1.7	67.2	2.3	59.5	2.6	51.8	3.1
31+	369	90.8	1.5	76.5	2.2	70.0	2.6	66.4	2.9
not reported	0	—	—	—	—	—	—	—	—
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 30**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Lung Transplants**

Primary Diagnosis	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Emphysema/ COPD	617	93.2	1.0	78.3	1.7	69.4	2.0	59.7	2.6
Alpha-1 - Antitrypsin Deficiency	204	65.6	2.1	69.8	2.8	61.8	3.0	53.9	4.1
Cystic Fibrosis	249	89.2	2.9	70.9	2.9	60.2	3.3	52.9	4.1
Idiopathic Pulmonary Fibrosis	245	85.3	2.3	64.7	3.1	51.6	3.3	46.6	3.5
Primary Pulmonary Hypertension	204	76.5	3.0	65.6	3.0	56.2	3.0	47.2	4.1
Congenital Lung Disease	82	73.2	4.9	60.7	5.4	51.4	6.0	51.4	6.0
Retransplant/ Graft Failure	58	69.4	6.0	37.9	5.4	30.5	6.1	27.5	6.2
Other	185	85.4	2.6	66.9	3.5	60.1	3.7	52.8	4.2
not reported	19	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Type of Procedure	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Double Lung	612	85.1	1.4	69.3	1.9	61.9	2.1	55.5	2.4
Single Lung	1324	86.7	0.9	70.3	1.3	59.7	1.4	51.5	1.6
not reported	0	—	—	—	—	—	—	—	—
Overall	1936	86.2	0.8	70.0	1.0	60.4	1.2	52.7	1.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 31**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Lung Transplants**

Age (Years) at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	5	80.0	17.9	30.0	21.9	n.d.	n.d.	n.d.	n.d.
1-5	47	82.4	9.2	64.2	11.8	n.d.	n.d.	n.d.	n.d.
6-10	25	76.0	8.5	67.6	8.5	n.d.	n.d.	n.d.	n.d.
11-17	69	80.9	4.1	68.4	5.7	64.2	5.9	45.5	8.8
18-34	385	87.5	1.7	74.3	2.3	62.3	2.7	56.9	3.0
35-49	665	84.4	1.4	71.7	1.4	64.0	2.0	57.6	2.2
50-64	745	80.9	4.1	70.9	1.7	63.7	1.4	54.4	2.3
65+	25	91.7	5.6	70.9	9.5	49.5	12.1	49.5	12.1
not reported	0	—	—	—	—	—	—	—	—
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Recipient Race	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	1765	67.6	0.8	72.4	1.4	64.2	1.2	57.3	1.4
Black	74	82.2	3.5	68.3	5.5	57.5	6.1	n.d.	n.d.
Hispanic	47	80.9	5.7	61.6	7.1	52.1	7.4	42.3	7.9
Asian	15	86.7	0.8	36.7	12.9	31.1	12.4	0.0	0.0
Other	33	81.6	6.8	68.6	8.3	64.0	8.9	n.d.	n.d.
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 31**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Lung Transplants**

Recipient Gender	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	1028	88.0	1.0	73.9	1.4	65.8	1.6	58.0	1.9
Male	907	86.2	1.1	69.0	1.6	60.3	1.7	53.2	2.0
not reported	1	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Recipient Blood Type	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
D	816	88.2	1.1	72.2	1.6	63.0	1.8	55.5	2.1
B	805	86.3	1.2	71.1	1.6	62.9	1.8	56.2	2.1
B	231	86.9	2.2	72.3	3.3	64.7	3.3	56.5	4.1
AB	83	86.6	3.8	67.8	5.2	64.7	5.4	53.0	6.6
not reported	1	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Previous Transplants	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	1875	88.0	0.8	72.6	1.0	64.3	1.2	56.7	1.4
Yes	59	59.3	6.4	38.0	6.4	30.5	6.2	27.4	6.3
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 31**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Lung Transplants**

Recipient Citizenship	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	1897	87.4	0.8	71.9	1.0	63.6	1.2	55.9	1.4
Foreign National	25	80.0	8.0	58.0	10.2	46.9	10.9	n.d.	n.d.
Unknown	9	100.0	0.0	77.8	13.9	66.7	15.7	66.7	15.7
not reported	5	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Recipient Description at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	1625	88.7	0.8	74.4	1.1	66.5	1.3	58.7	1.5
Hospitalized	165	84.8	2.8	63.0	3.8	54.2	4.0	46.7	4.4
In Intensive Care	84	88.9	4.3	59.3	6.7	48.5	7.0	45.5	7.2
On Life Support	84	59.7	5.4	39.8	5.6	30.5	5.4	28.0	5.5
not reported	8	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.



**Table 31**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Lung Transplants**

Donor Age (Years)	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	9	77.8	13.9	77.8	13.9	77.8	13.9	n.d.	n.d.
1-5	18	83.3	4.8	46.7	12.4	n.d.	n.d.	n.d.	n.d.
6-10	44	68.5	4.8	72.9	6.9	64.6	7.9	n.d.	n.d.
11-17	405	86.6	1.7	69.0	2.3	61.5	2.4	54.0	3.0
18-34	978	87.0	1.4	72.9	1.4	64.3	1.6	57.8	1.9
35-49	410	88.0	1.8	71.4	2.3	62.6	2.6	52.9	3.1
50-64	72	88.7	4.8	74.0	5.3	63.7	6.3	61.0	6.5
65+	0	—	—	—	—	—	—	—	—
not reported	0	—	—	—	—	—	—	—	—
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Center Volume	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-5	448	82.1	1.8	68.3	2.2	58.1	2.4	51.2	2.7
6-10	340	86.4	1.8	71.9	2.3	62.0	2.4	55.0	3.3
11-17	394	87.0	1.7	71.4	2.3	64.6	2.3	51.2	3.3
18-34	385	89.5	1.4	68.5	2.3	61.3	2.6	54.6	3.1
31+	369	91.8	1.4	78.2	2.2	72.7	2.5	68.9	2.9
not reported	0	—	—	—	—	—	—	—	—
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 31**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Lung Transplants**

Primary Diagnosis	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		Emphysema/ COPD	617	93.8	1.0	79.3	1.7	71.6	2.0
Alpha-1 - Antitrypsin Deficiency	277	87.3	2.0	71.9	2.0	66.8	3.0	58.2	3.4
Cystic Fibrosis	249	91.1	1.8	73.2	2.8	62.8	3.3	56.6	4.0
Idiopathic Pulmonary Fibrosis	245	85.7	2.2	66.0	3.1	55.1	3.3	50.5	3.5
Primary Pulmonary Hypertension	204	77.3	2.9	66.8	3.3	61.1	3.5	51.3	4.3
Congenital Lung Disease	82	73.2	1.0	62.1	5.4	52.5	6.0	52.5	6.0
Retransplant/ Graft Failure	58	60.3	6.4	39.1	6.5	31.5	6.2	28.3	6.4
Other	185	87.5	2.4	70.5	3.4	63.3	3.7	55.6	4.3
not reported	19	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Type of Procedure	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
		Double Lung	612	86.7	1.4	71.0	1.9	64.2	2.1
Single Lung	1324	87.4	0.9	71.9	1.3	62.9	1.4	54.8	1.7
not reported	0	—	—	—	—	—	—	—	—
Overall	1936	87.2	0.8	71.6	1.0	63.3	1.2	55.8	1.4

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 32**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart-Lung Transplants**

Age (Years) at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	2	100.0	0.0	50.0	35.4	50.0	35.4	50.0	35.4
1-5	18	77.8	0.0	37.0	11.7	n.d.	n.d.	n.d.	n.d.
6-10	0	100.0	0.0	66.7	15.7	44.4	16.6	44.4	16.6
11-17	29	93.1	4.7	86.2	6.4	76.1	0.0	69.7	10.1
18-34	146	80.1	3.3	62.0	0.0	54.0	4.2	50.2	4.3
35-49	126	81.7	3.3	57.7	4.4	49.2	4.5	43.4	4.6
50-64	30	73.3	8.1	53.1	8.1	49.0	9.3	49.0	9.3
65+	0	—	—	—	—	—	—	—	—
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.5	2.6	52.4	2.7	48.1	2.8

Recipient Race	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	326	82.2	2.1	60.5	2.7	53.3	2.8	49.0	2.9
Black	14	64.3	12.8	34.3	13.1	22.9	12.8	22.9	12.8
Hispanic	12	83.3	10.8	75.0	12.5	53.6	15.6	42.9	15.7
Asian	1	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
Other	6	83.3	15.2	83.3	15.2	66.7	19.2	22.2	19.2
not reported	1	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	360	81.6	2.0	60.5	2.6	52.4	2.7	48.1	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 32**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart-Lung Transplants**

Recipient Gender	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	199	81.9	2.7	67.1	3.3	57.8	3.6	51.5	3.8
Male	161	81.3	3.1	52.4	4.0	45.9	4.0	44.2	4.0
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.5	2.6	52.4	2.7	48.1	2.8

Recipient Blood Type	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
O	148	85.1	2.9	66.8	3.9	57.6	4.2	52.7	4.3
A	163	80.4	3.1	56.7	3.9	49.3	4.0	46.7	4.1
B	31	73.9	7.9	53.8	9.1	43.7	9.1	32.8	8.7
AB	18	77.8	9.8	55.6	11.7	55.6	11.7	55.6	11.7
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.5	2.6	52.4	2.7	48.1	2.8

Previous Transplants	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	350	82.3	2.0	61.4	2.6	53.1	2.7	48.6	2.8
Yes	9	55.6	16.6	22.2	13.9	22.2	13.9	22.2	13.9
not reported	1	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	360	81.6	2.0	60.5	2.6	52.4	2.7	48.1	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 32**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart-Lung Transplants**

Recipient Citizenship	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	345	82.0	2.1	60.6	2.6	52.4	2.8	48.7	2.8
Foreign National	10	70.0	14.5	60.0	15.5	60.0	15.5	48.0	16.4
Unknown	3	100.0	0.0	100.0	0.0	66.7	27.2	0.0	0.0
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	360	81.6	2.0	60.5	2.6	52.4	2.7	48.1	2.8

Recipient Description at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	269	83.3	2.3	62.5	3.0	55.6	3.1	51.9	3.2
Hospitalized	35	82.9	6.4	56.8	6.4	44.8	8.5	41.6	8.5
In Intensive Care	33	87.9	5.7	69.6	8.0	54.3	9.2	45.9	9.5
On Life Support	23	52.2	10.4	30.4	9.6	25.4	9.2	16.9	9.3
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.5	2.6	52.4	2.7	48.1	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 32**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart-Lung Transplants**

Donor Age (Years)	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	3	100.0	0.0	33.3	27.2	33.3	27.2	33.3	27.2
1-5	22	77.3	0.0	45.5	10.6	40.4	10.6	40.4	10.6
6-10	18	88.9	7.4	66.7	11.1	n.d.	n.d.	n.d.	n.d.
11-17	96	85.4	3.6	69.4	4.7	60.6	5.2	53.5	5.5
18-34	149	80.5	3.3	60.9	0.0	52.6	4.2	48.3	4.2
35-49	65	78.5	5.1	50.3	6.2	45.2	6.3	42.7	6.4
50-64	7	71.4	17.1	71.4	17.1	53.6	20.1	53.6	20.1
65+	0	—	—	—	—	—	—	—	—
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.5	2.6	52.4	2.7	48.1	2.8

Center Volume	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-2	86	75.6	4.6	52.2	5.4	41.3	5.4	35.1	5.2
3-5	67	82.1	4.7	58.0	6.1	54.6	6.2	48.3	6.4
6-10	68	83.8	4.5	61.5	5.4	54.7	6.2	52.5	6.3
11-18	71	80.3	4.7	63.3	5.7	50.8	6.3	46.2	6.5
19+	68	88.2	3.9	69.9	5.6	64.5	6.0	64.5	6.0
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.5	2.6	52.4	2.7	48.1	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 32**  
**Graft Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart-Lung Transplants**

Primary Diagnosis	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Congenital Lung Disease	135	81.4	3.4	66.9	4.1	54.9	4.5	47.9	4.8
Primary Pulmonary Hypertension	114	79.8	3.8	56.0	4.7	46.5	4.7	41.0	4.8
Cystic Fibrosis	36	86.1	5.8	52.8	8.3	52.8	8.3	52.8	8.3
Alpha-1 - Antitrypsin Deficiency	19	84.2	8.4	57.9	11.3	57.9	11.3	57.9	11.3
Emphysema/ COPD	12	100.0	0.0	83.3	16.6	83.3	16.6	83.3	10.8
Retransplant/ Graft Failure	9	55.6	16.6	22.2	13.9	22.2	13.9	22.2	13.9
Other	33	87.9	5.7	66.7	8.2	58.3	9.1	58.3	9.1
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	360	81.6	2.0	60.5	2.6	52.4	2.7	48.1	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 33**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart-Lung Transplants**

Age (Years) at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	2	100.0	0.0	50.0	35.4	50.0	35.4	50.0	35.4
1-5	14	77.8	9.8	39.9	12.3	n.d.	n.d.	n.d.	n.d.
6-10	9	100.0	0.0	66.7	15.7	55.6	16.6	55.6	16.6
11-17	29	93.1	4.7	86.2	6.4	76.1	9.8	69.7	10.1
18-34	146	80.1	3.3	62.0	0.0	50.0	4.2	51.1	4.3
35-49	126	81.7	3.4	57.7	4.4	49.2	4.5	43.4	4.6
50-64	30	73.3	8.1	53.1	9.1	49.0	9.3	49.0	9.3
65+	0	—	—	—	—	—	—	—	—
not reported	9	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.8	2.6	52.9	2.7	48.9	2.8

Recipient Race	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
White	326	82.2	2.1	60.7	2.7	53.9	2.3	50.8	2.9
Black	14	64.3	12.8	34.3	13.1	22.9	12.8	22.9	12.8
Hispanic	12	83.3	10.8	75.0	12.5	53.6	15.6	42.9	15.7
Asian	1	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
Other	6	83.3	15.2	83.3	15.2	66.7	19.2	22.2	19.2
not reported	1	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	360	81.6	2.0	60.8	2.6	52.9	2.7	48.9	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.



**Table 33**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart-Lung Transplants**

Recipient Gender	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Female	199	81.9	2.7	67.1	3.3	58.3	3.6	52.6	3.8
Male	161	81.3	3.1	52.8	4.0	46.2	4.0	44.5	4.1
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.8	2.6	52.9	2.7	48.9	2.8

Recipient Blood Type	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
O	148	85.1	2.9	67.3	3.9	58.0	4.2	52.0	4.3
A	163	80.4	3.1	56.7	3.9	49.3	4.0	46.7	4.1
B	31	73.9	7.9	53.8	9.1	46.8	9.2	35.1	9.0
AB	18	77.8	9.8	55.6	11.7	55.6	11.7	55.6	11.7
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.8	2.6	52.9	2.7	48.9	2.8

Previous Transplants	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
No	350	82.3	2.0	61.6	2.6	53.6	2.7	49.5	2.8
Yes	9	55.6	16.6	22.2	13.9	22.2	13.9	22.2	13.9
not reported	1	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	360	81.6	2.0	60.8	2.6	52.9	2.7	48.9	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 33**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart-Lung Transplants**

Recipient Citizenship	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
U. S. Citizen	345	82.0	2.1	60.8	2.6	52.9	2.8	49.6	2.8
Foreign National	10	70.0	14.5	60.0	15.5	60.0	15.5	48.0	16.4
Unknown	3	100.0	0.0	100.0	0.0	66.7	27.2	0.0	0.0
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	360	81.6	2.0	60.8	2.6	52.9	2.7	48.9	2.8

Recipient Description at Time of Transplant	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Not Hospitalized	269	83.3	2.3	62.5	3.0	55.6	3.1	52.4	3.2
Hospitalized	35	82.9	6.4	58.8	8.5	49.1	8.7	45.6	8.8
In Intensive Care	33	87.9	5.7	69.6	8.0	54.3	9.2	45.9	9.5
On Life Support	23	52.2	10.4	30.4	9.6	25.4	9.2	16.9	9.3
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.8	2.6	52.9	2.7	48.9	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 33**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart-Lung Transplants**

Donor Age (Years)	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
< 1	3	100.0	0.9	33.3	27.2	33.3	27.2	33.3	27.2
1-5	22	77.3	8.9	48.3	10.9	42.9	10.9	42.9	10.9
6-10	18	88.9	7.4	66.7	11.1	n.d.	n.d.	n.d.	n.d.
11-17	96	85.4	3.6	69.4	4.7	61.8	5.1	54.6	5.5
18-34	149	80.5	3.3	60.9	4.0	52.6	6.2	49.1	4.2
35-49	65	78.5	5.1	50.3	6.2	45.2	6.3	42.7	6.4
50-64	7	71.4	17.1	71.4	17.1	53.6	20.1	53.6	20.1
65+	0	—	—	—	—	—	—	—	—
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.8	2.6	52.9	2.7	48.9	2.8

Center Volume	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
0-2	86	75.6	4.0	52.2	5.4	41.3	5.4	35.1	5.2
3-5	67	82.1	4.7	58.0	6.1	54.5	6.2	50.2	6.4
6-10	68	83.8	4.5	61.5	5.4	54.7	6.2	52.5	6.3
11-18	71	80.3	4.7	64.4	5.7	53.5	6.3	48.6	6.4
19+	68	88.2	3.9	69.9	5.6	64.5	6.0	64.5	6.0
not reported	0	—	—	—	—	—	—	—	—
Overall	360	81.6	2.0	60.8	2.6	52.9	2.7	48.9	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

**Table 33**  
**Patient Survival Rates at Three Months, One Year, Two Years, and Three Years**  
**October 1987 through December 1993**

**Heart-Lung Transplants**

Primary Diagnosis	N	1 Month Survival		1 Year Survival		2 Year Survival		3 Year Survival	
		%	Std. Err.	%	Std. Err.	%	Std. Err.	%	Std. Err.
Congenital Lung Disease	135	81.4	3.4	67.5	4.1	55.4	4.5	48.4	4.8
Primary Pulmonary Hypertension	114	79.8	4.7	56.0	4.7	47.4	4.8	42.8	4.8
Cystic Fibrosis	36	86.1	5.8	52.8	8.3	52.8	8.3	52.8	8.3
Alpha-1 - Antitrypsin Deficiency	19	84.2	4.7	57.9	11.3	57.9	11.3	57.9	11.3
Emphysema/ COPD	12	100.0	0.0	83.3	16.6	83.3	16.6	83.3	10.8
Retransplant/ Graft Failure	9	55.4	16.6	22.2	13.9	22.2	13.9	22.2	13.9
Other	33	87.9	5.7	66.7	8.2	58.3	9.1	58.3	9.1
not reported	2	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Overall	360	81.6	2.0	60.8	2.6	52.9	2.7	48.9	2.8

Source: UNOS Scientific Registry data as of October 7, 1995.

Notes: The survival rates were computed using the Kaplan-Meier method (see Notes on Graft and Patient Survival).

*N* denotes the number of transplants for which a survival time could be determined.

*n.d.* denotes not determined, due to insufficient follow-up.

— denotes none in category.

*n.c.* denotes not calculated, for the not reported categories.

## Notes on Waiting List Patient Characteristics

### INTRODUCTION

The following tables show frequency counts and percentages of certain demographic and medical factors (blood type, previous transplant, race, gender, age, citizenship, time waiting, patient status, and for kidney patients only, current and peak PRA level), for patients awaiting transplantation at year's end from 1988 to 1994. The tables are presented as follows:

Table 34	OPTN Waiting List at Year's End, All Organs
Table 35	Kidney Waiting List Patient Characteristics
Table 36	Liver Waiting List Patient Characteristics
Table 37	Pancreas Waiting List Patient Characteristics
Table 38	Kidney-Pancreas Waiting List Patient Characteristics
Table 39	Heart Waiting List Patient Characteristics
Table 40	Lung Waiting List Patient Characteristics
Table 41	Heart-Lung Waiting List Patient Characteristics

### NOTES ON WAITING LIST PATIENT CHARACTERISTICS

These data represent "snapshots" of the OPTN Waiting Lists as they existed at midnight at the end of each year. The data contained in the OPTN waiting list database are not collected via paper forms, but are entered electronically by the UNOS members who list their potential recipients. UNOS members have direct responsibility for maintaining and monitoring all waiting list data from the time their patients are listed until they are removed from the list. Data are subject to change based on future data submission or correction.

Some patients were listed at different centers for the same organ type, or for multiple organs (e.g., kidney and pancreas). The data in Tables 34-41 are not adjusted for multiple listings of transplant candidates. Therefore, the totals reflect numbers of registrations rather than numbers of candidates. The number of listings for the same patient at

different centers has been difficult to determine accurately, but is estimated to involve about five percent of all candidates. The practice of multiple listing appears to have declined over time, especially since the definition of "local" was expanded to include all transplant centers within an OPO service area.

Notes concerning particular factors:

- PRA -- Current and peak PRA (Panel Reactive Antibody) levels are shown only for the kidney waiting list. This data item is not required for patients waiting for other organ types.
- Patient Status -- For the kidney, pancreas, kidney-pancreas, heart-lung, and lung waiting lists, this item reflects the number and percent of patient registrations listed as active on the dates examined and the number/percent of waiting list registrations temporarily listed as inactive (i.e., registrations of patients who were temporarily unavailable for transplant). For the liver and heart waiting lists, this item reflects medical urgency categories used for allocation as well as inactive waiting list status. These urgency categories are described at the bottom of Table 36 (liver) and Table 39 (heart).
- Race -- For non-renal patients, race was not recorded on the waiting list until October 1990. This variable is not a factor in the allocation process and is used only for research purposes. For patients entered before that time, this item was taken from the OPTN Transplant Candidate Registration (TCR) Form. The "not reported" values for race are accounted for primarily by delinquent TCR forms or the inability to link an OPTN record with the appropriate TCR form.
- Time Waiting -- This item reflects the length of time from entry onto the list until the date of the "snapshot." This item should not be interpreted as time waiting to transplant. An analysis of median waiting times to transplant is provided in Tables 42-49. (Note: in these tables, 6 months corresponds to 181 days, and years are calculated as multiples of 365 days.)

**Table 34**  
**OPTN Waiting List at Year's End -- 1988 to 1994**

**All Organs**

Organ	1988	1989	1990	1991	1992	1993	1994
	N	N	N	N	N	N	N
Kidney	13943	16294	17883	19352	22376	24973	27498
Liver	616	827	1237	1676	2323	2997	4059
Pancreas	163	320	473	600	126	183	222
Kidney - Pancreas	0	0	0	0	778	923	1067
Heart	1030	1320	1788	2267	2690	2834	2933
Lung	69	94	308	670	942	1240	1625
Heart - Lung	205	240	225	154	180	202	205
Overall	16026	19095	21914	24719	29415	33352	37609

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 35**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Kidney Patients**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	7659	54.0	8803	54.0	9661	54.0	10331	53.4	11723	52.4	13043	52.2	14203	51.7
A	3667	26.3	4488	27.5	4821	27.0	5248	27.1	6252	27.0	7053	28.2	7874	28.6
B	2274	16.3	2627	16.1	2999	16.3	3336	17.2	3882	17.3	4249	17.0	4735	17.2
AB	342	2.5	376	2.3	402	2.2	437	2.3	519	2.3	628	2.5	686	2.5
Not Reported	1		0		0		0		0		0		0	
Total	13943	100.0	16294	100.0	17883	100.0	19352	100.0	22376	100.0	24973	100.0	27498	100.0

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	10006	71.8	11952	73.4	13174	73.7	14353	74.2	16936	75.7	19110	76.5	21127	76.8
Yes	3937	28.2	4342	26.6	4709	26.3	4999	25.8	5440	24.3	5863	23.5	6371	23.2
Not Reported	0		0		0		0		0		0		0	
Total	13943	100.0	16294	100.0	17883	100.0	19352	100.0	22376	100.0	24973	100.0	27498	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 35**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Kidney Patients**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	7931	56.9	9187	56.9	9853	55.1	10249	53.0	11591	51.8	12549	50.3	13763	50.1
Black	4162	29.9	4886	30.0	5400	30.2	6168	31.9	7258	32.4	8406	33.7	9429	34.3
Hispanic	1155	8.1	1369	8.9	1627	8.1	1845	9.5	2229	10.0	2495	10.0	2637	9.6
Asian	573	4.1	703	4.1	832	4.7	923	4.8	1094	5.0	1271	5.1	1390	5.1
Other	117	0.9	148	0.9	171	1.0	167	0.9	204	0.9	252	1.0	279	1.0
Not Reported	5		1		0		0		0		0		0	
Total	13943	100.0	16294	100.0	17883	100.0	19352	100.0	22376	100.0	24973	100.0	27498	100.0

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	6082	43.6	7118	43.7	7664	42.9	8343	43.1	9597	42.9	10605	42.5	11668	42.4
Male	7860	56.4	9176	56.3	10219	57.1	11009	56.9	12779	57.1	14368	57.5	15830	57.6
Not Reported	1		0		0		0		0		0		0	
Total	13943	100.0	16294	100.0	17883	100.0	19352	100.0	22376	100.0	24973	100.0	27498	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.



**Table 35**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Kidney Patients**

**By Current Age**

Current Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	0	0.0	0	0.0	0	0.0	5	0.0	0	0.0	0	0.0	0	0.0
1-5	69	0.5	66	0.0	50	0.3	63	0.0	74	0.3	69	0.3	69	0.2
6-10	114	0.0	95	0.0	91	0.5	96	0.5	114	0.5	114	0.5	95	0.0
11-17	358	2.6	395	2.4	389	2.2	403	2.4	450	2.0	438	1.8	389	1.3
18-34	4115	24.5	4618	28.3	4878	27.3	5043	26.1	5543	24.5	5936	24.5	6237	22.7
35-49	5626	40.3	6560	40.3	7225	40.3	7885	40.7	9079	40.3	9997	40.0	10998	40.0
50-64	3256	23.4	3999	24.5	4532	25.3	5038	26.0	5994	26.0	7077	28.3	8199	29.8
65+	403	2.4	553	3.4	714	4.0	819	4.2	1120	5.0	1337	5.0	1547	5.6
Not Reported	0		0		0		0		0		0		0	
Total	13943	100.0	16294	100.0	17883	100.0	19352	100.0	22376	100.0	24973	100.0	27498	100.0

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U.S.A	7655	97.2	11245	96.8	15188	96.3	17149	96.0	20444	96.0	23227	96.2	17699	96.2
Foreign National	221	2.8	368	3.2	585	3.7	716	4.0	850	4.0	910	3.8	707	3.8
Not Reported	6067		4681		2110		1487		1082		836		9092	
Total	13943	100.0	16294	100.0	17883	100.0	19352	100.0	22376	100.0	24973	100.0	27498	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 35**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Kidney Patients**

**By Current PRA**

Current PRA	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0-19	7508	58.9	9366	63.6	10602	67.0	12035	70.2	14092	70.3	16161	71.8	18642	74.8
20-79	2838	22.3	3062	20.8	3177	20.1	3186	18.6	3876	19.3	4038	17.9	3986	16.0
80+	2404	18.9	2301	15.6	2036	12.9	1922	11.2	2066	10.3	2319	10.3	2289	9.2
Not Reported	1193		1565		2068		2209		2342		2455		2581	
Total	13943	100.0	16294	100.0	17883	100.0	19352	100.0	22376	100.0	24973	100.0	27498	100.0

**By Peak PRA**

Peak PRA	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0-19	6202	48.1	7870	52.8	9071	56.4	10340	59.6	12052	59.6	13957	60.9	16232	64.1
20-79	3046	23.6	3271	21.9	3419	21.9	3484	20.1	4395	21.7	4723	20.6	4747	18.8
80+	3659	28.3	3771	25.3	3599	22.4	3525	20.3	3781	18.7	4247	18.5	4335	17.1
Not Reported	1036		1382		1794		2003		2148		2046		2184	
Total	13943	100.0	16294	100.0	17883	100.0	19352	100.0	22376	100.0	24973	100.0	27498	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 35**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Kidney Patients**

**By Time Waiting**

Time Waiting	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0-6 Mons	4857	34.8	5134	31.5	5285	29.6	5592	28.9	6375	28.5	6872	28.5	7281	26.5
6-12 Mons	2937	21.1	3503	21.5	3827	21.4	4111	21.2	4768	21.3	5198	20.8	5479	19.9
1-2 Years	3354	24.1	3693	22.7	4147	23.2	4544	23.5	5282	23.6	6132	24.6	6971	25.4
2-3 Years	1222	8.8	1989	12.2	1985	10.3	2165	11.2	2552	11.4	2893	11.6	3496	12.7
3-5 Years	968	6.9	1239	7.6	1852	10.3	1985	10.3	2026	9.1	2273	9.1	2613	9.5
5-9 Years	467	3.3	560	3.4	650	3.4	771	4.0	1168	5.2	1357	5.4	1386	5.0
> 9 Years	138	1.0	176	1.1	177	1.0	184	1.0	205	0.9	248	1.0	272	1.0
Not Reported	0		0		0		0		0		0		0	
Total	13943	100.0	16294	100.0	17883	100.0	19352	100.0	22376	100.0	24973	100.0	27498	100.0

**By Patient Status**

Patient Status	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Active	11706	84.0	13096	80.4	14400	80.5	16292	84.2	19040	85.1	21458	85.9	23785	86.5
Inactive	2237	16.0	3198	19.6	3483	19.5	3060	15.8	3336	14.9	3515	14.1	3713	13.5
Not Reported	0		0		0		0		0		0		0	
Total	13943	100.0	16294	100.0	17883	100.0	19352	100.0	22376	100.0	24973	100.0	27498	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 36**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Liver Patients**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	324	52.6	436	52.7	643	52.0	840	50.1	1204	51.8	1518	50.7	2085	51.4
A	195	31.7	283	34.2	407	32.9	587	35.0	790	34.0	1033	34.0	1374	33.9
B	78	12.7	88	10.6	148	12.0	202	12.1	267	11.5	355	11.5	473	11.7
AB	19	3.1	20	2.4	39	3.2	47	2.8	62	2.7	91	3.0	127	3.1
Not Reported	0		0		0		0		0		0		0	
Total	616	100.0	827	100.0	1237	100.0	1676	100.0	2323	100.0	2997	100.0	4059	100.0

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	577	93.7	762	92.1	1166	94.3	1578	94.2	2180	93.8	2770	92.4	3767	92.8
Yes	39	6.3	65	7.9	71	5.7	98	5.8	143	6.2	227	7.6	292	7.2
Not Reported	0		0		0		0		0		0		0	
Total	616	100.0	827	100.0	1237	100.0	1676	100.0	2323	100.0	2997	100.0	4059	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 36**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Liver Patients**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	197	77.0	396	81.3	856	77.2	1246	77.5	1731	76.1	2315	78.3	2259	77.1
Black	23	9.0	48	8.4	73	6.6	90	6.2	156	6.6	192	6.5	200	6.8
Hispanic	21	8.2	32	6.6	95	6.6	111	6.6	180	7.9	197	6.7	193	6.6
Asian	9	3.1	9	1.8	90	2.7	58	3.6	90	4.0	101	3.4	126	4.3
Other	7	2.7	9	1.8	55	5.0	90	5.8	118	5.2	151	5.1	152	5.2
Not Reported	360		360		128		68		48		48		1129	
Total	616	100.0	827	100.0	1237	100.0	1676	100.0	2323	100.0	2997	100.0	4059	100.0

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	320	51.9	436	52.7	657	53.1	819	48.9	1154	49.7	1413	47.1	1871	46.1
Male	296	48.1	391	47.3	580	46.9	857	51.1	1169	50.3	1584	52.9	2188	53.9
Not Reported	0		0		0		0		0		0		0	
Total	616	100.0	827	100.0	1237	100.0	1676	100.0	2323	100.0	2997	100.0	4059	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 36**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Liver Patients**

**By Current Age**

Current Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	45	7.3	41	5.0	52	4.2	42	2.5	50	2.2	65	2.2	74	1.9
1-5	119	19.3	119	13.7	108	8.7	120	7.2	163	7.0	188	6.3	215	5.3
6-10	28	4.5	49	5.9	50	4.0	69	4.1	93	4.0	102	3.4	105	2.6
11-17	28	3.4	69	5.9	49	4.0	63	3.8	69	2.7	87	2.7	129	3.2
18-34	69	14.4	113	13.7	134	11.6	188	11.1	221	4.5	274	4.1	383	9.4
35-49	184	29.9	241	29.1	407	32.9	575	34.3	785	33.8	1045	34.3	1544	35.0
50-64	120	29.1	204	24.7	381	30.8	526	31.4	792	34.1	1049	35.0	1370	33.8
65+	0	1.0	17	2.1	42	3.4	95	8.7	156	8.7	187	6.2	239	5.9
Not Reported	0		0		0		0		0		0		0	
Total	616	100.0	827	100.0	1237	100.0	1676	100.0	2323	100.0	2997	100.0	4059	100.0

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U.S.A	255	99.6	484	99.4	1064	96.8	1537	96.2	2186	96.5	2851	97.0	1811	96.9
Foreign National	1	0.4	3	0.6	35	3.2	60	3.8	79	3.5	89	3.0	58	3.1
Not Reported	360		340		138		79		58		57		2190	
Total	616	100.0	827	100.0	1237	100.0	1676	100.0	2323	100.0	2997	100.0	4059	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 36**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Liver Patients**

**By Time Waiting**

Time Waiting	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0 - 30 days	159	24.8	198	23.6	261	21.1	268	16.0	324	13.9	392	13.1	436	10.7
31 - 60 days	85	14.0	123	14.9	178	14.9	187	11.8	213	9.2	299	16.0	343	8.5
61 - 90 days	61	9.9	74	8.9	149	12.0	187	11.8	213	9.1	221	7.6	310	7.6
91 - 120 days	42	6.8	42	5.1	112	9.1	123	7.3	178	7.6	212	7.1	278	6.8
121 - 150 days	23	3.7	38	4.6	42	6.8	193	6.3	159	6.8	187	5.6	254	6.3
151 - 180 days	31	5.6	33	4.1	43	3.5	85	9.1	121	9.2	159	5.6	206	5.1
6 - 12 Mons	84	13.9	123	14.9	167	13.9	408	18.4	470	20.2	664	22.2	816	20.1
> 1 year	136	22.1	198	23.9	245	19.8	408	24.8	649	27.9	892	29.8	1416	34.9
Not Reported	0		0		0		0		0		0		0	
Total	616	100.0	827	100.0	1237	100.0	1676	100.0	2323	100.0	2997	100.0	4059	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 36**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Liver Patients**

**By Patient Status**

Patient Status *	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	84	13.6	26	3.1	26	2.3	10	0.6	11	0.6	21	3.7	26	0.5
2	79	12.8	72	8.7	104	8.4	68	3.1	72	3.1	84	2.8	76	1.9
4	190	30.8	69	8.4	104	14.6	640	38.2	1100	47.4	1335	44.5	1898	46.8
4	84	13.1	343	41.5	512	41.4	428	25.5	571	24.6	903	30.8	1310	32.3
5	17	2.8	0	-	0	-	0	-	0	-	0	-	0	-
6	17	2.8	0	-	0	-	0	-	0	-	0	-	0	-
7	148	24.6	317	38.3	415	33.5	530	31.6	569	24.5	654	21.8	755	18.6
Not Reported	0		0		0		0		0		0		0	
Total	616	100.0	827	100.0	1237	100.0	1676	100.0	2323	100.0	2997	100.0	4059	100.0

\* Current Patient status codes (medical urgency codes) for liver allocation are:

- 1 ICU bound, expected to live less than 7 days without a transplant, and meeting at least one of a specific set of other criteria (see UNOS policies).
- 2 Hospitalized in an acute care bed for at least 5 days or intensive care bound.
- 3 Requires continuous care.
- 4 At home.
- 7 Patient registration temporarily inactive.

Prior to June 1989, the codes were:

- 1 Working, in school, growing infant.
- 2 Confined in home, self care, infant not thriving but stable.
- 3 At home, requiring professional care, infant losing development ground.
- 4 Hospital bound, but not in intensive care unit.
- 5 Hospital bound, in intensive care unit.
- 6 Mechanical assistance devices required for survival.
- 7 Patient registration temporarily inactive.

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.



**Table 37**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Pancreas Patients**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	82	50.3	166	51.9	222	46.4	298	49.7	50	44.4	85	46.4	101	45.5
A	65	39.9	105	32.8	175	37.0	212	35.3	50	39.7	65	35.5	79	35.6
B	14	8.0	39	12.2	69	14.6	79	13.2	14	11.1	27	14.6	39	15.8
AB	3	1.8	14	3.1	7	1.8	14	1.8	0	1.8	6	3.3	7	3.2
Not Reported	0		0		0		0		0		0		0	
Total	163	100.0	320	100.0	473	100.0	600	100.0	126	100.0	183	100.0	222	100.0

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	159	97.5	309	96.6	455	96.2	563	93.8	103	81.7	145	79.2	163	73.4
Yes	4	2.5	11	3.4	18	3.8	37	6.2	23	18.3	38	20.8	59	26.6
Not Reported	0		0		0		0		0		0		0	
Total	163	100.0	320	100.0	473	100.0	600	100.0	126	100.0	183	100.0	222	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 37**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Pancreas Patients**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	64	91.4	181	90.5	410	88.9	530	90.1	120	96.8	163	90.1	180	90.0
Black	0	8.0	16	8.0	41	8.0	41	8.2	0	0.2	11	6.1	12	8.0
Hispanic	0	-	0	1.5	0	2.0	0	1.1	0	-	0	3.0	2	1.0
Asian	0	-	0	-	0	-	0	0.2	0	-	2	1.1	2	1.0
Other	0	-	0	-	0	0.2	0	0.2	0	-	4	2.2	0	2.0
Not Reported	93		120		12		12		0		2		22	
Total	163	100.0	320	100.0	473	100.0	600	100.0	126	100.0	183	100.0	222	100.0

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	69	42.3	142	44.4	220	46.5	283	47.2	71	56.3	92	50.3	110	49.5
Male	94	57.7	178	55.6	253	53.5	317	52.8	55	43.7	91	49.7	112	50.5
Not Reported	0		0		0		0		0		0		0	
Total	163	100.0	320	100.0	473	100.0	600	100.0	126	100.0	183	100.0	222	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 37**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Pancreas Patients**

**By Current Age**

Current Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	0	-	0	-	0	-	0	-	0	-	0	-	0	-
1-5	0	-	1	0.3	0	-	0	-	0	-	4	2.2	7	3.2
6-10	0	-	0	-	1	0.2	2	0.3	0	-	1	0.5	1	0.5
11-17	1	0.6	2	0.6	1	0.2	1	0.2	0	-	5	2.7	5	2.3
18-34	97	59.5	151	47.2	203	42.9	222	37.0	50	39.7	62	33.9	76	34.2
35-49	63	39.7	158	49.4	250	52.9	348	58.0	69	54.8	97	53.0	116	52.3
50-64	2	1.2	8	2.5	14	3.8	27	4.5	7	5.6	14	7.7	14	7.2
65+	0	-	0	-	0	-	0	-	0	-	0	-	1	0.5
Not Reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>163</b>	<b>100.0</b>	<b>320</b>	<b>100.0</b>	<b>473</b>	<b>100.0</b>	<b>600</b>	<b>100.0</b>	<b>126</b>	<b>100.0</b>	<b>183</b>	<b>100.0</b>	<b>222</b>	<b>100.0</b>

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U.S.A	70	100.0	200	100.0	461	100.0	583	99.1	122	98.4	179	98.9	172	99.4
Foreign National	0	-	0	-	0	-	5	0.9	2	1.6	2	1.1	1	0.6
Not Reported	93		120		12		12		2		2		49	
<b>Total</b>	<b>163</b>	<b>100.0</b>	<b>320</b>	<b>100.0</b>	<b>473</b>	<b>100.0</b>	<b>600</b>	<b>100.0</b>	<b>126</b>	<b>100.0</b>	<b>183</b>	<b>100.0</b>	<b>222</b>	<b>100.0</b>

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 37**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Pancreas Patients**

**By Time Waiting**

Time Waiting	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0 - 30 days	12	3.2	12	19.1	58	12.3	47	7.8	9	7.1	16	8.7	47	7.7
31 - 60 days	47	10.3	43	15.0	50	10.5	62	10.3	12	9.5	11	6.0	22	9.9
61 - 90 days	12	7.1	25	9.1	58	10.8	43	7.2	9	7.1	7	3.8	6	2.7
91 - 120 days	6	4.9	22	3.8	48	10.3	37	6.2	9	7.1	16	8.7	9	4.1
121 - 150 days	9	5.5	22	7.2	27	3.7	43	7.2	4	3.2	16	8.7	11	5.0
151 - 180 days	12	7.4	16	3.3	25	5.3	12	7.5	7	5.5	7	3.8	3	1.4
6 - 12 Mons	72	44.2	79	24.7	111	23.5	163	27.2	30	23.8	12	19.1	38	17.1
> 1 year	12	41.0	61	19.1	103	21.8	160	24.7	16	36.5	79	41.0	116	52.3
Not Reported	0		0		0		0		0		0		0	
Total	163	100.0	320	100.0	473	100.0	600	100.0	126	100.0	183	100.0	222	100.0

**By Patient Status**

Patient Status	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Active	129	79.1	232	72.5	362	76.5	505	84.2	102	81.0	134	73.2	169	76.1
Inactive	34	20.9	88	27.5	111	23.5	95	15.8	24	19.0	49	26.8	53	23.9
Not Reported	0		0		0		0		0		0		0	
Total	163	100.0	320	100.0	473	100.0	600	100.0	126	100.0	183	100.0	222	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 38**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Kidney-Pancreas Patients**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
D	0	-	0	-	0	-	0	-	386	49.6	463	50.2	527	49.4
B	0	-	0	-	0	-	0	-	260	33.4	313	33.9	363	34.0
B	0	-	0	-	0	-	0	-	114	14.7	122	13.2	152	14.2
AB	0	-	0	-	0	-	0	-	18	2.3	25	2.7	25	2.3
Not Reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>778</b>	<b>100.0</b>	<b>923</b>	<b>100.0</b>	<b>1067</b>	<b>100.0</b>

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	0	-	0	-	0	-	0	-	732	94.1	873	94.6	976	91.5
Yes	0	-	0	-	0	-	0	-	46	5.9	50	5.4	91	8.5
Not Reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>778</b>	<b>100.0</b>	<b>923</b>	<b>100.0</b>	<b>1067</b>	<b>100.0</b>

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 38**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Kidney-Pancreas Patients**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	0	-	0	-	0	-	0	-	682	88.7	807	88.2	708	85.1
Black	0	-	0	-	0	-	0	-	84	8.7	84	9.2	84	10.5
Hispanic	0	-	0	-	0	-	0	-	84	1.7	84	1.5	22	2.6
Asian	0	-	0	-	0	-	0	-	2	0.3	5	0.5	0	1.1
Other	6	-	0	-	0	-	0	-	5	3.7	5	0.5	6	0.7
Not Reported	0		0		0		0		0		0		235	
Total	0	-	0	-	0	-	0	-	778	100.0	923	100.0	1067	100.0

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	0	-	0	-	0	-	0	-	343	44.1	401	43.4	486	45.5
Male	0	-	0	-	0	-	0	-	435	55.9	522	56.6	581	54.5
Not Reported	0		0		0		0		0		0		0	
Total	0	-	0	-	0	-	0	-	778	100.0	923	100.0	1067	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 38**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Kidney-Pancreas Patients**

**By Current Age**

Current Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	0	-	0	-	0	-	0	-	0	-	0	-	0	-
1-5	0	-	0	-	0	-	0	-	1	0.1	0	-	4	0.4
6-10	0	-	0	-	0	-	0	-	1	0.1	1	0.1	0	-
11-17	0	-	0	-	0	-	0	-	1	0.1	2	0.2	0	-
18-34	0	-	0	-	0	-	0	-	295	37.9	325	35.2	382	35.2
35-49	0	-	0	-	0	-	0	-	447	57.5	536	58.1	608	57.0
50-64	0	-	0	-	0	-	0	-	33	4.2	59	6.4	72	6.7
65+	0	-	0	-	0	-	0	-	0	-	0	-	1	0.4
Not Reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>778</b>	<b>100.0</b>	<b>923</b>	<b>100.0</b>	<b>1067</b>	<b>100.0</b>

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U.S.A	0	-	0	-	0	-	0	-	764	99.5	910	99.3	552	99.1
Foreign National	0	-	0	-	0	-	0	-	4	0.5	6	0.7	5	0.9
Not Reported	0		0		0		0		10		7		510	
<b>Total</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>778</b>	<b>100.0</b>	<b>923</b>	<b>100.0</b>	<b>1067</b>	<b>100.0</b>

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 38**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Kidney-Pancreas Patients**

**By Time Waiting**

Time Waiting	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0 - 30 days	0	-	0	-	0	-	0	-	89	10.9	87	9.4	189	10.2
31 - 60 days	0	-	0	-	0	-	0	-	55	7.1	76	8.2	101	9.5
61 - 90 days	0	-	0	-	0	-	0	-	71	9.4	89	7.5	89	8.3
91 - 120 days	0	-	0	-	0	-	0	-	43	4.1	72	7.8	65	4.1
121 - 150 days	0	-	0	-	0	-	0	-	43	5.5	65	7.3	64	6.0
151 - 180 days	0	-	0	-	0	-	0	-	43	5.5	51	5.5	43	4.1
6 - 12 Mons	0	-	0	-	0	-	0	-	226	29.0	236	25.6	266	24.9
> 1 year	0	-	0	-	0	-	0	-	189	24.3	267	28.9	329	30.8
Not Reported	0		0		0		0		0		0		0	
Total	0	-	0	-	0	-	0	-	778	100.0	923	100.0	1067	100.0

**By Patient Status**

Patient Status	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Active	0	-	0	-	0	-	0	-	672	86.4	806	87.3	950	89.0
Inactive	0	-	0	-	0	-	0	-	106	13.6	117	12.7	117	11.0
Not Reported	0		0		0		0		0		0		0	
Total	0	-	0	-	0	-	0	-	778	100.0	923	100.0	1067	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.



**Table 39**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Heart Patients**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	521	50.6	661	50.1	890	49.8	1187	52.4	1382	51.4	1500	52.9	1534	52.3
A	353	34.8	465	35.2	633	35.4	790	34.8	969	34.8	976	34.3	1012	34.5
B	124	12.0	154	11.7	213	11.9	230	10.1	280	10.1	294	10.1	328	11.2
AB	32	3.1	40	3.0	52	2.6	60	2.6	59	2.2	64	2.3	59	2.0
Not Reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>1030</b>	<b>100.0</b>	<b>1320</b>	<b>100.0</b>	<b>1788</b>	<b>100.0</b>	<b>2267</b>	<b>100.0</b>	<b>2690</b>	<b>100.0</b>	<b>2834</b>	<b>100.0</b>	<b>2933</b>	<b>100.0</b>

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	1004	97.5	1294	98.0	1747	97.7	2208	97.4	2621	97.4	2763	97.5	2865	97.7
Yes	26	2.5	26	2.0	41	2.3	59	2.6	69	2.6	71	2.5	68	2.3
Not Reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>1030</b>	<b>100.0</b>	<b>1320</b>	<b>100.0</b>	<b>1788</b>	<b>100.0</b>	<b>2267</b>	<b>100.0</b>	<b>2690</b>	<b>100.0</b>	<b>2834</b>	<b>100.0</b>	<b>2933</b>	<b>100.0</b>

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 39**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Heart Patients**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	643	87.0	877	85.6	1439	84.7	1870	84.4	2192	82.4	2299	82.0	1844	81.0
Black	90	9.5	95	9.3	196	11.5	242	10.9	321	12.1	335	12.0	280	12.3
Hispanic	20	2.7	32	3.1	33	1.9	54	2.3	73	2.7	75	2.8	73	3.2
Asian	1	0.3	5	0.5	6	0.4	17	0.8	19	0.7	24	0.9	20	1.1
Other	5	0.7	15	1.5	20	1.4	37	1.7	54	2.0	66	2.4	55	2.4
Not Reported	291		296		90		54		31		31		657	
Total	1030	100.0	1320	100.0	1788	100.0	2267	100.0	2690	100.0	2834	100.0	2933	100.0

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	143	13.9	191	14.5	273	15.3	360	15.9	445	16.5	510	18.0	547	18.6
Male	887	86.1	1129	85.5	1515	84.7	1907	84.1	2245	83.5	2324	82.0	2386	81.4
Not Reported	0		0		0		0		0		0		0	
Total	1030	100.0	1320	100.0	1788	100.0	2267	100.0	2690	100.0	2834	100.0	2933	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 39**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Heart Patients**

**By Current Age**

Current Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	6	0.3	7	0.3	21	1.2	26	1.4	31	1.2	25	0.3	23	0.5
1-5	0	0.4	18	1.4	31	0.3	27	1.2	26	1.4	33	1.2	48	1.6
6-10	3	0.3	2	0.2	5	0.3	9	0.3	16	0.3	16	0.5	16	0.5
11-17	13	1.4	13	1.4	16	0.3	27	1.2	37	1.4	43	1.5	55	1.6
18-34	79	7.7	94	7.1	151	0.3	171	7.5	196	7.3	221	7.3	221	7.8
35-49	364	35.3	430	32.6	573	32.6	685	30.2	786	29.2	807	28.5	826	28.2
50-64	538	52.2	726	55.0	950	53.1	1241	54.7	1488	55.3	1559	55.0	1616	55.1
65+	23	2.2	30	2.3	81	3.4	81	3.6	114	4.2	130	4.6	121	4.1
Not Reported	0		0		0		0		0		0		0	
Total	1030	100.0	1320	100.0	1788	100.0	2267	100.0	2690	100.0	2834	100.0	2933	100.0

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U.S.A	737	100.0	1021	99.7	1677	99.7	2183	98.7	2631	98.9	2774	99.2	1637	98.7
Foreign National	0	-	3	0.3	5	0.3	29	1.3	30	1.1	22	0.8	21	1.3
Not Reported	293		296		106		55		29		38		1275	
Total	1030	100.0	1320	100.0	1788	100.0	2267	100.0	2690	100.0	2834	100.0	2933	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 39**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Heart Patients**

**By Time Waiting**

Time Waiting	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0 - 30 days	199	19.3	210	15.9	236	13.2	247	10.9	233	6.7	260	8.2	263	9.0
31 - 60 days	128	12.4	157	11.9	174	9.7	210	9.7	221	8.2	191	6.7	202	6.9
61 - 90 days	136	11.3	136	10.2	147	8.2	193	6.5	193	7.2	154	5.4	166	6.7
91 - 120 days	76	7.4	98	7.4	136	7.6	160	7.4	175	6.5	154	5.4	149	5.4
121 - 150 days	76	7.4	79	6.0	110	8.2	136	6.0	151	5.6	154	5.4	114	3.9
151 - 180 days	76	7.2	66	5.4	160	5.4	139	6.1	160	5.2	160	3.9	193	3.9
6 - 12 Mons	233	22.6	365	23.1	514	28.7	557	24.6	721	26.8	622	21.9	603	20.6
> 1 year	129	12.5	271	20.5	365	20.4	616	27.2	856	31.8	1194	42.1	1333	45.4
Not Reported	0		0		0		0		0		0		0	
<b>Total</b>	<b>1030</b>	<b>100.0</b>	<b>1320</b>	<b>100.0</b>	<b>1788</b>	<b>100.0</b>	<b>2267</b>	<b>100.0</b>	<b>2690</b>	<b>100.0</b>	<b>2834</b>	<b>100.0</b>	<b>2933</b>	<b>100.0</b>

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 39**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Heart Patients**

**By Patient Status**

Patient Status *	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	16	1.6	83	6.3	120	6.7	134	5.9	146	5.4	178	6.3	182	6.2
2	150	14.6	958	72.6	1306	73.0	1634	72.1	1967	73.1	1854	65.4	1773	60.5
4	541	52.5	0	-	0	-	0	-	0	-	0	-	0	-
4	68	6.6	0	-	0	-	0	-	0	-	0	-	0	-
5	59	5.7	0	-	0	-	0	-	0	-	0	-	0	-
6	28	2.7	0	-	0	-	0	-	0	-	0	-	0	-
7	168	16.3	279	21.1	362	20.2	499	22.0	577	21.4	802	28.3	977	33.3
Not Reported	0		0		0		0		0		0		1	
Total	1030	100.0	1320	100.0	1788	100.0	2267	100.0	2690	100.0	2834	100.0	2933	100.0

\* Current Patient status codes (medical urgency codes) for heart allocation from June 1989 to the present are:

- 1 (a) Patient requires cardiac and/or pulmonary assistance with one or more of the following devices in place: total artificial heart, left and/or right ventricular assist system, intra-aortic balloon pump, ventricular; or (b) patient is in intensive care unit (ICU) and requires inotropic agents to maintain adequate cardiac output.
- 2 All other active registrations.
- 7 Patient registration temporarily inactive.

Prior to June 1989, the codes were:

- 1 Working, in school, growing infant.
- 2 Confined in home, self care, infant not thriving but stable.
- 3 At home, requiring professional care, infant losing development ground.
- 4 Hospital bound, but not in intensive care unit.
- 5 Hospital bound, in intensive care unit, requires intravenous inotropic drugs.
- 6 Mechanical assistance devices required for survival.
- 7 Patient registration temporarily inactive.

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 40**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Lung Patients**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	31	44.9	48	51.1	166	53.9	309	46.1	435	46.2	594	44.9	767	47.2
A	31	50.7	31	40.4	106	34.4	258	38.5	375	39.8	487	39.8	629	38.7
B	2	2.9	6	8.4	26	8.4	75	11.2	102	10.8	111	9.0	161	9.9
AB	1	3.4	2	2.1	10	3.2	28	3.2	30	3.2	48	3.9	68	3.2
Not Reported	0		0		0		0		0		0		0	
Total	69	100.0	94	100.0	308	100.0	670	100.0	942	100.0	1240	100.0	1625	100.0

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	68	98.6	92	97.9	306	99.4	653	97.5	906	96.2	1191	96.0	1571	96.7
Yes	1	1.4	2	2.1	2	0.6	17	2.5	36	3.8	49	4.0	54	3.3
Not Reported	0		0		0		0		0		0		0	
Total	69	100.0	94	100.0	308	100.0	670	100.0	942	100.0	1240	100.0	1625	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 40**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Lung Patients**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	26	92.9	61	89.7	265	91.1	588	89.9	854	91.1	1078	88.4	1107	87.6
Black	1	3.6	2	2.9	11	3.6	31	4.7	42	4.5	71	5.8	88	7.0
Hispanic	0	3.8	0	5.9	11	3.8	11	1.7	17	1.8	24	2.0	24	1.9
Asian	0	-	0	-	2	0.7	7	1.1	7	0.7	24	4.7	19	1.5
Other	0	-	0	1.5	2	0.7	17	2.6	17	1.8	26	2.1	25	2.0
Not Reported	61		26		17		19		5		26		362	
Total	69	100.0	94	100.0	308	100.0	670	100.0	942	100.0	1240	100.0	1625	100.0

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	30	43.5	52	55.3	167	54.2	384	57.3	517	54.9	692	55.8	913	56.2
Male	39	56.5	42	44.7	141	45.8	286	42.7	425	45.1	548	44.2	712	43.8
Not Reported	0		0		0		0		0		0		0	
Total	69	100.0	94	100.0	308	100.0	670	100.0	942	100.0	1240	100.0	1625	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 40**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Lung Patients**

**By Current Age**

Current Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	1	1.4	0	-	1	0.3	0	0.6	1	0.5	2	0.2	1	0.1
1-5	1	1.0	2	2.1	0	1.0	1	0.4	1	0.3	0	0.5	0	0.5
6-10	0	-	2	2.1	5	1.0	16	1.5	8	0.5	13	1.0	15	0.5
11-17	4	5.8	4	4.9	8	2.6	30	4.9	46	4.9	60	4.9	60	5.4
18-34	16	23.2	25	26.6	95	30.6	144	21.5	213	22.6	265	21.4	343	21.1
35-49	31	44.9	31	36.2	116	37.7	265	30.6	327	34.7	420	33.9	539	33.2
50-64	16	23.2	25	26.6	79	25.6	205	30.6	328	34.8	454	30.6	605	37.2
65+	0	-	2	2.1	1	0.3	0	1.4	16	1.4	20	1.0	26	1.0
Not Reported	0		0		0		0		0		0		0	
Total	69	100.0	94	100.0	308	100.0	670	100.0	942	100.0	1240	100.0	1625	100.0

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U.S.A	28	100.0	67	100.0	280	99.3	640	98.8	929	99.4	1201	98.7	774	98.9
Foreign National	0	-	0	-	2	0.7	8	1.2	6	0.6	16	1.3	9	1.1
Not Reported	41		27		26		22		7		23		842	
Total	69	100.0	94	100.0	308	100.0	670	100.0	942	100.0	1240	100.0	1625	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.



**Table 40**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Lung Patients**

**By Time Waiting**

Time Waiting	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0 - 30 days	19	27.5	19	10.1	90	16.2	81	12.1	81	8.6	89	7.2	104	6.4
31 - 60 days	8	13.3	15	16.0	65	21.1	89	13.3	77	8.2	110	8.9	132	8.1
61 - 90 days	7	10.1	7	7.4	35	11.4	73	16.0	76	9.1	90	7.7	110	7.0
91 - 120 days	5	7.2	8	8.9	19	8.2	81	9.1	89	9.1	90	8.6	104	6.7
121 - 150 days	7	10.1	8	8.5	24	7.8	42	6.3	66	7.3	81	6.3	90	5.5
151 - 180 days	8	11.6	3	-	22	7.8	19	7.3	63	7.3	63	5.8	70	7.3
6 - 12 Mons	19	14.5	25	26.6	57	18.5	176	26.9	291	30.9	366	29.5	437	26.9
> 1 year	3	5.8	19	13.8	36	11.7	99	14.5	193	29.5	333	26.9	569	35.0
Not Reported	3		3		3		3		0		3		3	
Total	69	100.0	94	100.0	308	100.0	670	100.0	942	100.0	1240	100.0	1625	100.0

**By Patient Status**

Patient Status	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Active	63	76.8	74	78.7	281	91.2	598	89.3	843	89.5	1055	85.1	1298	79.9
Inactive	16	23.2	20	21.3	27	8.8	72	10.7	99	10.5	185	14.9	327	20.1
Not Reported	0		0		0		0		0		0		0	
Total	69	100.0	94	100.0	308	100.0	670	100.0	942	100.0	1240	100.0	1625	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 41**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Heart-Lung Patients**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
O	62	44.9	125	52.1	132	58.7	113	53.9	127	53.9	111	55.0	122	59.5
A	94	45.9	87	36.3	71	31.6	53	34.4	65	36.3	60	29.7	62	30.2
B	15	7.3	22	9.2	15	6.7	13	8.4	10	5.6	21	10.4	13	6.3
AB	0	2.0	0	2.5	7	3.1	0	3.2	0	3.4	10	5.6	0	3.9
Not Reported	0		0		0		0		0		0		0	
Total	205	100.0	240	100.0	225	100.0	154	100.0	180	100.0	202	100.0	205	100.0

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	205	100.0	239	99.6	223	99.1	152	98.7	178	98.9	201	99.5	202	98.5
Yes	0	-	1	0.4	2	0.9	2	1.3	2	1.1	1	0.5	3	1.5
Not Reported	0		0		0		0		0		0		0	
Total	205	100.0	240	100.0	225	100.0	154	100.0	180	100.0	202	100.0	205	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 41**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Heart-Lung Patients**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	73	85.9	134	89.9	182	86.3	128	86.3	156	87.6	168	84.0	149	82.3
Black	6	7.1	6	4.0	10	4.7	10	6.7	7	3.9	6	3.0	12	6.6
Hispanic	4	4.7	6	4.0	12	5.7	6	4.0	7	3.9	13	6.5	9	5.0
Asian	6	-	6	-	4	0.5	4	2.0	2	1.1	6	2.5	7	3.0
Other	2	2.0	4	2.0	6	2.0	4	2.0	6	3.0	6	3.0	4	2.2
Not Reported	120		91		14		4		2		2		24	
Total	205	100.0	240	100.0	225	100.0	154	100.0	180	100.0	202	100.0	205	100.0

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	116	56.6	131	54.6	113	50.2	84	54.5	102	56.7	123	60.9	129	62.9
Male	89	43.4	109	45.4	112	49.8	70	45.5	78	43.3	79	39.1	76	37.1
Not Reported	0		0		0		0		0		0		0	
Total	205	100.0	240	100.0	225	100.0	154	100.0	180	100.0	202	100.0	205	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 41**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Heart-Lung Patients**

**By Current Age**

Current Age	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 1	2	1.0	2	0.4	0	-	0	0.6	0	0.6	0	0.6	0	1.0
1-5	0	4.5	0	0.4	0	1.3	0	0.4	5	2.8	5	2.8	0	2.8
6-10	2	1.0	4	1.7	5	2.2	1	0.4	0	1.7	0	3.6	13	5.4
11-17	11	5.4	0	3.3	0	3.6	7	4.5	20	11.7	11	0.4	21	10.2
18-34	87	42.4	87	40.4	87	31.7	87	43.5	87	38.3	79	38.6	87	32.7
35-49	93	45.4	106	44.2	106	47.1	64	41.6	87	31.7	79	39.1	20	39.0
50-64	0	0.4	22	9.2	16	7.1	13	0.4	20	13.3	20	9.9	20	9.9
65+	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Not Reported	0		0		0		0		0		0		0	
Total	205	100.0	240	100.0	225	100.0	154	100.0	180	100.0	202	100.0	205	100.0

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
U.S.A	85	98.8	146	98.6	203	98.5	147	99.3	175	98.9	198	99.5	134	99.3
Foreign National	1	1.2	2	1.4	3	1.5	1	0.7	2	1.1	1	0.5	1	0.7
Not Reported	119		92		19		6		3		3		70	
Total	205	100.0	240	100.0	225	100.0	154	100.0	180	100.0	202	100.0	205	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.

**Table 41**  
**Waiting List Patient Characteristics at Year's End -- 1988 to 1994**

**Heart-Lung Patients**

**By Time Waiting**

Time Waiting	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0 - 30 days	36	14.6	18	7.5	9	2.2	16	10.4	11	6.1	12	5.9	10	4.9
31 - 60 days	12	5.9	10	7.9	6	3.6	3	1.9	10	5.9	12	5.9	10	4.9
61 - 90 days	12	5.9	16	6.7	16	4.4	12	7.5	12	6.7	6	4.0	7	3.4
91 - 120 days	9	4.4	18	7.5	9	4.0	6	3.3	7	3.3	9	4.0	9	2.9
121 - 150 days	11	5.9	13	5.4	12	5.4	9	1.9	9	3.3	9	4.5	9	4.9
151 - 180 days	16	8.8	9	3.3	47	7.5	7	4.5	7	3.3	16	5.9	7	3.4
6 - 12 Mons	47	18.0	47	19.6	57	25.3	36	23.4	32	17.8	31	20.3	45	22.0
> 1 year	76	37.1	101	42.1	107	47.6	71	46.1	95	52.8	102	50.5	112	54.6
Not Reported	9		9		9		9		9		9		9	
Total	205	100.0	240	100.0	225	100.0	154	100.0	180	100.0	202	100.0	205	100.0

**By Patient Status**

Patient Status	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Active	198	96.6	219	91.3	187	83.1	133	86.4	158	87.8	162	80.2	157	76.6
Inactive	7	3.4	21	8.8	38	16.9	21	13.6	22	12.2	40	19.8	48	23.4
Not Reported	0		0		0		0		0		0		0	
Total	205	100.0	240	100.0	225	100.0	154	100.0	180	100.0	202	100.0	205	100.0

Source: UNOS OPTN waiting list on the last day of each year.

Note: Percentages are based on totals excluding not reported cases.



## Notes on Registrations and Median Waiting Times

### INTRODUCTION

The following tables show median waiting times (in days) for patients awaiting transplantation, categorized by certain demographic and medical factors (blood type, age, previous transplant, race, gender, citizenship, and, for kidney patients only, peak PRA level).

Each table also provides upper and lower confidence limits (statistical measures of precision) along with the median waiting times. The tables are presented as follows:

Table 42	Number of Registrations and Median Waiting Times, All Organs
Table 43	Kidney Waiting List
Table 44	Liver Waiting List
Table 45	Pancreas Waiting List
Table 46	Kidney-Pancreas Waiting List
Table 47	Heart Waiting List
Table 48	Lung Waiting List
Table 49	Heart-Lung Waiting List

### NOTES ON MEDIAN WAITING TIMES DATA

The data reported are drawn from the OPTN Waiting List Files and Waiting List Removal Files as of October 2, 1995. The data collected in these files are not collected via paper forms, but are entered electronically by the UNOS members who list their potential recipients. The UNOS members have direct responsibility for maintaining and monitoring the data from the time their patients are listed until those patients are removed from the waiting list. Data are subject to change based on future data submission or correction.

The median waiting times presented in these tables are estimates (subject to technical considerations noted below) of the length of time by which at least half of all patients in the category have received a transplant.

The median waiting times are computed for annual cohorts based on the year of entry onto the waiting list. The value N in each table, for each of the

years 1988 through 1994, represents the size of each cohort (i.e., the number of new organ-specific registrations entered during that year). Note that some patients are listed at different centers for the same organ type or for multiple organs (e.g., kidney and pancreas). The data in these tables are not adjusted for multiple listings. Therefore, each cohort consists of patient registrations rather than patients. If, for a given category, the number N is smaller than 3, the median waiting time and the standard error cannot be calculated. In such cases, the notation "NC" is used. When, in a given category, there are more patients waiting than there are who have been transplanted, the median waiting time and the confidence limits cannot be determined. In such cases, the symbol "+" is used.

Waiting time for each registration is defined as the number of days between the date of entry onto the waiting list and one of the following:

- 10/2/95 (the date on which the analysis was run) for those registrations still waiting on that date;
- the date of removal from the waiting list for transplant;
- the date of removal from the waiting list for any other reasons.

Registrations for patients who ultimately received living-donor transplants were excluded. Patients who received living-donor transplants generally have much shorter waiting times than those awaiting cadaveric-donor transplants. Therefore, failure to exclude such registrations would lead to an underestimation of median waiting time for cadaveric transplants.

The median and confidence limit calculations, performed at the 95% confidence level, were computed using the statistical procedure LIFETEST in version 6.06 of SAS (Statistical Analysis System). Using LIFETEST, the medians and confidence limits were calculated from "survival-curves" estimated using the Kaplan-Meier method (Kaplan, E.L., Meier, P., Nonparametric estimation from incomplete observations. JASA 1958, 53:457-481).

## THE KIDNEY-PANCREAS WAITING LIST

This report differs from the 1994 report with regard to definitions for kidney, pancreas, and kidney-pancreas (KP) registrations. In the earlier report, if a kidney or pancreas registration ended in a KP transplant, then it was retroactively converted to a KP registration for the analysis. Designating each registration according to the ultimate transplant type results in an overstatement of both the size of the KP list and the transplant rate of KP registrants, confounding the median waiting time calculation.

In the current report, registrations for kidney or pancreas alone are retained as such. When such registrations result in simultaneous kidney/pancreas transplants, each transplant is treated as a kidney or a pancreas transplant, according to the original registration. This change in categorization has resulted in a number of registrants on the KP list being reassigned to either the kidney or pancreas list, particularly for the years 1990-1992. Consequently, the median waiting time reported for KP transplants is longer but more accurate than that reported in the 1994 report.

Although the combined kidney-pancreas waiting list was not implemented until 1992, some kidney-pancreas registrations are shown for previous years. This is the case because, in 1992, some registrants on the kidney or pancreas list moved their registrations over to the KP list while retaining their accumulated waiting time.



**Table 42**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**OPTN Waiting List, Registrations Added During 1988 to 1994**

**All Organs**

Organ	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
Kidney	11910	394	12504	454	13198	487	13626	540	15072	624	15931	728	16400	+
	(380, 409)		(436, 468)		(468, 507)		(523, 558)		(604, 640)		(707, 750)		(+, +)	
Liver	2140	33	2880	40	3643	45	4134	67	4760	106	5484	106	6211	171
	(29, 37)		(36, 44)		(42, 48)		(62, 73)		(100, 113)		(138, 157)		(161, 180)	
Pancreas	243	106	532	123	701	136	678	123	366	40	199	388	188	411
	(160, 272)		(104, 142)		(123, 156)		(104, 146)		(85, 111)		(242, 628)		(280, +)	
Kidney - Pancreas	3	+	12	+	51	+	185	929	743	106	1062	286	1222	257
	(+, +)		(+, +)		(+, +)		(818, 985)		(363, 446)		(263, 312)		(232, 284)	
Heart	2805	106	2871	138	3547	167	3821	203	3943	256	3769	218	3683	184
	(108, 130)		(127, 151)		(152, 186)		(186, 222)		(237, 279)		(195, 239)		(168, 205)	
Lung	125	394	213	339	510	228	956	308	1164	421	1349	388	1544	553
	(205, 577)		(209, 480)		(206, 259)		(281, 343)		(402, 441)		(450, 524)		(495, 622)	
Heart-Lung	215	718	219	635	170	630	131	699	157	726	159	650	154	553
	(468, 1294)		(524, 1187)		(435, 829)		(481, 997)		(535, 924)		(433, 839)		(413, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 43**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney Waiting List**

**By Blood Type**

Blood Type	1988		1990		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
O	5891	522	6012	594	6252	616	6544	706	7210	762	7613	403	7855	+
	(496, 546)		(567, 619)		(592, 643)		(675, 733)		(733, 788)		(858, 940)		(+, +)	
A	3955	226	4368	295	4592	281	4673	337	5181	403	5539	482	5612	560
	(208, 241)		(277, 313)		(266, 299)		(315, 356)		(390, 419)		(460, 506)		(529, 619)	
Ø	1650	605	1689	695	1650	777	1904	857	2100	991	2100	+	2294	+
	(553, 665)		(616, 741)		(716, 825)		(812, 922)		(932, 1074)		(+, +)		(+, +)	
AB	414	150	435	168	504	150	505	857	504	163	593	246	639	285
	(126, 178)		(142, 194)		(119, 201)		(139, 200)		(159, 231)		(218, 276)		(243, 339)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	11910	394	12504	454	13198	487	13626	540	15072	624	15931	728	16400	+
	(380, 409)		(436, 468)		(468, 507)		(523, 558)		(604, 640)		(707, 750)		(+, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

*NC* denotes not calculated due to small *N*.

**Table 43**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney Waiting List**

**By Age at Entry**

Age at Entry	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
< 1	3	+	35	+	0	0	1	NC	0	-	3	90	0	+
	(+, +)		(+, +)		(0, +)		(NC, NC)		(-, -)		(6, 288)		(-, -)	
1-5	80	227	35	222	80	164	80	226	80	271	97	328	63	381
	(154, 350)		(142, 283)		(127, 289)		(181, 303)		(180, 387)		(235, 454)		(140, +)	
6-10	101	238	80	247	80	233	106	212	106	375	86	309	80	241
	(165, 358)		(169, 404)		(167, 334)		(171, 293)		(302, 461)		(209, 405)		(125, 390)	
11-17	350	302	305	333	299	398	305	737	335	480	315	461	289	271
	(265, 359)		(272, 394)		(302, 461)		(408, 493)		(414, 573)		(427, 499)		(237, 389)	
18-34	3405	398	3597	480	3645	444	3609	549	3897	585	3853	709	3815	+
	(372, 424)		(404, 462)		(417, 475)		(487, 558)		(551, 618)		(665, 757)		(+, +)	
35-49	4738	302	4862	479	5157	493	5345	549	5869	655	6234	737	6427	+
	(371, 423)		(456, 513)		(465, 520)		(524, 573)		(625, 693)		(697, 773)		(+, +)	
50-64	2829	420	3090	463	3386	551	3589	572	4009	651	4556	773	4815	+
	(398, 462)		(429, 490)		(509, 579)		(538, 625)		(616, 678)		(741, 839)		(+, +)	
65+	395	362	432	585	529	637	583	674	771	585	787	678	901	+
	(304, 548)		(471, 827)		(515, 759)		(558, 869)		(561, 754)		(754, +)		(+, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	+
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	11910	394	12504	454	13198	487	13626	540	15072	624	15931	728	16400	+
	(380, 409)		(436, 468)		(468, 507)		(523, 558)		(604, 640)		(707, 750)		(+, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

NC denotes not calculated due to small *N*.

**Table 43**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney Waiting List**

**By Peak PRA**

Peak PRA	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
0-19	6588	259	6815	323	6637	335	7011	376	7943	461	8575	521	9492	+
	(247, 273)		(308, 336)		(323, 350)		(358, 392)		(446, 480)		(503, 540)		(+, +)	
20-79	2918	614	3158	651	3815	625	4047	748	4558	807	4673	946	4561	+
	(579, 643)		(616, 689)		(596, 669)		(712, 785)		(773, 842)		(891, +)		(+, +)	
80+	992	1192	945	1540	954	1645	981	1420	1046	+	1029	+	889	+
	(1055, 1327)		(1289, 1879)		(1484, +)		(1210, +)		(+, +)		(+, +)		(+, +)	
Not Reported	1412	691	1586	650	1792	675	1587	730	1525	914	1654	+	1458	+
	(559, 831)		(552, 742)		(580, 793)		(653, 872)		(734, 1146)		(+, +)		(+, +)	
Overall	11910	394	12504	454	13198	487	13626	540	15072	624	15931	728	16400	+
	(380, 409)		(436, 468)		(468, 507)		(523, 558)		(604, 640)		(707, 750)		(+, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

*NC* denotes not calculated due to small *N*.

**Table 43**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney Waiting List**  
**By Previous Transplant**

Previous Transplant	1990		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
No	9736	341	10346	396	10852	429	11288	484	12688	558	13528	643	13881	-
	(328, 353)		(383, 408)		(413, 445)		(468, 496)		(540, 577)		(623, 663)		(+, +)	
Yes	2174	915	2158	989	2346	1077	2338	1109	2384	1273	2403	-	2519	+
	(798, 1002)		(896, 1065)		(932, 1193)		(1018, 1245)		(1131, +)		(+, +)		(+, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	11910	394	12504	454	13198	487	13626	540	15072	624	15931	728	16400	+
	(380, 409)		(436, 468)		(468, 507)		(523, 558)		(604, 640)		(707, 750)		(+, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 43**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney Waiting List**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
White	7473	335	7818	379	8156	401	8210	424	8917	483	9145	569	9014	619
	(321, 349)		(366, 393)		(386, 415)		(408, 441)		(466, 502)		(548, 591)		(581, +)	
Black	2784	591	3029	644	3139	752	3477	812	3866	900	4298	+	4346	+
	(553, 624)		(601, 694)		(707, 791)		(784, 853)		(863, 940)		(+, +)		(+, +)	
Hispanic	1080	398	1094	598	1232	554	1312	737	1489	792	1619	871	2174	+
	(360, 452)		(508, 659)		(505, 604)		(673, 817)		(733, 851)		(790, +)		(+, +)	
Asian	465	483	449	538	555	571	522	707	666	779	710	838	694	+
	(398, 580)		(475, 672)		(473, 636)		(543, 760)		(694, 839)		(722, 927)		(+, +)	
Other	105	577	114	644	116	589	105	623	134	667	159	845	172	+
	(293, 714)		(450, 1041)		(380, 878)		(452, 696)		(554, 860)		(681, +)		(+, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	11910	394	12504	454	13198	487	13626	540	15072	624	15931	728	16400	+
	(380, 409)		(436, 468)		(468, 507)		(523, 558)		(604, 640)		(707, 750)		(+, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

NC denotes not calculated due to small *N*.

**Table 43**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney Waiting List**

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
Female	4719	445	5018	492	5227	555	5533	591	6170	647	6422	647	6547	+
	(422, 475)		(464, 521)		(526, 581)		(556, 628)		(617, 679)		(784, 869)		(+, +)	
Male	7191	359	7486	429	7971	452	8093	515	8902	609	9509	676	9853	+
	(342, 378)		(414, 451)		(433, 468)		(495, 535)		(586, 631)		(651, 706)		(+, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	+
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	11910	394	12504	454	13198	487	13626	540	15072	624	15931	728	16400	+
	(380, 409)		(436, 468)		(468, 507)		(523, 558)		(604, 640)		(707, 750)		(+, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

NC denotes not calculated due to small N.

**Table 43**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney Waiting List**

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
U.S.A	10953	304	11633	361	12337	494	12992	536	14485	618	15325	722	15504	+
	(378, 409)		(446, 475)		(474, 514)		(518, 554)		(600, 637)		(700, 745)		(+, +)	
Foreign National	380	336	418	536	458	560	487	739	492	886	523	874	561	+
	(285, 408)		(479, 734)		(493, 672)		(668, 852)		(769, 1077)		(796, +)		(+, +)	
Not Reported	577	459	453	301	483	223	147	352	95	242	83	677	335	+
	(385, 552)		(272, 340)		(187, 259)		(254, 417)		(185, 347)		(158, +)		(+, +)	
Overall	11910	394	12504	454	13198	487	13626	540	15072	624	15931	728	16400	+
	(380, 409)		(436, 468)		(468, 507)		(523, 558)		(604, 640)		(707, 750)		(+, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

*NC* denotes not calculated due to small *N*.



**Table 44**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Liver Waiting List**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
O	993	41	1301	52	1627	60	1822	87	2214	148	2471	184	2888	207
	(34, 51)		(44, 60)		(55, 70)		(79, 97)		(125, 156)		(171, 205)		(189, 228)	
B	801	28	1117	33	1425	33	1612	85	1794	85	2122	148	2316	140
	(23, 32)		(28, 38)		(28, 36)		(60, 90)		(78, 92)		(106, 132)		(125, 152)	
B	270	39	360	34	434	48	531	76	575	105	685	148	778	187
	(29, 48)		(30, 48)		(37, 59)		(60, 98)		(91, 127)		(129, 174)		(169, 223)	
AB	76	28	102	28	157	29	169	34	177	61	206	93	229	75
	(14, 40)		(15, 47)		(20, 41)		(25, 48)		(50, 78)		(64, 110)		(57, 104)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	2140	33	2880	40	3643	45	4134	67	4760	106	5484	146	6211	171
	(29, 37)		(36, 44)		(42, 48)		(62, 73)		(100, 113)		(138, 157)		(161, 180)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small *N*.

**Table 44**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Liver Waiting List**

**By Age at Entry**

Age at Entry	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
< 1	105	64	159	64	105	57	205	66	230	122	233	144	276	102
	(50, 98)		(68, 113)		(47, 86)		(51, 79)		(84, 161)		(110, 176)		(77, 121)	
1-5	282	103	244	54	282	73	240	62	282	144	294	153	343	125
	(67, 137)		(40, 68)		(55, 90)		(49, 91)		(84, 130)		(94, 196)		(94, 177)	
6-10	84	33	84	37	84	64	92	139	105	128	135	288	97	184
	(21, 46)		(23, 60)		(53, 112)		(56, 193)		(108, 209)		(122, 453)		(93, 179)	
11-17	105	33	105	73	134	33	128	66	142	92	170	185	184	184
	(19, 65)		(50, 94)		(23, 62)		(32, 128)		(96, 120)		(122, 261)		(87, 269)	
18-34	363	26	435	26	514	33	502	66	546	77	540	134	626	157
	(17, 31)		(22, 41)		(25, 41)		(43, 90)		(58, 105)		(88, 173)		(129, 191)	
35-49	674	26	959	38	1224	45	1383	67	1586	185	1894	185	2339	184
	(22, 34)		(33, 44)		(39, 48)		(60, 78)		(96, 121)		(140, 172)		(169, 201)	
50-64	504	29	830	34	1142	33	1365	64	1628	111	1951	139	2059	184
	(25, 37)		(30, 40)		(37, 50)		(59, 74)		(99, 125)		(129, 153)		(169, 201)	
65+	33	29	65	51	134	46	240	77	240	118	267	185	282	173
	(7, 54)		(23, 75)		(34, 69)		(48, 94)		(91, 141)		(112, 183)		(146, 202)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	2140	33	2880	40	3643	45	4134	67	4760	106	5484	146	6211	171
	(29, 37)		(36, 44)		(42, 48)		(62, 73)		(100, 113)		(138, 157)		(161, 180)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 44**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Liver Waiting List**

**By Previous Transplant**

Previous Transplant	1988		1990		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
No	1827	38	2449	46	3214	50	3672	74	4230	116	4795	161	5490	185
	(34, 42)		(41, 50)		(46, 53)		(68, 79)		(109, 125)		(151, 172)		(176, 196)	
Yes	313	11	431	32	429	15	462	28	530	32	689	43	721	43
	(8, 19)		(10, 16)		(12, 21)		(22, 36)		(22, 42)		(46, 53)		(32, 60)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	2140	33	2880	40	3643	45	4134	67	4760	106	5484	146	6211	171
	(29, 37)		(36, 44)		(42, 48)		(62, 73)		(100, 113)		(138, 157)		(161, 180)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 44**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Liver Waiting List**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
White	1566	30	2141	38	2713	45	3220	68	3613	106	4213	151	4563	170
	(27, 36)		(34, 43)		(40, 48)		(63, 75)		(99, 114)		(142, 161)		(158, 180)	
Black	171	36	186	36	246	50	290	70	357	120	414	141	543	176
	(21, 49)		(20, 60)		(33, 65)		(49, 100)		(97, 157)		(96, 192)		(144, 212)	
Hispanic	89	24	133	35	212	48	343	61	447	97	518	121	835	169
	(13, 43)		(19, 44)		(36, 68)		(47, 75)		(78, 126)		(96, 142)		(138, 198)	
Asian	43	35	84	36	103	52	166	52	252	111	218	144	197	235
	(11, 62)		(26, 53)		(29, 75)		(39, 74)		(89, 138)		(101, 211)		(149, 362)	
Other	53	27	83	26	113	40	110	78	88	96	118	146	72	179
	(19, 55)		(14, 44)		(28, 50)		(39, 114)		(64, 154)		(90, 265)		(128, 312)	
Not Reported	218	68	253	93	256	53	5	183	3	82	3	247.5	1	NC
	(52, 101)		(68, 146)		(39, 72)		(28, 399)		(0, 82)		(231, 264)		(NC, NC)	
Overall	2140	33	2880	40	3643	45	4134	67	4760	106	5484	146	6211	171
	(29, 37)		(36, 44)		(42, 48)		(62, 73)		(100, 113)		(138, 157)		(161, 180)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 44**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Liver Waiting List**

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
Female	1050	37	1372	45	1670	59	1896	75	2195	122	2415	156	2714	189
	(33, 43)		(39, 52)		(53, 68)		(67, 81)		(111, 134)		(141, 169)		(173, 204)	
Male	1096	28	1508	36	1973	36	2238	62	2565	96	3069	141	3497	157
	(26, 34)		(31, 41)		(33, 40)		(58, 68)		(89, 104)		(129, 154)		(148, 170)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	2140	33	2880	40	3643	45	4134	67	4760	106	5484	146	6211	171
	(29, 37)		(36, 44)		(42, 48)		(62, 73)		(100, 113)		(138, 157)		(161, 180)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 44**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Liver Waiting List**

**By Citizenship**

Citizenship	1988		1990		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
U.S.A	1817	38	2497	38	3160	47	3905	68	4526	109	5241	109	5773	173
	(28, 36)		(35, 42)		(44, 50)		(63, 75)		(101, 116)		(141, 159)		(164, 184)	
Foreign National	72	25	86	23	131	25	169	45	181	89	168	113	189	120
	(15, 54)		(13, 41)		(20, 40)		(35, 61)		(75, 111)		(91, 152)		(83, 179)	
Not Reported	251	57	297	72	352	36	60	60	53	70	75	68	249	135
	(40, 75)		(51, 109)		(29, 47)		(31, 148)		(41, 101)		(36, 144)		(100, 180)	
Overall	2140	33	2880	40	3643	45	4134	67	4760	106	5484	146	6211	171
	(29, 37)		(36, 44)		(42, 48)		(62, 73)		(100, 113)		(138, 157)		(161, 180)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 44**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1991 to 1994\***

**Liver Waiting List**

**By Beginning and Ending Medical Urgency Status Codes**

Beginning Status*	Ending Status*	1991		1992		1993		1994	
		N	Median	N	Median	N	Median	N	Median
		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
1	1	397	3	453	4	468	13	468	4
		(3, 4)		(3, 4)		(3, 4)		(3, 4)	
1	2	58	41	62	38	31	51	78	20
		(14, 62)		(24, 193)		(22, 105)		(17, 55)	
1	4	21	50	22	ND	29	67	37	344
		(36, 339)		(ND, ND)		(41, 96)		(106, 571)	
1	4	11	ND	5	ND	15	ND	31	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	
1	4	53	ND	468	ND	114	ND	121	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	
2	1	171	16	181	12	468	13	153	18
		(11, 20)		(11, 15)		(9, 16)		(10, 16)	
2	2	412	23	319	20	302	23	345	18
		(20, 28)		(17, 26)		(16, 31)		(14, 23)	
2	3	78	74	15	12	37	94	98	133
		(55, 127)		(56, 138)		(78, 130)		(79, 247)	
2	4	15	ND	11	ND	17	ND	15	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	
2	7	95	ND	86	ND	94	ND	99	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 44**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1991 to 1994\***

**Liver Waiting List**

**By Beginning and Ending Medical Urgency Status Codes**

Beginning Status*	Ending Status*	1991		1992		1993		1994	
		N	Median	N	Median	N	Median	N	Median
		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
3	1	84	96	125	96	162	77	179	87
		(37, 80)		(68, 115)		(66, 96)		(65, 106)	
3	2	297	96	428	99	428	113	500	107
		(86, 115)		(89, 111)		(98, 135)		(92, 119)	
3	3	905	63	1405	111	1580	145	1915	180
		(56, 72)		(101, 120)		(135, 157)		(169, 193)	
3	4	37	ND	57	ND	115	ND	134	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	
3	7	130	ND	249	ND	271	ND	271	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	
4	1	23	104	51	111	51	91	77	50
		(36, 137)		(46, 289)		(42, 175)		(34, 77)	
4	2	100	104	134	115	134	126	428	112
		(81, 137)		(99, 171)		(101, 161)		(84, 155)	
4	3	223	104	363	165	405	194	506	107
		(144, 195)		(147, 197)		(168, 227)		(172, 224)	
4	4	337	55	249	ND	370	ND	486	ND
		(48, 63)		(ND, ND)		(ND, ND)		(ND, ND)	
4	7	94	ND	76	ND	121	ND	85	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small *N*.



**Table 44**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1991 to 1994\***

**Liver Waiting List**

**By Beginning and Ending Medical Urgency Status Codes**

Beginning Status*	Ending Status*	1991		1992		1993		1994	
		N	Median	N	Median	N	Median	N	Median
		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
7	1	4	127	4	NC	2	NC	2	30
		(29, 203)		(NC, NC)		(NC, NC)		(11, 71)	
7	2	19	91	11	187	11	83	19	114
		(37, 176)		(35, 230)		(28, 254)		(39, 194)	
7	1	51	105	24	77	24	233	31	179
		(82, 172)		(38, 159)		(148, 363)		(134, 277)	
7	7	19	91	5	ND	6	ND	19	ND
		(39, ND)		(ND, ND)		(ND, ND)		(ND, ND)	
7	7	56	ND	24	ND	32	ND	19	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	
Not Reported		412	NC	273	NC	398	NC	412	NC
		(NC, NC)		(NC, NC)		(NC, NC)		(NC, NC)	
Total		4134	67	4760	106	5484	146	6211	171
		(62, 73)		(100, 113)		(138, 157)		(161, 180)	

\* UNOS began collecting reliable medical urgency status data in 1991. Current medical urgency status codes for liver allocation are:

- 1 ICU bound, expected to live less than 7 days without a transplant, and meeting at least one of a specific set of other criteria (see UNOS policies).
- 2 Hospitalized in an acute care bed for at least 5 days or intensive care bound.
- 3 Requires continuous care.
- 4 At home.
- 7 Patient registration temporarily inactive.

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 45**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Pancreas Waiting List**

**By Blood Type**

Blood Type	1990		1990		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
O	111	285	247	138	324	133	298	130	154	98	81	682	76	451
	(184, 414)		(105, 177)		(119, 156)		(110, 169)		(73, 120)		(278, +)		(245, +)	
A	103	168	206	89	266	133	275	105	154	98	76	205	81	247
	(122, 227)		(65, 112)		(110, 185)		(83, 146)		(75, 117)		(78, 430)		(204, +)	
B	22	111	63	219	90	204	76	150	37	105	81	888	21	476
	(72, 305)		(163, 293)		(143, 269)		(99, 205)		(99, 604)		(434, +)		(324, +)	
AB	0	14	16	122	21	54	29	90	17	76	12	52	8	115.5
	(10, +)		(14, 256)		(31, 154)		(53, 137)		(41, 114)		(15, 405)		(75, 411)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	0
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	243	195	532	123	701	136	678	124	366	98	199	388	188	411
	(160, 272)		(104, 142)		(123, 156)		(104, 146)		(85, 111)		(242, 628)		(280, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 45**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Pancreas Waiting List**

**By Age at Entry**

Age at Entry	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
< 1	0	-	0	-	0	-	1	NC	0	-	0	-	-	NC
	(-, -)		(-, -)		(-, -)		(NC, NC)		(-, -)		(-, -)		(NC, NC)	
1-5	2	NC	6	44	11	270	6	104.5	2	NC	6	+	5	290
	(NC, NC)		(19, 320)		(12, 414)		(89, 282)		(NC, NC)		(+, +)		(0, +)	
6-10	0	-	-	NC	0	-	0	-	0	-	6	NC	6	NC
	(-, -)		(NC, NC)		(-, -)		(-, -)		(-, -)		(NC, NC)		(NC, NC)	
11-17	1	NC	2	NC	2	NC	0	-	0	NC	0	-	3	+
	(NC, NC)		(NC, NC)		(NC, NC)		(-, -)		(NC, NC)		(+, +)		(+, +)	
18-34	159	173	253	118	325	132	285	105	159	96	79	434	79	411
	(122, 247)		(101, 151)		(119, 165)		(87, 141)		(77, 117)		(209, 888)		(204, +)	
35-49	86	270	256	132	344	147	351	146	190	98	26	313	94	350
	(160, 595)		(94, 163)		(122, 169)		(119, 168)		(76, 120)		(149, 492)		(249, +)	
50-64	-	-	11	177	11	103	35	79	14	146	11	146	0	-
	(+, +)		(89, +)		(48, 211)		(48, 169)		(51, 163)		(78, +)		(+, +)	
65+	0	-	0	-	6	NC	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(NC, NC)		(-, -)		(-, -)		(-, -)		(-, -)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	243	195	532	123	701	136	678	124	366	98	199	388	188	411
	(160, 272)		(104, 142)		(123, 156)		(104, 146)		(85, 111)		(242, 628)		(280, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 45**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Pancreas Waiting List**

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
No	234	194	517	123	669	136	636	117	337	90	157	430	135	476
	(152, 271)		(104, 149)		(122, 156)		(99, 142)		(76, 100)		(242, 707)		(290, +)	
Yes	0	553	15	113	42	169	42	252	29	502	42	351	53	287
	(59, +)		(69, 229)		(56, 523)		(119, 506)		(182, 783)		(189, 731)		(133, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	243	195	532	123	701	136	678	124	366	98	199	388	188	411
	(160, 272)		(104, 142)		(123, 156)		(104, 146)		(85, 111)		(242, 628)		(280, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 45**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Pancreas Waiting List**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
White	212	189	496	118	634	136	627	124	341	99	188	317	171	350
	(147, 271)		(102, 141)		(121, 155)		(104, 150)		(89, 113)		(209, 541)		(261, +)	
Black	15	136	21	150	41	246	28	130	15	99	6	-	6	+
	(57, +)		(71, +)		(130, 436)		(89, 344)		(53, 657)		(+, +)		(+, +)	
Hispanic	1	NC	5	267	13	136	13	74	5	56	2	NC	13	+
	(NC, NC)		(1, +)		(15, 221)		(44, 130)		(7, +)		(NC, NC)		(+, +)	
Asian	1	NC	0	-	1	65	1	130.5	1	NC	2	NC	0	-
	(NC, NC)		(-, -)		(29, 258)		(0, 481)		(NC, NC)		(NC, NC)		(-, -)	
Other	0	-	1	NC	3	148.5	2	NC	3	48	1	NC	0	-
	(-, -)		(NC, NC)		(11, 251)		(NC, NC)		(0, 69)		(NC, NC)		(-, -)	
Not Reported	13	608	5	123	6	61	0	-	1	NC	0	-	0	-
	(247, +)		(57, +)		(26, 171)		(-, -)		(NC, NC)		(-, -)		(-, -)	
Overall	243	195	532	123	701	136	678	124	366	98	199	388	188	411
	(160, 272)		(104, 142)		(123, 156)		(104, 146)		(85, 111)		(242, 628)		(280, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 45**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Pancreas Waiting List**

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
Female	101	202	236	114	286	150	297	117	157	95	106	278	97	411
	(152, 313)		(97, 150)		(126, 212)		(95, 162)		(71, 106)		(152, 707)		(237, +)	
Male	142	189	226	128	415	128	381	123	209	103	93	436	91	-
	(134, 328)		(104, 157)		(113, 154)		(99, 150)		(85, 120)		(279, 888)		(+, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	243	195	532	123	701	136	678	124	366	98	199	388	188	411
	(160, 272)		(104, 142)		(123, 156)		(104, 146)		(85, 111)		(242, 628)		(280, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 45**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Pancreas Waiting List**

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
U.S.A	228	189	514	125	684	140	661	121	359	95	197	388	172	451
	(147, 259)		(106, 150)		(124, 161)		(104, 144)		(83, 111)		(242, 656)		(304, +)	
Foreign National	4	-	4	33	4	NC	6	367	4	216.5	2	NC	4	-
	(-, -)		(6, 33)		(NC, NC)		(206, 455)		(148, 285)		(NC, NC)		(-, -)	
Not Reported	15	608	15	95	16	60.5	11	21	4	92.5	4	-	16	451
	(247, +)		(59, 135)		(29, 83)		(13, 219)		(19, 100)		(-, -)		(100, 270)	
Overall	243	195	532	123	701	136	678	124	366	98	199	388	188	411
	(160, 272)		(104, 142)		(123, 156)		(104, 146)		(85, 111)		(242, 628)		(280, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 46**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney-Pancreas Waiting List**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
O	2	NC	0	+	27	+	99	938	351	418	516	284	590	278
	(NC, NC)		(+, +)		(+, +)		(787, 1029)		(374, 480)		(254, 317)		(233, 342)	
A	0	NC	2	NC	45	+	59	915	262	403	181	284	435	223
	(NC, NC)		(NC, NC)		(+, +)		(678, 1247)		(321, 479)		(244, 315)		(195, 256)	
B	0	+	0	NC	9	+	25	909	100	456	120	334	158	402
	(-, -)		(NC, NC)		(+, +)		(746, +)		(344, 536)		(273, 433)		(275, 473)	
AB	0	+	0	+	0	+	2	NC	30	190	45	262	39	181
	(-, -)		(-, -)		(-, -)		(NC, NC)		(146, 233)		(125, 440)		(104, 366)	
Not Reported	0	+	0	-	0	-	0	-	0	+	0	+	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	3	+	12	+	51	+	185	929	743	408	1062	286	1222	257
	(+, +)		(+, +)		(+, +)		(818, 985)		(363, 446)		(263, 312)		(232, 284)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.



**Table 46**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney-Pancreas Waiting List**

**By Age at Entry**

Age at Entry	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
< 1	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
1-5	0	-	0	-	1	NC	2	NC	2	NC	18	81.5	13	253
	(-, -)		(-, -)		(NC, NC)		(NC, NC)		(NC, NC)		(39, +)		(168, +)	
6-10	0	-	0	-	1	NC	1	NC	0	-	0	-	0	-
	(-, -)		(-, -)		(NC, NC)		(NC, NC)		(-, -)		(-, -)		(-, -)	
11-17	0	-	0	-	0	-	0	-	0	-	1	NC	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(NC, NC)		(-, -)	
18-34	2	NC	6	1425	24	+	71	1002	329	347	426	259	484	223
	(NC, NC)		(1425, +)		(+, +)		(841, +)		(308, 397)		(230, 292)		(195, 258)	
35-49	1	NC	6	-	22	+	106	866	385	476	566	298	662	277
	(NC, NC)		(+, +)		(+, +)		(745, 983)		(418, 552)		(269, 328)		(242, 342)	
50-64	0	-	0	-	0	+	5	938	24	403	51	416	62	334
	(-, -)		(-, -)		(+, +)		(504, +)		(327, 590)		(306, 583)		(242, 545)	
65+	0	-	0	-	0	-	0	-	0	-	0	-	1	NC
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(NC, NC)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	3	+	12	+	51	+	185	929	743	408	1062	286	1222	257
	(+, +)		(+, +)		(+, +)		(818, 985)		(363, 446)		(263, 312)		(232, 284)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

NC denotes not calculated due to small *N*.

**Table 46**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney-Pancreas Waiting List**

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
No	3	+	12	+	40	+	167	915	711	389	1022	275	1159	253
	(+, +)		(+, +)		(+, +)		(799, 985)		(347, 427)		(258, 300)		(224, 275)	
Yes	0	-	0	+	6	+	40	965	32	+	40	922	63	431
	(-, -)		(-, -)		(+, +)		(757, +)		(+, +)		(574, +)		(337, +)	
Not Reported	0	+	0	-	0	+	0	+	0	+	0	+	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	3	+	12	+	51	+	185	929	743	408	1062	286	1222	257
	(+, +)		(+, +)		(+, +)		(818, 985)		(363, 446)		(263, 312)		(232, 284)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 46**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney-Pancreas Waiting List**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
White	3	-	0	+	42	-	161	869	656	404	946	278	979	239
	(+, +)		(+, +)		(+, +)		(766, 983)		(355, 446)		(259, 303)		(218, 270)	
Black	0	-	2	NC	0	-	21	139i	56	404	78	340	98	410
	(-, -)		(NC, NC)		(+, +)		(903, +)		(351, 620)		(256, 545)		(310, 588)	
Hispanic	0	-	3	NC	3	1543	3	919	24	379	30	597	131	314
	(-, -)		(NC, NC)		(+, +)		(591, 1247)		(180, 511)		(255, 742)		(223, 353)	
Asian	0	-	0	-	0	-	0	-	3	331	3	+	11	+
	(-, -)		(-, -)		(-, -)		(-, -)		(95, +)		(+, +)		(+, +)	
Other	0	-	0	-	0	-	0	-	3	111	0	192	3	204
	(-, -)		(-, -)		(-, -)		(-, -)		(48, 152)		(2, +)		(151, 253)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	3	+	12	+	51	+	185	929	743	408	1062	286	1222	257
	(+, +)		(+, +)		(+, +)		(818, 985)		(363, 446)		(263, 312)		(232, 284)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 46**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney-Pancreas Waiting List**

**By Gender**

Gender	1988		1993		1993		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
Female	1	NC	8	+	22	+	82	1029	335	447	419	296	533	264
	(NC, NC)		(+, +)		(+, +)		(839, 1530)		(389, 531)		(266, 332)		(223, 314)	
Male	2	NC	4	+	29	+	103	903	408	363	643	278	689	257
	(NC, NC)		(+, +)		(+, +)		(757, 965)		(330, 418)		(254, 308)		(225, 298)	
Not Reported	4	-	4	-	0	-	0	-	0	-	4	-	4	4
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	3	+	12	+	51	+	185	929	743	408	1062	286	1222	257
	(+, +)		(+, +)		(+, +)		(818, 985)		(363, 446)		(263, 312)		(232, 284)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

NC denotes not calculated due to small *N*.

**Table 46**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Kidney-Pancreas Waiting List**

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
U.S.A	3	+	12	+	51	+	184	915	731	409	1045	288	1195	257
	(+, +)		(+, +)		(+, +)		(818, 985)		(367, 446)		(265, 313)		(232, 281)	
Foreign National	0	-	0	-	0	-	1	NC	5	272	9	328	12	495
	(-, -)		(-, -)		(-, -)		(NC, NC)		(180, 793)		(179, +)		(261, +)	
Not Reported	0	-	0	-	0	-	0	-	7	359	8	88	15	181
	(-, -)		(-, -)		(-, -)		(-, -)		(90, 581)		(29, 152)		(83, 469)	
Overall	3	+	12	+	51	+	185	929	743	408	1062	286	1222	257
	(+, +)		(+, +)		(+, +)		(818, 985)		(363, 446)		(263, 312)		(232, 284)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 47**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart Waiting List**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
O	1206	159	1217	189	1477	260	1706	333	1681	390	1654	341	1569	304
	(140, 183)		(168, 225)		(236, 296)		(294, 373)		(343, 445)		(306, 391)		(266, 359)	
A	1151	86	1179	101	1462	122	1531	157	1664	189	1498	152	1498	143
	(73, 100)		(91, 118)		(104, 141)		(137, 177)		(170, 215)		(134, 173)		(126, 156)	
B	344	109	344	117	451	130	424	139	441	241	441	185	473	142
	(83, 147)		(89, 160)		(112, 171)		(116, 192)		(201, 274)		(146, 235)		(121, 212)	
AB	101	69	131	60	157	87	160	81	157	81	156	76	142	67
	(52, 131)		(46, 87)		(51, 117)		(59, 101)		(62, 125)		(52, 108)		(47, 105)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	2805	116	2871	138	3547	167	3821	203	3943	256	3769	218	3683	184
	(108, 130)		(127, 151)		(152, 186)		(186, 222)		(237, 279)		(195, 239)		(168, 205)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 47**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart Waiting List**

**By Age at Entry**

Age at Entry	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
< 1	75	40	93	25	190	35	237	40	190	60	190	47	200	53
	(18, 73)		(13, 36)		(25, 48)		(32, 50)		(49, 82)		(42, 62)		(37, 78)	
1-5	41	32	86	40	92	21	97	40	97	41	111	60	103	55
	(19, 118)		(37, 72)		(16, 39)		(25, 63)		(28, 60)		(43, 90)		(35, 104)	
6-10	24	17	30	20	30	15	64	41	64	58	52	40	56	34
	(7, 24)		(13, 54)		(10, 32)		(19, 96)		(23, 217)		(25, 81)		(21, 66)	
11-17	64	41	64	40	64	30	93	40	190	40	126	120	190	66
	(25, 69)		(25, 58)		(25, 39)		(34, 108)		(66, 172)		(53, 196)		(40, 124)	
18-34	291	73	297	84	335	136	310	197	332	200	352	196	308	152
	(59, 125)		(66, 109)		(96, 191)		(133, 275)		(156, 290)		(141, 266)		(93, 211)	
35-49	872	139	875	197	1030	209	1044	262	1059	341	978	261	933	273
	(123, 158)		(145, 192)		(178, 249)		(223, 325)		(298, 392)		(232, 322)		(215, 321)	
50-64	1395	125	1377	164	1715	197	1878	228	1969	200	1831	247	1863	208
	(110, 141)		(151, 186)		(178, 222)		(208, 254)		(258, 320)		(220, 276)		(181, 227)	
65+	30	160	56	106	114	131	114	178	137	229	126	153	114	131
	(50, 235)		(41, 181)		(94, 214)		(113, 248)		(152, 289)		(102, 223)		(80, 217)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	2805	116	2871	138	3547	167	3821	203	3943	256	3769	218	3683	184
	(108, 130)		(127, 151)		(152, 186)		(186, 222)		(237, 279)		(195, 239)		(168, 205)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 47**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart Waiting List**

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
No	2700	118	2771	138	3426	167	3672	202	3792	202	3631	216	3561	184
	(109, 131)		(127, 152)		(152, 186)		(185, 221)		(240, 286)		(195, 238)		(168, 203)	
Yes	105	89	100	154	121	178	149	231	151	200	138	252	122	214
	(46, 137)		(68, 287)		(104, 328)		(117, 342)		(160, 248)		(117, 485)		(122, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	2805	116	2871	138	3547	167	3821	203	3943	256	3769	218	3683	184
	(108, 130)		(127, 151)		(152, 186)		(186, 222)		(237, 279)		(195, 239)		(168, 205)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small *N*.



**Table 47**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart Waiting List**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
White	2226	116	2270	137	2850	174	3202	265	3196	265	3056	219	2872	186
	(108, 131)		(124, 151)		(157, 192)		(189, 226)		(241, 297)		(195, 239)		(168, 210)	
Black	243	108	240	128	340	202	375	262	473	239	439	265	479	209
	(67, 167)		(92, 180)		(126, 260)		(192, 417)		(241, 385)		(208, 351)		(161, 300)	
Hispanic	57	44	69	72	100	44	143	89	176	137	165	123	240	105
	(28, 67)		(45, 135)		(34, 81)		(68, 139)		(73, 178)		(77, 206)		(77, 173)	
Asian	4	282	13	473	13	44	49	85	46	108	46	62	51	97
	(+, +)		(109, 599)		(22, 293)		(44, 231)		(56, 231)		(28, 164)		(47, 181)	
Other	34	39	52	87	52	44	50	87	52	229	58	332	49	240
	(25, 87)		(38, 102)		(25, 203)		(62, 279)		(155, 609)		(109, +)		(148, +)	
Not Reported	240	271	240	381	192	122	0	NC	0	-	5	+	2	NC
	(159, 514)		(297, 513)		(67, 190)		(NC, NC)		(-, -)		(+, +)		(NC, NC)	
Overall	2805	116	2871	138	3547	167	3821	203	3943	256	3769	218	3683	184
	(108, 130)		(127, 151)		(152, 186)		(186, 222)		(237, 279)		(195, 239)		(168, 205)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 47**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart Waiting List**

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
Female	542	62	555	78	694	85	793	113	867	136	837	144	858	131
	(51, 76)		(68, 106)		(70, 105)		(84, 134)		(109, 180)		(116, 177)		(100, 150)	
Male	2263	132	2316	153	2853	194	3028	231	3076	299	2932	299	2825	210
	(120, 143)		(140, 169)		(174, 209)		(214, 254)		(265, 328)		(217, 257)		(190, 232)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	2805	116	2871	138	3547	167	3821	203	3943	256	3769	218	3683	184
	(108, 130)		(127, 151)		(152, 186)		(186, 222)		(237, 279)		(195, 239)		(168, 205)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

NC denotes not calculated due to small *N*.

**Table 47**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart Waiting List**

**By Citizenship**

Citizenship	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
U.S.A	2546	111	2607	134	3281	174	3710	224	3867	262	3678	224	3411	189
	(104, 125)		(124, 146)		(156, 192)		(188, 223)		(241, 286)		(201, 243)		(170, 209)	
Foreign National	14	38	29	70	31	34	57	151	44	186	38	84	49	97
	(7, 233)		(18, 94)		(18, 83)		(84, 606)		(56, 470)		(43, 113)		(47, 146)	
Not Reported	245	271	235	381	235	120	53	123	32	46	53	61	223	160
	(152, 514)		(253, 513)		(76, 154)		(54, 231)		(33, 68)		(20, 96)		(114, 280)	
Overall	2805	116	2871	138	3547	167	3821	203	3943	256	3769	218	3683	184
	(108, 130)		(127, 151)		(152, 186)		(186, 222)		(237, 279)		(195, 239)		(168, 205)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small *N*.

**Table 47**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1991 to 1994\***

**Heart Waiting List**

**By Beginning and Ending Medical Urgency Status Codes**

Beginning Status*	Ending Status*	1991		1992		1993		1994	
		N	Median	N	Median	N	Median	N	Median
		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
1	1	930	32	807	33	807	31	972	29
		(27, 36)		(27, 37)		(28, 35)		(26, 33)	
1	2	82	321	99	200	99	214	99	222
		(177, 442)		(123, 287)		(137, 442)		(151, 365)	
1	7	130	ND	142	ND	160	ND	140	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	
2	1	575	178	722	178	700	166	608	130
		(165, 211)		(153, 200)		(145, 184)		(114, 144)	
2	2	1296	247	1395	301	1241	2*7	1342	359
		(225, 264)		(265, 335)		(253, 313)		(322, 456)	
2	7	388	ND	500	ND	448	ND	347	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 47**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1991 to 1994\***

**Heart Waiting List**

**By Beginning and Ending Medical Urgency Status Codes**

Beginning Status*	Ending Status*	1991		1992		1993		1994	
		N	Median	N	Median	N	Median	N	Median
		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
7	1	16	111	11	168	13	84	16	39
		(59, 574)		(31, 591)		(44, 227)		(16, 68)	
7	2	16	370	16	ND	17	232	6	155
		(173, 805)		(ND, ND)		(148, 553)		(116, ND)	
7	7	31	ND	24	ND	17	ND	6	ND
		(ND, ND)		(ND, ND)		(ND, ND)		(ND, ND)	
Not Reported		355	NC	224	NC	175	NC	148	NC
		(NC, NC)		(NC, NC)		(NC, NC)		(NC, NC)	
Total		3821	203	3943	256	3769	218	3683	184
		(186, 222)		(237, 279)		(195, 239)		(168, 205)	

\* UNOS began collecting reliable medical urgency status data in 1991. Current medical urgency status codes for heart allocation are:

- 1 (a) Patient requires cardiac and/or pulmonary assistance with one or more of the following devices in place: total artificial heart, left and/or right ventricular assist system, intra-aortic balloon pump, ventricular; or (b) patient is in intensive care unit (ICU) and requires inotropic agents to maintain adequate cardiac output.
- 2 All other active registrations.
- 7 Patient registration temporarily inactive.

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 48**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Lung Waiting List**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
D	52	487	105	480	249	266	434	336	500	480	500	530	714	569
	(205, 1047)		(262, 579)		(224, 347)		(291, 370)		(424, 498)		(496, 561)		(512, +)	
A	62	222	15	266	192	197	385	286	192	413	540	485	605	545
	(128, 577)		(106, 358)		(154, 233)		(237, 344)		(383, 439)		(414, 526)		(430, 625)	
B	8	860	15	355	50	196	100	293	133	291	192	485	100	536
	(534, 1310)		(123, 776)		(116, 306)		(232, 403)		(261, 382)		(286, 444)		(429, +)	
AB	3	-	0	38	19	260	39	266	39	363	67	366	65	406
	(+, +)		(11, 653)		(112, 477)		(174, 554)		(267, 526)		(209, 513)		(255, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	125	386	213	339	510	228	956	308	1164	421	1349	488	1544	553
	(205, 577)		(209, 480)		(206, 259)		(281, 343)		(402, 441)		(450, 524)		(495, 622)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 48**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Lung Waiting List**

**By Age at Entry**

Age at Entry	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
< 1	0	NC	0	NC	3	450	0	-	7	-	18	322	0	42
	(NC, NC)		(NC, NC)		(16, 450)		(+, +)		(+, +)		(54, 548)		(80, +)	
1-5	0	-	3	-	0	394.5	7	831	7	85	22	220	13	+
	(-, -)		(+, +)		(19, 664)		(12, 251)		(28, 229)		(169, 381)		(+, +)	
6-10	0	-	0	832	0	448	21	293	13	197	22	197	13	341
	(-, -)		(115, 832)		(15, +)		(86, 1462)		(153, 422)		(187, 870)		(80, +)	
11-17	5	337	13	653	18	293	46	222	56	523	85	549	85	+
	(39, +)		(402, 1188)		(66, 1134)		(158, 291)		(412, 725)		(378, +)		(+, +)	
18-34	33	831	60	480	134	274	221	417	271	476	271	615	325	622
	(534, 2628)		(323, 1005)		(224, 404)		(340, 473)		(436, 545)		(513, 746)		(594, +)	
35-49	53	360	71	215	192	233	351	323	375	424	435	538	435	625
	(178, 631)		(123, 540)		(189, 265)		(262, 383)		(378, 492)		(494, 615)		(536, +)	
50-64	33	138	62	155	145	182	291	272	422	395	500	394	632	429
	(111, 396)		(71, 358)		(125, 216)		(217, 315)		(352, 420)		(366, 429)		(369, 489)	
65+	0	-	0	NC	3	38	10	266	13	376	13	368	23	478
	(-, -)		(NC, NC)		(31, 371)		(191, 445)		(214, 700)		(124, 679)		(110, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	+
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	125	386	213	339	510	228	956	308	1164	421	1349	488	1544	553
	(205, 577)		(209, 480)		(206, 259)		(281, 343)		(402, 441)		(450, 524)		(495, 622)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 48**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Lung Waiting List**

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
No	120	386	206	345	495	234	911	408	1100	419	1291	408	1476	549
	(205, 577)		(209, 483)		(211, 265)		(285, 343)		(399, 438)		(448, 519)		(495, 622)	
Yes	-	+	7	23.5	15	149	15	408	68	+	68	+	68	+
	(+, +)		(7, +)		(20, 172)		(98, +)		(+, +)		(+, +)		(+, +)	
Not Reported	0	-	0	+	0	+	0	+	0	+	0	+	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	125	386	213	339	510	228	956	308	1164	421	1349	488	1544	553
	(205, 577)		(209, 480)		(206, 259)		(281, 343)		(402, 441)		(450, 524)		(495, 622)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.



**Table 48**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Lung Waiting List**

**By Race**

Race	1993		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
White	98	281	175	323	455	230	864	319	1047	319	1187	474	1322	553
	(165, 534)		(183, 429)		(206, 262)		(288, 347)		(400, 439)		(440, 507)		(491, 622)	
Black	0	+	0	549	22	189	42	264	66	476	81	+	100	526
	(+, +)		(480, +)		(87, +)		(213, 403)		(275, 891)		(+, +)		(369, +)	
Hispanic	17	NC	0	+	18	276	25	160	25	898	40	497	100	495
	(NC, NC)		(+, +)		(96, 397)		(133, 207)		(341, +)		(281, 770)		(407, +)	
Asian	0	+	0	NC	3	24	0	323	0	+	24	746	0	+
	(-, -)		(NC, NC)		(16, 211)		(110, 676)		(+, +)		(480, +)		(+, +)	
Other	0	+	0	+	0	NC	17	352	18	422	17	538	10	+
	(-, -)		(-, -)		(NC, NC)		(190, 511)		(176, 1042)		(283, +)		(+, +)	
Not Reported	81	1047	23	+	18	306	0	+	0	+	0	+	0	+
	(1047, +)		(+, +)		(39, 306)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	125	386	213	339	510	228	956	308	1164	421	1349	488	1544	553
	(205, 577)		(209, 480)		(206, 259)		(281, 343)		(402, 441)		(450, 524)		(495, 622)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 48**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Lung Waiting List**

**By Gender**

Gender	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
Female	52	550	108	358	289	224	537	323	612	455	715	501	634	610
	(386, 870)		(183, 549)		(189, 264)		(286, 353)		(421, 499)		(450, 547)		(525, +)	
Male	73	165	108	339	221	230	419	292	552	395	634	477	108	495
	(128, 259)		(155, 501)		(196, 273)		(232, 346)		(360, 420)		(421, 517)		(431, 600)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	-
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	125	386	213	339	510	228	956	308	1164	421	1349	488	1544	553
	(205, 577)		(209, 480)		(206, 259)		(281, 343)		(402, 441)		(450, 524)		(495, 622)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 48**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Lung Waiting List**

**By Citizenship**

Citizenship	1990		1990		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
U.S.A	101	350	185	337	486	233	931	310	1143	424	1325	487	1458	538
	(178, 550)		(201, 480)		(211, 262)		(286, 345)		(405, 445)		(449, 519)		(488, 610)	
Foreign National	2	NC	3	94	4	156	15	156	10	173	15	+	13	+
	(NC, NC)		(38, 50)		(20, 156)		(69, 403)		(128, 424)		(+, +)		(+, +)	
Not Reported	22	1047	20	+	20	139	10	380	7	94	4	698	73	+
	(860, +)		(+, +)		(57, 306)		(198, +)		(19, 438)		(326, +)		(+, +)	
Overall	125	386	213	339	510	228	956	308	1164	421	1349	488	1544	553
	(205, 577)		(209, 480)		(206, 259)		(281, 343)		(402, 441)		(450, 524)		(495, 622)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 49**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart-Lung Waiting List**

**By Blood Type**

Blood Type	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
O	92	1294	114	627	89	682	89	699	89	834	77	834	89	+
	(532, 1836)		(444, +)		(501, 1519)		(481, 1295)		(549, 1161)		(520, +)		(+, +)	
B	92	532	73	665	64	412	89	650	64	529	56	650	64	328
	(294, 1013)		(307, 1187)		(197, 737)		(257, 1092)		(321, 726)		(224, 825)		(216, +)	
B	22	718	21	1412	13	485	11	642	9	801	11	411	11	+
	(155, 774)		(370, +)		(452, +)		(181, +)		(729, 1015)		(365, 433)		(+, +)	
AB	0	-	11	+	5	542	0	48	5	+	12	174	0	82
	(+, +)		(+, +)		(158, 902)		(28, +)		(+, +)		(83, +)		(70, 95)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	0
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	215	718	219	635	170	630	131	699	157	726	159	650	154	553
	(468, 1294)		(524, 1187)		(435, 829)		(481, 997)		(535, 924)		(433, 839)		(413, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 49**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart-Lung Waiting List**

**By Age at Entry**

Age at Entry	1990		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
< 1	4	+	4	+	2	NC	2	NC	3	+	5	319	4	+
	(+, +)		(+, +)		(NC, NC)		(NC, NC)		(+, +)		(16, +)		(+, +)	
1-5	4	438	5	686	7	142	3	+	13	226	5	153	11	106
	(3, +)		(71, 686)		(42, 670)		(+, +)		(21, 344)		(64, 275)		(15, +)	
6-10	5	120	5	524	5	+	5	181	2	NC	5	+	11	+
	(12, 324)		(90, +)		(+, +)		(75, +)		(NC, NC)		(+, +)		(+, +)	
11-17	12	1294	13	+	4	384	13	374	26	639	13	445	21	+
	(43, 1294)		(+, +)		(86, +)		(121, 696)		(529, +)		(174, +)		(+, +)	
18-34	100	617	93	434	66	501	57	742	50	814	66	+	47	553
	(532, 1013)		(326, 1187)		(338, 829)		(481, 1132)		(472, 1161)		(+, +)		(321, +)	
35-49	79	1359	13	738	73	737	40	699	50	801	57	676	79	535
	(381, +)		(561, +)		(412, +)		(391, +)		(619, 1122)		(411, 825)		(330, +)	
50-64	4	1096	15	619	11	902	11	+	11	+	13	650	4	536
	(4, 1836)		(200, +)		(92, 948)		(+, +)		(+, +)		(133, +)		(95, +)	
65+	5	+	4	+	1	-	1	+	1	+	4	+	4	+
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Not Reported	5	-	4	+	4	-	5	+	1	+	4	+	4	+
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	215	718	219	635	170	630	131	699	157	726	159	650	154	553
	(468, 1294)		(524, 1187)		(435, 829)		(481, 997)		(535, 924)		(433, 839)		(413, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 49**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart-Lung Waiting List**

**By Previous Transplant**

Previous Transplant	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
No	210	774	216	635	167	630	131	699	150	729	154	650	149	553
	(532, 1359)		(524, 1187)		(435, 829)		(481, 997)		(535, 924)		(433, 839)		(413, +)	
Yes	0	23	3	-	0	-	0	-	7	722	0	-	0	3
	(0, +)		(+, +)		(+, +)		(-, -)		(30, 722)		(+, +)		(+, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	3
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	215	718	219	635	170	630	131	699	157	726	159	650	154	553
	(468, 1294)		(524, 1187)		(435, 829)		(481, 997)		(535, 924)		(433, 839)		(413, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.

**Table 49**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart-Lung Waiting List**

**By Race**

Race	1988		1989		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
White	162	617	187	627	145	571	145	699	133	729	131	575	119	536
	(381, 1013)		(437, 1029)		(412, 737)		(460, 997)		(549, 924)		(412, 839)		(391, +)	
Black	11	1294	11	+	7	972	11	+	0	446	11	681	11	+
	(297, 1294)		(+, +)		(948, 996)		(+, +)		(72, +)		(174, +)		(+, +)	
Hispanic	0	92	0	388	0	599	1	NC	11	+	0	+	11	+
	(84, +)		(63, +)		(176, +)		(NC, NC)		(+, +)		(+, +)		(+, +)	
Asian	1	NC	0	-	1	NC	2	NC	1	NC	0	509.5	0	252
	(NC, NC)		(-, -)		(NC, NC)		(NC, NC)		(NC, NC)		(83, 654)		(82, 294)	
Other	0	697	2	NC	2	NC	2	NC	0	428	2	NC	1	NC
	(13, 697)		(NC, NC)		(NC, NC)		(NC, NC)		(321, 535)		(NC, NC)		(NC, NC)	
Not Reported	32	-	15	-	0	829	0	-	0	-	0	-	0	+
	(+, +)		(+, +)		(+, +)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	215	718	219	635	170	630	131	699	157	726	159	650	154	553
	(468, 1294)		(524, 1187)		(435, 829)		(481, 997)		(535, 924)		(433, 839)		(413, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

N denotes the number of new registrations during the year indicated.

+ denotes cannot be determined; too few transplants.

NC denotes not calculated due to small N.

**Table 49**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart-Lung Waiting List**

**By Gender**

Gender	1988		1993		1990		1991		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
Female	113	617	128	665	94	571	75	725	81	725	94	654	94	+
	(374, 1294)		(444, +)		(435, 916)		(630, 1092)		(529, 1029)		(403, 839)		(+, +)	
Male	102	774	91	635	76	630	56	492	76	751	60	592	60	553
	(438, 1836)		(437, 1412)		(363, 948)		(391, +)		(426, 924)		(410, +)		(413, +)	
Not Reported	0	-	0	-	0	-	0	-	0	-	0	-	0	+
	(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)		(-, -)	
Overall	215	718	219	635	170	630	131	699	157	726	159	650	154	553
	(468, 1294)		(524, 1187)		(435, 829)		(481, 997)		(535, 924)		(433, 839)		(413, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

*NC* denotes not calculated due to small *N*.



**Table 49**  
**Number of Registrations and Median Waiting Times (in days) to Transplant**  
**Registrations Added During 1988 to 1994**

**Heart-Lung Waiting List**

**By Citizenship**

Citizenship	1990		1989		1990		1990		1992		1993		1994	
	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
	Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)		Confid. Limits: (Lower, Upper)	
U.S.A	179	617	201	635	156	630	126	699	150	726	157	654	144	553
	(419, 1013)		(444, 1187)		(423, 814)		(492, 1032)		(549, 876)		(433, 839)		(413, +)	
Foreign National	3	+	2	NC	3	+	2	NC	3	61	2	NC	2	NC
	(+, +)		(NC, NC)		(+, +)		(NC, NC)		(30, +)		(NC, NC)		(NC, NC)	
Not Reported	33	+	16	+	10	829	3	+	3	+	0	-	0	+
	(+, +)		(+, +)		(+, +)		(+, +)		(+, +)		(-, -)		(+, +)	
Overall	215	718	219	635	170	630	131	699	157	726	159	650	154	553
	(468, 1294)		(524, 1187)		(435, 829)		(481, 997)		(535, 924)		(433, 839)		(413, +)	

Source: OPTN waiting list and removal files as of October 2, 1995.

Notes: The median and confidence limits calculations, performed at the 95% confidence level, were computed using the Kaplan-Meier method which adjusts for censored observations (see Notes).

*N* denotes the number of new registrations during the year indicated.

+

 denotes cannot be determined; too few transplants.

NC denotes not calculated due to small *N*.



## Notes on Deaths on the Waiting List

The following tables provide frequency counts and percentages of certain demographic factors (age, race, gender, and blood type), for patients reported to have died awaiting transplantation, by year in which the deaths were reported, from 1988 to 1994. The tables are presented as follows:

Table 50	Reported Deaths on the OPTN Waiting List, All Organs
Table 51	Reported Deaths on the Kidney Waiting List
Table 52	Reported Deaths on the Liver Waiting List
Table 53	Reported Deaths on the Pancreas Waiting List
Table 54	Reported Deaths on the Kidney-Pancreas Waiting List
Table 55	Reported Deaths on the Heart Waiting List
Table 56	Reported Deaths on the Lung Waiting List
Table 57	Reported Deaths on the Heart-Lung Waiting List

### NOTES ON DATA FOR DEATHS ON THE WAITING LIST

These data are based on the OPTN Waiting List Removal Files, as of October 2, 1995. These files contain data on all patients who have been removed from the OPTN Waiting List. The data contained in the OPTN database are not collected via paper forms, but are entered electronically by the UNOS members when they list their transplant candidates. UNOS members have direct responsibility for maintaining and monitoring all data from the time their patients are listed until they are removed from the list. Data are subject to change based on future data submission or correction.

The only way that UNOS knows of a death on the waiting list is if a patient is removed from the waiting list with the reason given (via the appropriate code) as "death". The year indicated is that in which the death was reported (i.e. the patient was removed from the waiting list), which in some

cases may be later than the year in which the death actually occurred. UNOS does not currently track date-of-death, only the date on which the death was reported. The data in Tables 50-57 are adjusted for multiple reporting of deaths of the same patient, due to multiple registrations of the same patient at more than one center awaiting the same organ, so that patients are not counted more than once for any organ.

For non-renal patients, race was not recorded on the Waiting List until October 1990. For patients entered before that time, this item was taken from the OPTN Transplant Candidate Registration (TCR) Form. "Not Reported" values for race are accounted for primarily by delinquent TCR forms or the inability to link (via patient identifiers) an OPTN record with the appropriate TCR form.

For all tables, **N Patients** represents the number of patients who were ever on the waiting list that year in that category. These patients were either new registrants during the year or existing registrants on the first day of the year. The **N Deaths** heading refers to the number of patients who died before a transplant could occur, in a specified category (e.g., male patient in 1988). The **% Deaths** heading refers to the percentage of patients who died among the patients ever on the waiting list for that particular category. For example, in 1994, there were 19,163 patients who were ever on the kidney waiting list that year and had blood type O. Of these, 697 patients (3.6%) in this group were removed due to death.

**Table 50**  
**Reported Deaths on the OPTN Waiting List -- 1988 to 1994**

**All Organs**

Organ	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Kidney	21499	746	3.5	23683	757	3.2	26337	932	3.5	28282	989	3.5
Liver	2329	196	8.4	3096	284	9.2	4014	318	7.9	4866	437	9.0
Pancreas	281	6	2.1	657	23	3.5	943	21	2.2	1027	38	3.7
Kidney - Pancreas	6	0	0.0	18	0	0.0	69	0	0.0	248	0	0.0
Heart	3300	494	15.0	3680	518	14.1	4691	614	13.3	5385	779	14.5
Lung	149	16	10.7	285	38	13.3	611	50	8.2	1219	139	11.4
Heart - Lung	327	61	18.7	378	77	20.4	355	61	19.2	307	45	14.7
Overall	27644	1509	5.5	31276	1677	5.4	36173	1982	5.5	40229	2382	5.9

Organ	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Kidney	31216	1065	3.7	34751	1297	3.7	38027	1372	3.6
Liver	5790	495	8.5	7038	562	8.0	8423	657	7.8
Pancreas	683	35	5.1	323	3	0.9	377	13	3.4
Kidney - Pancreas	947	15	1.6	1737	60	3.5	2025	71	3.5
Heart	5933	780	13.1	6279	764	12.2	6378	724	11.4
Lung	1735	219	12.6	2183	252	11.5	2634	286	10.9
Heart - Lung	293	44	15.0	332	51	15.4	350	48	13.7
Overall	45125	2602	5.8	50868	2918	5.7	56066	3072	5.5

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 51**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Kidney Waiting List**

Age at Death	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	5	0	0.0	26	0	0.0	23	3	13.0	2	1	50.0
1-5	115	3	3.5	127	3	3.2	119	3	2.5	114	4	3.5
6-10	153	3	2.0	147	1	0.7	144	3	2.1	144	2	1.4
11-17	507	3	1.6	493	0	1.6	480	0	1.3	469	13	2.8
18-34	5521	164	3.0	5968	161	2.7	6358	178	2.8	6469	174	2.7
35-49	8519	327	3.8	9246	307	3.3	10222	384	3.8	10962	390	3.6
50-64	5703	297	3.8	6459	239	3.7	7469	297	3.0	8295	331	4.0
65+	977	32	3.3	1216	36	3.0	1523	58	3.8	1832	74	3.0
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	21500	746	3.5	23682	757	3.2	26338	932	3.5	28283	989	3.5

Age at Death	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	0	-	-	3	0	0.0	1	0	0.0
1-5	117	2	1.7	127	-	2.4	107	7	6.5
6-10	142	3	2.4	157	-	1.9	157	1	0.6
11-17	514	12	2.3	546	-	0.9	566	5	0.9
18-34	6839	186	2.6	7308	186	2.6	7870	186	2.4
35-49	12042	417	3.5	13481	537	4.0	14827	490	3.3
50-64	9317	375	4.0	10608	446	4.2	11745	529	4.5
65+	2245	76	3.4	2523	115	4.6	2755	154	5.6
Not Reported	0	-	-	0	-	-	0	-	-
Overall	31216	1065	3.4	34753	1297	3.7	38028	1372	3.6

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 51**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Kidney Waiting List**

Race	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	12556	460	3.7	13760	458	3.3	15098	552	3.7	15767	618	3.9
Black	6016	213	3.5	6637	216	3.3	7421	274	3.7	8261	257	3.3
Hispanic	1929	46	2.4	2163	45	2.1	2504	72	2.9	2859	86	3.0
Asian	808	19	2.4	895	27	3.0	1076	25	2.4	1140	21	1.8
Other	191	8	4.2	227	11	4.8	239	9	3.8	256	7	2.7
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	21500	746	3.5	23682	757	3.2	26338	932	3.5	28283	989	3.5

Race	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	16979	671	3.0	18325	750	4.1	19288	790	4.1
Black	9369	284	3.0	10810	383	3.5	12009	398	3.3
Hispanic	3257	76	2.3	3783	111	2.9	4649	124	2.7
Asian	1333	27	2.0	1506	34	2.3	1685	39	2.3
Other	278	7	2.5	329	19	5.8	397	21	5.3
Not Reported	0	-	-	0	-	-	0	-	-
Overall	31216	1065	3.4	34753	1297	3.7	38028	1372	3.6

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 51**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Kidney Waiting List**

Gender	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	9014	310	3.4	9949	304	3.1	11025	377	3.4	11918	420	3.5
Male	12486	436	3.5	13733	453	3.3	15313	555	3.6	16365	569	3.5
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	21500	746	3.5	23682	757	3.2	26338	932	3.5	28283	989	3.5

Gender	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	13200	430	3.3	14632	579	4.0	15853	561	3.5
Male	18016	635	3.5	20121	718	3.6	22175	811	3.7
Not Reported	0	-	-	0	-	-	0	-	-
Overall	31216	1065	3.4	34753	1297	3.7	38028	1372	3.6

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 51**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**  
**Kidney Waiting List**

Blood Type	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
D	11233	407	3.6	12224	393	3.2	13435	477	3.6	14461	529	3.7
A	6405	195	3.0	7217	217	3.0	8131	280	3.4	8596	275	3.2
B	3198	121	3.8	3542	127	3.6	3981	146	3.7	4380	165	3.8
AB	664	23	3.5	699	20	2.9	791	29	3.7	846	20	2.4
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	21500	746	3.5	23682	757	3.2	26338	932	3.5	28283	989	3.5

Blood Type	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
D	15881	569	3.6	17541	671	3.8	19163	697	3.6
A	9509	305	3.2	10743	382	3.5	11750	418	3.6
B	4881	164	3.4	5451	213	3.9	5954	216	3.6
AB	945	27	2.9	1018	31	3.0	1161	41	3.5
Not Reported	0	-	-	0	-	-	0	-	-
Overall	31216	1065	3.4	34753	1297	3.7	38028	1372	3.6

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.



**Table 52**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Liver Waiting List**

Age at Death	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	122	19	15.6	145	6	5.2	125	17	13.6	156	16	10.7
1-5	304	24	9.5	327	24	6.4	340	24	7.1	344	22	6.4
6-10	125	3	4.8	129	2	1.6	145	8	5.5	156	5	3.2
11-17	107	19	9.3	121	11	9.1	165	14	8.5	169	14	6.5
18-34	365	35	9.6	453	54	11.9	534	52	9.7	561	62	11.1
35-49	715	54	9.1	1007	85	6.4	1312	87	6.6	1607	145	9.0
50-64	552	36	6.5	873	96	11.0	1236	109	8.8	1593	148	9.3
65+	38	3	7.9	71	6	12.7	157	7	3.5	286	24	9.0
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	2329	196	8.4	3096	284	9.2	4014	318	7.9	4866	437	9.0

Age at Death	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	163	27	16.6	144	22	15.3	192	24	12.5
1-5	400	27	6.8	482	11	8.5	535	50	9.3
6-10	179	9	5.0	213	11	5.2	187	5	2.7
11-17	203	6	3.0	226	11	5.2	258	17	6.6
18-34	620	64	10.3	666	52	7.8	813	65	8.0
35-49	1904	142	7.5	2371	181	7.8	3009	205	6.6
50-64	1952	196	10.0	2497	202	8.1	2916	246	8.4
65+	370	24	6.8	440	39	8.9	513	45	8.4
Not Reported	0	-	-	0	-	-	0	-	-
Overall	5791	495	8.5	7039	562	8.0	8423	657	7.8

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 52**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Liver Waiting List**

Race	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	1607	102	6.3	2236	169	7.6	2946	181	6.1	3792	319	8.4
Black	186	9	4.8	221	20	9.0	274	31	11.3	329	47	14.3
Hispanic	93	3	3.2	137	9	9.0	226	5	2.2	387	29	7.5
Asian	48	1	2.1	80	9	11.3	102	15	14.7	183	29	12.6
Other	67	3	4.5	97	7	7.2	128	7	5.5	183	47	11.9
Not Reported	328	79	23.8	325	79	24.3	338	79	23.4	32	2	6.3
Overall	2329	196	8.4	3096	284	9.2	4014	318	7.9	4866	437	9.0

Race	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	4408	370	8.4	5418	410	7.6	6321	479	7.6
Black	418	43	10.3	525	61	11.6	679	76	11.5
Hispanic	506	38	7.5	624	46	7.4	990	76	7.7
Asian	290	26	9.0	289	28	9.7	285	18	6.3
Other	147	17	11.6	167	16	9.6	145	6	4.1
Not Reported	22	1	4.5	16	1	6.3	3	0	0.0
Overall	5791	495	8.5	7039	562	8.0	8423	657	7.8

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 52**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Liver Waiting List**

Gender	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	1173	98	8.4	1508	135	9.0	1896	145	7.6	2308	224	9.7
Male	1156	98	8.5	1588	149	9.4	2118	173	8.2	2558	213	8.3
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	2329	196	8.4	3096	284	9.2	4014	318	7.9	4866	437	9.0

Gender	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	2698	245	9.1	3241	246	7.6	3785	311	8.2
Male	3093	250	8.1	3798	316	8.3	4638	346	7.5
Not Reported	0	-	-	0	-	-	0	-	-
Overall	5791	495	8.5	7039	562	8.0	8423	657	7.8

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 52**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**  
**Liver Waiting List**

Blood Type	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	1096	108	9.9	1443	141	9.6	1853	154	8.3	2255	216	9.6
A	866	54	6.2	1163	91	7.8	1533	104	6.8	1817	138	7.6
B	287	30	10.5	380	41	10.8	469	45	9.6	608	63	10.3
AB	80	4	5.0	110	11	10.0	159	45	9.6	186	20	10.8
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	2329	196	8.4	3096	284	9.2	4014	318	7.9	4866	437	9.0

Blood Type	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	2745	251	9.1	3328	278	8.4	4020	321	8.0
A	2141	165	7.7	2621	184	7.0	3074	226	7.4
B	705	70	9.9	852	80	9.9	1030	97	9.4
AB	200	9	4.5	238	20	8.4	299	13	4.3
Not Reported	0	-	-	0	-	-	0	-	-
Overall	5791	495	8.5	7039	562	8.0	8423	657	7.8

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 53**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Pancreas Waiting List**

Age at Death	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	3	-	-	3	-	-	3	-	-	1	0	0.0
1-5	3	0	0.0	7	0	0.0	13	0	0.0	12	-	8.3
6-10	3	-	-	1	0	0.0	1	0	0.0	3	-	-
11-17	3	0	0.0	2	0	0.0	3	0	0.0	3	0	0.0
18-34	161	-	1.9	313	12	3.8	313	-	1.2	422	12	2.8
35-49	108	-	2.8	317	9	2.8	481	16	3.3	541	24	4.4
50-64	8	0	0.0	17	2	11.8	30	0	0.0	50	-	2.0
65+	3	-	-	3	-	-	1	0	0.0	3	-	-
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	281	6	2.1	657	23	3.5	943	21	2.2	1027	38	3.7

Age at Death	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	0	-	-	0	-	-	0	-	-
1-5	5	0	0.0	5	0	0.0	9	1	11.1
6-10	0	-	-	1	0	0.0	2	0	0.0
11-17	2	1	50.0	7	0	0.0	8	0	0.0
18-34	273	14	5.1	112	1	0.9	130	6	4.6
35-49	364	18	4.9	171	2	1.2	201	6	3.0
50-64	39	2	5.1	26	0	0.0	26	0	0.0
65+	0	-	-	1	0	0.0	1	0	0.0
Not Reported	0	-	-	0	-	-	0	-	-
Overall	683	35	5.1	323	3	0.9	377	13	3.4

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 53**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**  
**Pancreas Waiting List**

Race	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	233	3	1.3	597	17	2.8	851	16	1.9	935	32	3.4
Black	20	1	5.0	30	2	6.7	53	1	1.9	57	5	8.8
Hispanic	1	0	0.0	6	0	0.0	16	0	0.0	26	1	3.8
Asian	1	0	0.0	1	0	0.0	3	0	0.0	1	0	0.0
Other	0	-	-	1	0	0.0	4	0	0.0	4	0	0.0
Not Reported	26	2	7.7	22	4	18.2	16	4	25.0	1	0	0.0
Overall	281	6	2.1	657	23	3.5	943	21	2.2	1027	38	3.7

Race	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	629	31	4.9	303	2	0.7	342	11	3.2
Black	38	3	7.9	16	1	7.1	19	2	10.5
Hispanic	11	1	9.1	1	0	0.0	13	0	0.0
Asian	2	0	0.0	2	0	0.0	2	0	0.0
Other	2	0	0.0	1	0	0.0	1	0	0.0
Not Reported	1	0	0.0	0	-	-	0	-	-
Overall	683	35	5.1	323	3	0.9	377	13	3.4

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 53**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Pancreas Waiting List**

Gender	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	121	3	2.5	296	9	3.0	394	8	2.0	466	14	3.0
Male	160	3	1.9	361	14	3.9	549	13	2.4	561	24	4.3
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	281	6	2.1	657	23	3.5	943	21	2.2	1027	38	3.7

Gender	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	316	17	5.4	168	2	1.2	189	8	4.2
Male	367	18	4.9	155	1	0.6	188	5	2.7
Not Reported	0	-	-	0	-	-	0	-	-
Overall	683	35	5.1	323	3	0.9	377	13	3.4

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 53**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Pancreas Waiting List**

Blood Type	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	136	2	1.5	314	0	2.5	447	15	3.4	457	18	3.9
A	109	0	4.7	253	12	4.7	348	3	0.0	407	15	3.9
B	27	0	0.0	71	2	2.8	120	2	4.7	130	0	3.4
AB	9	0	0.0	19	1	5.3	28	0	3.6	33	0	0.0
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	281	6	2.1	657	23	3.5	943	21	2.2	1027	38	3.7

Blood Type	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	302	19	6.3	136	1	0.7	158	2	1.3
A	275	19	3.6	121	1	0.0	153	8	5.2
B	80	6	7.5	48	1	2.1	52	3	5.8
AB	26	6	0.0	18	0	0.0	14	0	0.0
Not Reported	0	-	-	0	-	-	0	-	-
Overall	683	35	5.1	323	3	0.9	377	13	3.4

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.



**Table 54**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**  
**Kidney-Pancreas Waiting List**

Age at Death	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	0	-	-	0	-	-	0	-	-	0	-	-
1-5	0	-	-	0	-	-	0	-	-	2	0	0.0
6-10	0	-	-	0	-	-	1	0	0.0	2	0	0.0
11-17	0	-	-	0	-	-	1	0	0.0	1	0	0.0
18-34	1	0	0.0	4	0	0.0	20	0	0.0	71	0	0.0
35-49	5	0	0.0	14	0	0.0	14	0	0.0	158	0	0.0
50-64	0	-	-	0	-	-	3	0	0.0	14	0	0.0
65+	0	-	-	0	-	-	0	-	-	0	-	-
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	6	0	0.0	18	0	0.0	69	0	0.0	248	0	0.0

Age at Death	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	0	-	-	0	-	-	0	-	-
1-5	0	0	0.0	20	0	0.0	19	-	10.5
6-10	2	0	0.0	2	0	0.0	2	0	0.0
11-17	1	0	0.0	2	0	0.0	2	-	50.0
18-34	351	-	0.0	639	22	3.9	727	23	3.2
35-49	538	11	2.0	978	36	3.7	1156	40	3.5
50-64	51	-	3.9	96	2	2.1	118	-	3.2
65+	0	-	-	0	-	-	0	0	0.0
Not Reported	0	-	-	0	-	-	0	-	-
Overall	947	15	1.6	1737	60	3.5	2025	71	3.5

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 54**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Kidney-Pancreas Waiting List**

Race	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	5	0	0.0	14	0	0.0	56	0	0.0	211	0	0.0
Black	1	0	0.0	1	0	0.0	9	0	0.0	30	0	0.0
Hispanic	0	-	-	1	0	0.0	1	0	0.0	0	0	0.0
Asian	0	-	-	0	-	-	0	-	-	0	-	-
Other	0	-	-	0	-	-	0	-	-	0	-	-
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	6	0	0.0	18	0	0.0	69	0	0.0	248	0	0.0

Race	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	824	12	1.5	1532	54	3.5	1668	60	3.6
Black	85	3	3.5	143	5	3.5	184	9	4.9
Hispanic	31	0	0.0	49	1	2.0	155	2	1.3
Asian	4	0	0.0	9	0	0.0	13	9	0.0
Other	3	0	0.0	1	0	0.0	5	9	0.0
Not Reported	0	-	-	0	-	-	0	-	-
Overall	947	15	1.6	1737	60	3.5	2025	71	3.5

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 54**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**  
**Kidney-Pancreas Waiting List**

Gender	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	3	0	0.0	11	0	0.0	33	0	0.0	115	0	0.0
Male	3	0	0.0	7	0	0.0	36	0	0.0	133	0	0.0
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	6	0	0.0	18	0	0.0	69	0	0.0	248	0	0.0

Gender	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	425	8	1.9	727	32	4.4	885	30	3.4
Male	522	7	1.3	1010	28	2.8	1140	41	3.6
Not Reported	0	-	-	0	-	-	0	-	-
Overall	947	15	1.6	1737	60	3.5	2025	71	3.5

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 54**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Kidney-Pancreas Waiting List**

Blood Type	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	0	0	0.0	13	0	0.0	40	0	0.0	136	0	0.0
A	2	0	0.0	0	0	0.0	10	0	0.0	76	0	0.0
B	0	-	-	1	0	0.0	10	0	0.0	34	0	0.0
AB	0	-	-	0	-	-	0	-	-	2	0	0.0
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	6	0	0.0	18	0	0.0	69	0	0.0	248	0	0.0

Blood Type	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	462	10	2.2	854	29	3.4	995	38	3.8
A	325	3	0.9	612	29	4.7	714	24	3.3
B	128	1	0.9	212	7	3.1	255	7	2.7
AB	32	1	3.1	59	1	1.7	61	2	3.3
Not Reported	0	-	-	0	-	-	0	-	-
Overall	947	15	1.6	1737	60	3.5	2025	71	3.5

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 55**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Heart Waiting List**

Age at Death	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	72	15	20.8	83	15	18.1	139	39	28.1	225	62	27.6
1-5	51	10	18.6	91	21	23.1	113	22	19.5	122	26	21.3
6-10	26	4	15.4	31	4	12.9	32	4	3.1	45	6	13.3
11-17	70	13	18.6	71	13	18.3	83	16	17.2	103	16	15.5
18-34	336	59	17.6	344	45	13.1	401	53	13.2	422	62	14.7
35-49	1023	139	13.6	1134	164	14.5	1352	160	11.8	1450	192	13.2
50-64	1658	244	14.7	1823	241	13.2	2388	304	12.7	2789	391	14.0
65+	64	10	15.6	103	15	14.6	173	10	14.0	229	24	10.5
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	3300	494	15.0	3680	518	14.1	4691	614	13.1	5385	779	14.5

Age at Death	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	196	60	30.6	195	46	23.6	184	56	30.4
1-5	131	18	13.7	195	29	19.7	156	20	12.8
6-10	52	11	21.2	61	12	19.7	68	6	8.8
11-17	118	26	22.0	152	23	15.1	152	19	12.5
18-34	455	58	12.7	498	64	12.9	493	60	12.2
35-49	1533	185	12.1	1625	179	11.0	1632	172	10.5
50-64	3159	387	12.3	3271	384	11.7	3391	356	10.5
65+	289	35	12.1	322	27	8.4	302	35	11.6
Not Reported	0	-	-	0	-	-	0	-	-
Overall	5933	780	13.1	6279	764	12.2	6378	724	11.4

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 55**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Heart Waiting List**

Race	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	2565	300	11.7	2924	363	12.4	3759	410	10.9	4531	648	14.3
Black	276	34	12.4	315	36	11.4	439	54	12.3	554	84	15.2
Hispanic	59	1	1.7	79	1	1.3	120	1	3.3	160	24	15.0
Asian	4	0	0.0	11	2	18.2	18	1	5.6	52	7	13.5
Other	36	2	5.6	55	3	5.5	66	8	12.1	64	10	15.6
Not Reported	360	157	43.6	296	113	38.2	289	137	47.4	24	6	25.0
Overall	3300	494	15.0	3680	518	14.1	4691	614	13.1	5385	779	14.5

Race	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	4898	638	13.0	5141	624	12.1	5101	580	11.4
Black	673	97	14.3	740	95	12.8	797	100	12.5
Hispanic	214	22	10.3	240	22	9.2	330	26	7.9
Asian	63	9	14.3	62	9	8.1	72	6	8.3
Other	75	12	16.0	87	16	18.4	74	11	14.9
Not Reported	10	2	20.0	9	2	22.2	4	1	25.0
Overall	5933	780	13.1	6279	764	12.2	6378	724	11.4

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 55**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Heart Waiting List**

Gender	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	597	76	12.7	663	96	14.5	844	100	11.8	1017	148	14.6
Male	2703	418	15.5	3017	422	14.0	3847	514	13.4	4368	631	14.4
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	3300	494	15.0	3680	518	14.1	4691	614	13.1	5385	779	14.5

Gender	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	1156	148	12.8	1244	139	11.2	1355	146	10.8
Male	4777	632	13.2	5035	625	12.4	5023	578	11.5
Not Reported	0	-	-	0	-	-	0	-	-
Overall	5933	780	13.1	6279	764	12.2	6378	724	11.4

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 55**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**  
**Heart Waiting List**

Blood Type	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	1453	246	16.9	1620	246	15.2	2057	296	14.4	2485	389	15.7
A	1318	174	13.2	1463	191	13.1	1864	220	11.8	2084	263	12.6
B	409	57	13.9	443	59	14.3	586	82	14.4	614	98	16.9
AB	120	17	13.2	154	22	14.3	184	16	8.7	202	29	14.4
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	3300	494	15.0	3680	518	14.1	4691	614	13.1	5385	779	14.5

Blood Type	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	2747	395	14.4	2956	403	13.6	3009	373	12.4
A	2342	288	12.3	2399	268	11.2	2415	250	10.4
B	635	71	11.2	718	78	10.9	752	78	10.4
AB	209	26	12.3	206	15	7.3	202	23	11.4
Not Reported	0	-	-	0	-	-	0	-	-
Overall	5933	780	13.1	6279	764	12.2	6378	724	11.4

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.



**Table 56**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Lung Waiting List**

Age at Death	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	0	0	0.0	2	0	0.0	2	0	0.0	7	2	28.6
1-5	0	-	-	0	0	0.0	11	-	9.1	15	2	13.3
6-10	0	-	-	0	-	25.0	0	2	33.3	20	6	30.0
11-17	5	2	40.0	11	5	45.5	22	5	22.7	54	3	5.6
18-34	38	4	10.5	71	11	14.1	165	11	6.5	286	47	16.4
35-49	66	4	6.1	113	16	14.2	229	16	7.0	438	47	8.4
50-64	38	6	15.4	71	5	7.0	170	11	6.5	383	40	16.4
65+	0	-	-	0	6	0.0	0	-	16.7	16	2	12.5
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	149	16	10.7	285	38	13.3	611	50	8.2	1219	139	11.4

Age at Death	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	9	5	55.6	41	3	27.3	6	6	0.0
1-5	12	1	8.3	24	7	29.2	21	5	23.8
6-10	16	2	12.5	24	1	4.8	22	3	13.6
11-17	77	3	11.7	99	16	10.2	129	17	13.2
18-34	385	74	19.2	451	65	10.4	536	79	14.7
35-49	574	67	11.7	685	71	10.4	802	79	8.7
50-64	633	58	9.2	451	67	10.2	1067	106	9.9
65+	29	3	10.4	41	2	4.8	51	6	11.8
Not Reported	0	-	-	0	-	-	0	-	-
Overall	1735	219	12.6	2183	252	11.5	2634	286	10.9

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 56**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**  
**Lung Waiting List**

Race	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	118	9	7.6	231	27	11.7	537	37	6.9	1095	126	11.5
Black	4	0	0.0	19	-	10.0	29	-	17.2	55	5	9.1
Hispanic	2	0	0.0	7	0	0.0	19	-	5.3	35	3	8.6
Asian	4	-	-	1	0	0.0	9	-	25.0	9	-	11.1
Other	4	0	0.0	1	0	0.0	2	0	0.0	19	-	15.8
Not Reported	24	7	29.2	35	10	28.6	20	6	30.0	6	1	16.7
Overall	149	16	10.7	285	38	13.3	611	50	8.2	1219	139	11.4

Race	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	1558	184	11.8	1956	214	10.9	2289	251	11.0
Black	100	26	26.0	114	21	18.4	163	15	9.2
Hispanic	38	7	18.4	55	8	14.5	129	13	10.1
Asian	9	0	0.0	28	3	10.9	26	2	7.7
Other	28	2	7.1	29	6	20.7	26	5	19.2
Not Reported	2	0	0.0	1	0	0.0	1	0	0.0
Overall	1735	219	12.6	2183	252	11.5	2634	286	10.9

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 56**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Lung Waiting List**

Gender	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	65	6	9.2	147	17	11.6	345	32	9.3	679	68	10.0
Male	84	10	11.9	138	21	15.2	266	18	6.8	540	71	13.1
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	149	16	10.7	285	38	13.3	611	50	8.2	1219	139	11.4

Gender	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	949	120	12.6	1189	120	10.1	1454	149	10.2
Male	786	99	12.6	994	132	13.3	1180	137	11.6
Not Reported	0	-	-	0	-	-	0	-	-
Overall	1735	219	12.6	2183	252	11.5	2634	286	10.9

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 56**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Lung Waiting List**

Blood Type	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	64	5	7.8	135	21	15.6	296	23	7.8	577	71	12.3
A	72	9	12.5	122	15	12.3	235	20	8.5	474	54	11.4
Ø	9	1	11.1	20	2	10.0	59	4	6.8	122	12	9.8
AB	3	4	25.0	8	4	0.0	21	3	14.3	46	2	4.3
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	149	16	10.7	285	38	13.3	611	50	8.2	1219	139	11.4

Blood Type	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	773	93	12.0	990	116	11.7	1241	140	11.3
A	701	84	12.0	871	97	11.1	1030	112	10.9
Ø	196	29	14.8	228	27	14.8	254	26	10.2
AB	65	13	20.0	94	12	12.0	109	8	7.3
Not Reported	0	-	-	0	-	-	0	-	-
Overall	1735	219	12.6	2183	252	11.5	2634	286	10.9

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 57**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Heart-Lung Waiting List**

Age at Death	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	1	2	66.7	1	2	50.0	1	0	0.0	1	0	0.0
1-5	5	3	60.0	6	1	16.7	10	2	20.0	6	1	16.7
6-10	7	0	0.0	10	1	10.0	7	3	42.9	3	3	37.5
11-17	15	2	13.3	21	0	38.1	12	2	16.7	18	0	0.0
18-34	144	32	22.2	153	34	22.2	137	25	18.2	125	18	14.4
35-49	132	22	16.7	153	34	19.6	153	29	19.6	117	18	15.4
50-64	21	0	0.0	29	-	3.4	34	7	20.6	32	5	15.6
65+	0	-	-	0	0	0.0	1	0	0.0	0	-	-
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	327	61	18.7	377	77	20.4	355	68	19.2	307	45	14.7

Age at Death	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
< 1	3	3	100.0	1	-	33.3	3	-	25.0
1-5	15	6	33.3	16	-	6.3	15	2	11.1
6-10	3	0	0.0	9	-	12.5	13	3	23.1
11-17	26	-	14.5	27	6	22.2	34	3	8.8
18-34	112	12	12.5	124	18	14.5	119	19	16.0
35-49	101	15	14.9	115	17	14.8	127	18	14.2
50-64	34	4	12.1	39	-	17.9	15	2	5.7
65+	3	-	-	6	-	-	0	2	-
Not Reported	0	-	-	0	-	-	0	-	-
Overall	293	44	15.0	332	51	15.4	350	48	13.7

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 57**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Heart-Lung Waiting List**

Race	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	229	26	11.4	297	50	16.8	297	53	17.8	265	40	15.1
Black	16	2	13.3	19	6	31.6	16	-	16.8	21	-	23.8
Hispanic	3	0	0.0	6	0	0.0	6	0	0.0	3	0	0.0
Asian	1	-	100.0	6	-	-	3	0	0.0	3	0	0.0
Other	3	0	0.0	4	1	25.0	5	0	0.0	5	0	0.0
Not Reported	76	32	42.1	51	20	39.2	27	12	44.4	5	0	0.0
Overall	327	61	18.7	377	77	20.4	355	68	19.2	307	45	14.7

Race	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
White	248	32	12.9	281	45	16.0	284	35	12.3
Black	19	7	36.8	22	5	22.7	23	7	30.4
Hispanic	16	4	25.0	15	4	0.0	23	5	17.9
Asian	9	4	25.0	6	4	0.0	9	0	0.0
Other	5	0	0.0	7	1	14.3	6	1	16.7
Not Reported	1	0	0.0	1	0	0.0	0	-	-
Overall	293	44	15.0	332	51	15.4	350	48	13.7

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 57**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Heart-Lung Waiting List**

Gender	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	180	35	19.4	212	49	23.1	195	45	23.1	162	21	13.0
Male	147	26	17.7	165	28	17.0	160	23	14.4	145	24	16.6
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	327	61	18.7	377	77	20.4	355	68	19.2	307	45	14.7

Gender	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
Female	155	18	11.6	192	20	10.4	211	27	12.8
Male	138	26	18.8	140	31	22.1	139	21	15.1
Not Reported	0	-	-	0	-	-	0	-	-
Overall	293	44	15.0	332	51	15.4	350	48	13.7

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.

**Table 57**  
**Reported Deaths by Age, Race, Gender, and Blood Type -- 1988 to 1994**

**Heart-Lung Waiting List**

Blood Type	1988			1989			1990			1991		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	146	31	21.2	183	38	20.8	186	35	18.8	186	27	16.3
A	139	23	15.1	147	29	19.7	129	23	17.8	133	10	9.7
⊖	28	5	17.9	33	7	21.2	28	9	32.1	22	4	18.2
AB	14	4	28.6	14	3	21.4	12	3	8.3	16	4	25.0
Not Reported	0	-	-	0	-	-	0	-	-	0	-	-
Overall	327	61	18.7	377	77	20.4	355	68	19.2	307	45	14.7

Blood Type	1992			1993			1994		
	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths	N Patients	N Deaths	% Deaths
O	154	20	13.0	173	28	16.2	183	21	11.5
A	109	16	14.7	118	19	16.1	124	18	14.5
⊖	13	6	31.6	23	2	8.7	30	8	26.7
AB	11	2	16.2	18	2	11.1	13	1	7.7
Not Reported	0	-	-	0	-	-	0	-	-
Overall	293	44	15.0	332	51	15.4	350	48	13.7

Source: UNOS OPTN waiting list and removal files as of October 2, 1995.

Note: These data are adjusted for multiple reporting of deaths due to multiple registrations. The year indicated is that in which the death was reported, which may not necessarily be the year in which the death occurred.



## Notes on Cadaveric Organ Disposition

### INTRODUCTION

The following tables show frequency counts and percentages of organ disposition categories (i.e., local transplant, shared transplant, local discard, shared discard, research, and foreign exported) for all cadaveric organs retrieved by U.S. Organ Procurement Organizations from 1988 through 1994, by type of organ.

The tables are presented as follows:

Table 58	Number of Organs Recovered from Cadaveric Donors
Table 59	Disposition of Kidneys
Table 60	Disposition of Livers
Table 61	Disposition of Pancreases
Table 62	Disposition of Hearts
Table 63	Disposition of Lungs

### NOTES ON CADAVERIC ORGAN DISPOSITION DATA

These data are based solely on OPTN data as of October 1, 1995. Organs imported from foreign donors and transplanted in the U.S. but not managed by U.S. OPOs are not included in these tables. Additionally, hearts recovered for heart valves and pancreases recovered for islet cells are not included. The year of reporting is based on the start of organ preservation, as recorded on the Cadaveric Donor Form. Data are subject to change based on future data submission or correction.

A locally transplanted organ is one that is transplanted within the immediate service area of the OPO which recovered the organ. A shared transplant involves an organ shipped to a transplant hospital outside the immediate service area of the OPO. Any organ that is neither transplanted nor used in research is referred to as a discarded organ.

**Table 58**  
**Number of Organs Recovered from Cadaveric Donors**

Organ	1988	1989	1990	1991	1992	1993	1994
Kidney	7711	7575	8553	8481	8503	9165	9538
Liver	1842	2390	2880	3173	3337	3772	4111
Pancreas	578	799	951	1066	1004	1245	1359
Heart	1785	1782	2168	2198	2247	2442	2527
Lung	243	334	461	684	933	1462	1694
Total	12,159	12,880	15,013	15,602	16,024	18,086	19,229

Source: UNOS OPTN data as of October 1, 1995.

**Table 59**  
Disposition of Organs Recovered from Cadaveric Donors

**Kidney Donors**

Organ Disposition	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Local Transplant	5622	72.9	5508	72.7	5798	67.8	5494	64.8	5656	66.5	6188	67.5	6295	66.0
Shared Transplant	1666	21.6	1636	21.6	2079	24.3	2335	27.5	2120	24.9	2105	23.0	2221	23.3
Local Discard	226	2.9	235	4.1	352	4.1	353	4.2	423	5.0	444	4.8	545	5.7
Shared Discard	41	0.5	53	0.7	74	0.8	99	1.2	104	1.2	122	1.3	104	1.1
Research	120	1.6	118	1.6	230	2.7	199	2.3	199	2.3	303	3.3	362	3.8
Export	36	0.5	25	0.3	24	0.3	1	0.0	1	0.0	3	0.0	11	0.1
Total	7711	100.0	7575	100.0	8553	100.0	8481	100.0	8503	100.0	9165	100.0	9538	100.0

**Table 60**

**Liver Donors**

Organ Disposition	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Local Transplant	468	25.4	753	31.5	1082	37.6	1424	44.9	1679	50.3	1941	51.5	2198	53.5
Shared Transplant	1223	66.4	1416	59.2	1575	54.7	1478	46.6	1335	40.0	1447	38.4	1392	33.9
Local Discard	34	1.8	67	2.8	74	2.6	107	3.4	128	3.4	141	3.7	198	4.8
Shared Discard	63	2.2	74	3.1	74	2.6	74	2.4	68	2.0	52	1.4	72	1.8
Research	66	3.6	80	3.3	73	2.5	84	2.6	125	3.7	190	5.0	250	6.1
Export	11	0.6	0	0.0	2	0.1	3	0.1	2	0.1	1	0.0	1	0.0
Total	1842	100.0	2390	100.0	2880	100.0	3173	100.0	3337	100.0	3772	100.0	4111	100.0

Source: UNOS OPTN data as of October 1, 1995.

**Table 61**  
**Disposition of Organs Recovered from Cadaveric Donors**

**Pancreas Donors**

Organ Disposition	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Local Transplant	187	42.8	318	39.8	399	42.8	388	36.4	430	42.8	611	49.1	676	49.7
Shared Transplant	58	10.0	95	11.9	125	13.1	143	13.4	123	12.3	162	13.0	164	12.1
Local Discard	15	2.6	21	2.6	24	2.5	29	2.7	41	4.1	41	4.9	56	4.1
Shared Discard	1	0.7	16	1.3	11	1.2	1	0.9	9	0.9	16	1.3	13	1.0
Research	314	54.3	355	44.4	392	41.2	498	46.7	401	39.9	395	31.7	450	33.1
Export	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	578	100.0	799	100.0	951	100.0	1066	100.0	1004	100.0	1245	100.0	1359	100.0

**Table 62**

**Heart Donors**

Organ Disposition	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Local Transplant	1004	56.2	1141	64.0	1416	65.3	1449	65.9	1563	69.6	1689	69.2	1713	67.8
Shared Transplant	732	41.0	616	34.6	719	33.2	717	32.6	640	28.5	660	27.0	640	27.2
Local Discard	4	0.3	4	0.2	7	0.3	15	0.7	15	0.7	27	4.1	18	0.7
Shared Discard	3	0.2	1	0.1	3	0.1	2	0.1	2	0.1	5	0.2	5	0.2
Research	29	1.6	16	0.9	20	0.9	15	0.7	27	1.2	60	2.5	102	4.0
Export	9	0.5	4	0.2	3	0.1	0	0.0	0	0.0	1	0.0	1	0.0
Total	1785	100.0	1782	100.0	2168	100.0	2198	100.0	2247	100.0	2442	100.0	2527	100.0

Source: UNOS OPTN data as of October 1, 1995.

**Table 63**  
**Disposition of Organs Recovered from Cadaveric Donors**

**Lung Donors**

Organ Disposition	1988		1989		1990		1991		1992		1993		1994	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Local Transplant	120	49.4	162	48.5	180	39.0	308	45.0	423	45.3	573	39.2	722	42.6
Shared Transplant	81	33.3	86	25.7	181	39.3	301	44.0	377	40.4	422	28.9	401	23.7
Local Discard	10	4.1	14	4.2	17	3.7	25	3.7	20	2.1	35	2.4	36	2.1
Shared Discard	1	0.4	4	2.1	8	1.7	4	0.6	13	0.4	13	0.4	14	0.8
Research	29	11.9	61	18.3	73	15.8	45	6.6	100	10.7	419	28.7	521	30.8
Export	2	0.8	4	1.2	2	0.4	1	0.1	0	0.0	0	0.0	0	0.0
Total	243	100.0	334	100.0	461	100.0	684	100.0	933	100.0	1462	100.0	1694	100.0

Source: UNOS OPTN data as of October 1, 1995.



## Notes on Cadaveric Donors Procured by U.S. Organ Procurement Organizations

### INTRODUCTION

Table 64 provides information on the number of cadaveric donors retrieved by year for each Organ Procurement Organization (OPO) from 1988 through 1994.

### NOTES ON OPO DONOR ACTIVITY

The data shown in this table are taken from the Cadaver Donor Registration form and based on data in the UNOS data system as of October 1, 1995. Data are subject to change based on future data submission or correction.

UNOS defines a (recovered) cadaveric donor as one from whom at least one vascularized solid organ (kidney, liver, pancreas, heart, or lung) was recovered for the purposes of organ transplantation. Cadavers from whom only heart valves and/or pancreas islet cells are recovered are not included.

The organ procurement organizations included in this analysis reflect current OPOs only, and donors from previously operational OPOs have been incorporated into the appropriate currently-operating OPO. Thus, comparisons across years may be difficult, as donors from one or more previously operational organizations have been incorporated into the OPO currently serving their area.

For the years 1988-1994, donor confirmation forms were mailed to each OPO for the purpose of confirming total numbers of donors and organs recovered. In some instances, there were discrepancies between UNOS data and the OPO's records. In such cases, UNOS attempted to resolve discrepancies and make corrections to the OPTN data where appropriate.

A complete list of all UNOS member OPOs may be found in Appendix D.

**Table 64**  
**Cadaveric Donors Procured by U.S. Procurement Organizations**  
**1988 to 1994**

State	Organ Procurement Organization	1988	1989	1990	1991	1992	1993	1994
Alabama	Alabama Organ Center, Birmingham	82	80	96	99	76	97	103
Arizona	Donor Network of Arizona, Phoenix	71	66	53	57	56	57	66
Arkansas	Arkansas Reg Organ Rec Agency, Little Rock	25	27	34	33	34	49	36
California	California Transp. Donor Network, San Francisco	200	215	227	186	100	175	179
	Golden State Transplant Serv., Sacramento	49	35	41	37	39	39	40
	R OPA of Southern California, Los Angeles	151	100	137	150	125	145	139
	Southern Calif. OPO, Los Angeles	70	86	101	97	96	97	113
	UCSD-Organ & Tissue Acq. Ctr., San Diego	35	37	60	70	70	63	72
Colorado	Colorado Organ Recovery System, Denver	89	87	70	53	60	95	70
Connecticut	Northeast OPO & Tissue Bank, Hartford	40	32	25	23	15	29	30
District of Columbia	Washington Reg Transplant Cnst, Falls Church	58	81	57	58	75	73	84
Florida	Florida Hospital - Translife, Orlando	30	41	62	61	65	64	78
	Lifeling of Florida, Tampa	65	59	74	82	83	92	77
	Lifelink of Southwest Florida, Fort Myers	16	17	25	24	39	16	20
	Shands Hospital - U of FL. OPO, Gainesville	52	52	67	56	53	66	59
	University of Miami OPO, Miami	100	97	100	89	84	96	117
Georgia	Lifelink of Georgia, Atlanta	87	73	92	71	67	93	95
	Medical College of Georgia Hospital, Augusta	39	25	28	26	38	28	25
Hawaii	Organ Donor Center of Hawaii, Honolulu	7	12	12	13	25	13	13
Illinois	Regional Organ Bank - Illinois, Chicago	173	144	163	179	179	179	214
Indiana	Indiana Organ Procurement Org, Indianapolis	70	66	88	77	82	83	97
Iowa	Iowa Statewide OPO, Des Moines	49	41	39	41	39	43	60
Kentucky	Kentucky Organ Donor Affil., Lexington	43	51	55	78	66	88	86
Louisiana	Louisiana Organ Proc. Agency, Metairie	56	49	70	89	100	89	101
Maryland	Transplant Resources of MD, Baltimore	47	40	52	62	65	66	59
Massachusetts	New England Organ Bank, Newton	163	171	189	174	162	179	179
Michigan	Transplantation Society of Michigan, Ann Arbor	135	141	138	175	100	162	187
Minnesota	Lifeforce/Upper Midwest OPO, Minneapolis	104	104	111	121	135	128	146
Mississippi	Univ. of Mississippi OPO, Jackson	24	18	23	21	13	26	27
Missouri	Mid-America Transplant Services, St. Louis	70	40	60	86	87	96	112
	Midwest Organ Bank, Westwood	67	81	101	101	83	91	93
Nebraska	Nebraska Organ Retrieval System, Omaha	33	34	25	45	34	29	34
Nevada	Nevada Donor Organ Ref. Service, Las Vegas	23	17	18	27	15	32	22
New Jersey	New Jersey Organ & Tissue Sharing, Springfield	54	62	68	73	92	103	105



**Table 64**  
**Cadaveric Donors Procured by U.S. Procurement Organizations**  
**1988 to 1994**

State	Organ Procurement Organization	1988	1989	1990	1991	1992	1993	1994
New Mexico	New Mexico Donor Program, Albuquerque	37	32	35	46	34	35	40
New York	New York Regional Transp. Prog., New York	106	140	147	158	148	177	188
	OPA of Albany Med. College, Albany	30	32	30	33	32	35	30
	SUNY at Stony Brook OPO, Stony Brook	31	16	26	14	21	17	20
	Univ. of Rochester Organ Proc. Prog., Rochester	31	30	49	46	44	48	47
	Upstate New York Transp. Serv., Buffalo	26	24	17	23	22	19	16
North Carolina	Carolina Organ Proc. Agency, Greenville	37	30	50	54	55	47	64
	Lifeshare of the Carolinas, Charlotte	28	22	27	19	33	28	46
	North Carolina Baptist OPO, Winston-Salem	13	14	24	27	20	34	30
Ohio	Life Connection of Ohio, Maumee	44	46	43	46	37	46	46
	Lifebank of Ohio, Cleveland	73	56	74	62	92	81	80
	Lifeline of Ohio Organ Proc., Columbus	51	59	72	72	61	66	72
	Ohio Valley Lifecenter, Cincinnati	30	24	35	30	48	40	35
Oklahoma	Oklahoma Organ Saring Network, Oklahoma City	54	45	53	41	53	61	70
Oregon	Oregon Health Sciences Univ. Ho., Portland	66	62	70	66	67	72	70
Pennsylvania	Center for Organ Recovery, Pittsburgh	93	103	90	90	139	142	130
	Delaware Valley Transp. Prog., Philadelphia	189	140	182	201	210	205	208
Puerto Rico	Lifelink of Puerto Rico, Guaynabo	7	7	4	3	2	8	5
South Carolina	South Carolina OPA, Charleston	45	32	44	47	51	53	53
Tennessee	Life Resources Reg. Donor Cntr., Johnson City	11	11	11	18	15	16	14
	Mid-South Transplant Fndn., Memphis	15	24	39	28	28	34	31
	Tennessee Donor Services, Nashville	50	61	70	62	63	70	63
Texas	Lifegift Organ Donation Center, Houston	98	90	111	118	131	120	161
	South Texas Organ Bank, San Antonio	68	64	61	66	66	66	59
	Southwest Organ Bank, Dallas	138	156	142	146	131	166	172
Utah	Intermountain Organ Recovery, Salt Lake City	46	37	53	57	56	54	43
Virginia	Lifenet, Virginia Beach	36	47	67	59	57	57	64
	Virginias' Organ Proc. Agency, Midlothian	30	23	35	30	19	28	33
Washington	Northwest Kidney Center, Seattle	50	66	90	77	73	80	80
	Sacred Heart Medical Center, Spokane	13	9	26	23	17	15	21
Wisconsin	Froedtert Mem. Hospital - OPO, Milwaukee	43	42	55	51	39	44	53
	Univ. of Wisconsin OPO, Madison	74	73	65	75	53	100	82
<b>Total</b>		<b>4083</b>	<b>4017</b>	<b>4512</b>	<b>4528</b>	<b>4521</b>	<b>4862</b>	<b>5104</b>



## Notes on Transplant Center Activity

### INTRODUCTION

The following tables provide information on the number of transplants performed, according to state and transplant center, from 1988 through 1994.

Table 65	Kidney Transplants
Table 66	Liver Transplants
Table 67	Pancreas Transplants
Table 68	Heart Transplants
Table 69	Lung Transplants
Table 70	Heart-Lung Transplants

### NOTES ON TRANSPLANT CENTER ACTIVITY

Transplant center activity is defined as the number of solid-organ transplants performed by each transplant center, by type of organ (kidney, liver, pancreas, heart, lung, and heart-lung) and year. Total transplants in each state also are computed.

The data shown in these tables are obtained from the Transplant Recipient Registration forms for each organ and are based on UNOS Scientific Registry data as of October 7, 1995. Data are subject to change due to future form submission (i.e., outstanding forms) or correction (due to ongoing data validation).

**Table 65**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Kidney Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Alabama	University of Alabama Hosp - Birmingham	218	245	269	251	247	322	280
	<b>Total</b>	<b>218</b>	<b>245</b>	<b>269</b>	<b>251</b>	<b>247</b>	<b>322</b>	<b>280</b>
Arizona	Good Samaritan Med Ctr - Phoenix	102	100	83	70	73	77	87
	Healthwest Regional Med Ctr - Phoenix	0	0	0	5	7	11	26
	St Joseph's Hosp Med Ctr - Phoenix	17	17	23	22	11	39	13
	University Medical Ctr Corp - Tucson	2	0	1	2	7	24	32
	VA Medical Center - Tucson	21	30	14	14	11	7	1
	<b>Total</b>	<b>142</b>	<b>147</b>	<b>121</b>	<b>113</b>	<b>109</b>	<b>149</b>	<b>153</b>
Arkansas	Arkansas Childrens Hosp - Little Rock	11	0	0	5	0	7	0
	Baptist Medical Center - Little Rock	0	22	24	10	32	23	36
	Univ Hosp & Ambulatory Care Ct - Little Rock	25	30	30	51	56	73	57
	<b>Total</b>	<b>36</b>	<b>61</b>	<b>63</b>	<b>75</b>	<b>94</b>	<b>101</b>	<b>99</b>
California	Alta Bates Medical Center - Berkeley	39	43	45	43	32	39	37
	California Pacific Med Ctr - San Francisco	159	153	193	170	100	156	124
	Cedars-Sinai Medical Center - Los Angeles	46	37	13	48	39	51	51
	Childrens Hosp - Los Angeles	23	15	22	10	28	0	13
	Donald N. Sharp Mem Comm Hosp - San Diego	0	0	20	39	54	64	71
	L.A. County Harbor-UCLA Med Ctr - Torrance	43	39	42	32	23	17	21
	Loma Linda University Med Ctr - Loma Linda	41	47	44	39	42	71	55
	San Bernardino Co Medical Ctr - San Bernardino	31	11	0	12	14	10	17
	Santa Rosa Memorial Hospital - Santa Rosa	14	10	20	28	28	25	11
	St Bernardine Medical Center - San Bernardino	10	23	34	43	32	39	27
	St Joseph Hosp - Orange	37	39	21	27	22	31	25
	St Mary Medical Center - Long Beach	14	28	15	13	13	0	11
	St Vincent Medical Center - Los Angeles	181	175	206	227	198	170	161
	Stanford University Hospital - Palo Alto	7	0	1	0	39	48	57
	Sutter Memorial Hospital - Sacramento	35	17	24	10	23	23	39
	The Green Hospital/Scripps - La Jolla	0	0	0	1	0	0	0
	UCLA Hosp Ctr for Health Sc - Los Angeles	90	107	193	125	111	161	162
	USC - University Hospital - Los Angeles	0	0	0	10	26	32	28
	USC Medical Center-L.A. County - Los Angeles	33	37	25	17	0	0	0
	Univ of CA Davis Med Ctr - Sacramento	27	27	27	25	39	58	61
Univ of Calif-Irvine Med Ctr - Orange	31	24	23	23	15	29	15	
University Hosp UCSD Med Ctr - San Diego	76	70	102	107	84	90	93	

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 65**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Kidney Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
	University of California - San Francisco	254	232	214	215	197	208	221
	Western Med Ctr - Santa Ana	10	22	25	20	19	25	28
	<b>Total</b>	<b>1192</b>	<b>1155</b>	<b>1253</b>	<b>1303</b>	<b>1242</b>	<b>1366</b>	<b>1323</b>
Colorado	Porter Memorial Hospital - Denver	29	10	10	10	29	39	21
	Presbyterian/St Luke's Hosp - Denver	82	74	73	45	57	52	34
	The Childrens Hosp Association - Denver	0	0	1	3	3	11	0
	University Hospital - Denver	22	39	47	39	29	62	59
	<b>Total</b>	<b>133</b>	<b>129</b>	<b>139</b>	<b>195</b>	<b>109</b>	<b>164</b>	<b>123</b>
Connecticut	Hartford Hospital - Hartford	68	66	58	53	55	76	57
	Yale New Haven Hosp - New Haven	34	35	46	41	37	43	46
	<b>Total</b>	<b>101</b>	<b>101</b>	<b>104</b>	<b>94</b>	<b>92</b>	<b>119</b>	<b>103</b>
Delaware	Alfred I. Dupont Institute - Wilmington	0	0	0	0	0	1	1
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
District of Columbia	Childrens Hospital NMC - Washington	0	0	0	11	0	12	4
	George Washington Univ Hosp - Washington	10	0	0	13	4	3	1
	Georgetown Univ Hosp - Washington	40	40	26	35	30	28	36
	Howard University Hospital - Washington	10	15	11	15	14	14	10
	Walter Reed Army Medical Ctr - Washington	23	17	22	21	26	23	14
	Washington Hosp Ctr - Washington	113	108	123	135	152	102	116
	<b>Total</b>	<b>213</b>	<b>195</b>	<b>196</b>	<b>230</b>	<b>235</b>	<b>182</b>	<b>188</b>
Florida	All Childrens Hosp - Saint Petersburg	0	3	0	0	5	2	2
	Florida Hospital - Orlando	55	62	99	88	82	73	91
	Jackson Memorial Hosp - Miami	85	80	87	92	87	97	116
	Methodist Hosp - Jacksonville	0	10	10	10	23	34	32
	Shands Teaching Hosp & Clinics - Gainesville	126	149	125	116	114	118	117
	Southwest Florida Reg Med Ctr - Fort Meyers	0	0	4	22	33	22	27
	Tampa General Hosp - Tampa	131	126	125	130	124	123	118
	<b>Total</b>	<b>397</b>	<b>430</b>	<b>464</b>	<b>466</b>	<b>468</b>	<b>469</b>	<b>497</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 65**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Kidney Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Georgia	Emory University Hosp - Atlanta	111	109	134	99	126	124	140
	Henrietta Egleston Childrens Hosp - Atlanta	13	10	7	17	11	8	9
	Med College of Georgia Hosp - Augusta	67	59	64	65	80	80	73
	Piedmont Hospital - Atlanta	80	57	70	51	51	51	57
	St Joseph's Hospital - Atlanta	0	0	4	0	0	0	0
	<b>Total</b>		<b>271</b>	<b>241</b>	<b>279</b>	<b>232</b>	<b>268</b>	<b>279</b>
Hawaii	St Francis Hospital - Honolulu	16	33	25	27	37	22	28
	<b>Total</b>	<b>16</b>	<b>33</b>	<b>25</b>	<b>27</b>	<b>37</b>	<b>22</b>	<b>28</b>
Illinois	Childrens Memorial Hospital - Chicago	11	10	8	11	2	8	10
	Hines VA Hospital - Hines	3	1	2	1	5	2	5
	Loyola University Med Center - Maywood	38	33	40	52	44	51	52
	Memorial Medical Center - Springfield	10	13	11	13	10	17	14
	Northwestern Memorial Hospital - Chicago	40	35	33	24	94	93	99
	Rush-Presbyterian-St Luke's Med - Chicago	67	64	71	99	65	90	115
	St Francis Medical Center - Peoria	32	29	11	10	13	1	41
	University of Chicago Med Ctr - Chicago	88	86	94	100	59	51	77
	University of Illinois Hosp - Chicago	60	40	47	40	54	67	54
	<b>Total</b>		<b>346</b>	<b>325</b>	<b>317</b>	<b>350</b>	<b>346</b>	<b>380</b>
Indiana	Indiana University Hospitals - Indianapolis	99	106	107	67	108	101	104
	Methodist Hosp of Indiana Inc - Indianapolis	47	40	54	40	60	36	60
	<b>Total</b>	<b>146</b>	<b>154</b>	<b>161</b>	<b>136</b>	<b>168</b>	<b>167</b>	<b>164</b>
Iowa	Iowa Methodist Med Ctr - Des Moines	0	11	12	14	15	15	17
	Mercy Hospital Med Ctr - Des Moines	15	9	7	7	13	6	14
	University of Iowa Hosp Clinic - Iowa City	60	64	76	82	67	103	132
	VA Medical Center - Iowa City	3	3	1	3	3	0	0
	<b>Total</b>	<b>92</b>	<b>84</b>	<b>96</b>	<b>103</b>	<b>95</b>	<b>121</b>	<b>163</b>
Kansas	St Francis Regional Med Ctr - Wichita	39	33	38	45	34	34	39
	Univ of Kansas Med Ctr - Kansas City	32	29	25	29	25	37	28
	<b>Total</b>	<b>71</b>	<b>62</b>	<b>63</b>	<b>74</b>	<b>59</b>	<b>71</b>	<b>67</b>
Kentucky	Jewish Hosp - Louisville	53	46	58	85	82	105	104
	Kosair Childrens Hospital - Louisville	4	4	3	7	3	7	4
	University Hosp - Lexington	37	54	61	70	56	54	51
	<b>Total</b>	<b>94</b>	<b>104</b>	<b>122</b>	<b>162</b>	<b>141</b>	<b>166</b>	<b>159</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 65**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Kidney Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Louisiana	Louisiana State Univ Hospital - Shreveport	27	13	0	0	0	0	0
	Ochsner Foundation Hospital - New Orleans	32	32	41	47	30	30	45
	Schumpert Medical Center - Shreveport	18	12	22	16	19	16	16
	Southern Baptist Hospital - New Orleans	8	3	6	3	6	3	4
	Tulane Medical Ctr Hosp - New Orleans	30	31	37	30	44	45	75
	University Hospital - New Orleans	17	18	15	33	30	23	32
	Willis Knighton Medical Ctr - Shreveport	0	11	36	35	40	54	52
	<b>Total</b>	<b>132</b>	<b>120</b>	<b>157</b>	<b>172</b>	<b>175</b>	<b>179</b>	<b>224</b>
Maine	Maine Medical Center - Portland	35	41	40	44	31	31	47
	<b>Total</b>	<b>35</b>	<b>41</b>	<b>40</b>	<b>44</b>	<b>31</b>	<b>31</b>	<b>47</b>
Maryland	Francis Scott Key Med Ctr - Baltimore	26	26	19	24	33	35	31
	Johns Hopkins Hosp - Baltimore	62	42	63	45	41	55	62
	Shady Grove Adventist Hosp - Rockville	0	0	0	0	0	0	2
	University of Maryland Hospital - Baltimore	18	23	12	51	95	129	132
	<b>Total</b>	<b>106</b>	<b>91</b>	<b>91</b>	<b>120</b>	<b>169</b>	<b>219</b>	<b>227</b>
Massachusetts	Baystate Med Center - Springfield	4	30	29	39	36	26	31
	Beth Israel Hospital - Boston	20	30	23	20	22	29	30
	Boston Univ Medical Ctr Hosp - Boston	24	25	32	23	29	23	25
	Boston VA Medical Center - Boston	12	13	15	11	11	4	7
	Brigham & Woman's Hospital - Boston	57	68	63	55	51	59	57
	Lahey Clinic Medical Center - Burlington	7	4	0	13	13	12	17
	Massachusetts General Hosp - Boston	80	71	71	57	63	50	66
	New England Deaconess Hosp - Boston	54	55	56	52	55	62	57
	New England Med Ctr Hosp - Boston	24	28	33	26	25	21	25
	The Childrens Hospital - Boston	22	15	14	19	13	16	8
	Univ of Mass. Medical Center - Worcester	16	25	17	33	27	31	31
	<b>Total</b>	<b>320</b>	<b>372</b>	<b>356</b>	<b>356</b>	<b>336</b>	<b>333</b>	<b>354</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 65**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Kidney Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Michigan	Borgess Medical Center - Kalamazoo	11	14	23	30	33	31	27
	Childrens Hosp of Michigan - Detroit	0	7	10	12	13	17	14
	Grace Hospital - Detroit	22	23	10	5	1	0	0
	Harper Grace Hosp - Detroit	26	26	17	11	17	29	30
	Henry Ford Hospital - Detroit	63	81	83	73	73	61	73
	Hurley Hosp - Flint	15	11	13	10	21	18	15
	St John Hospital & Med Ctr - Detroit	0	0	8	38	50	39	51
	St Mary's Health Services - Grand Rapids	40	40	42	57	53	48	49
	Univ of Michigan Hospital - Ann Arbor	92	83	102	100	101	110	110
	William Beaumont Hospital - Royal Oak	22	22	45	51	46	61	57
	<b>Total</b>	<b>291</b>	<b>313</b>	<b>333</b>	<b>402</b>	<b>408</b>	<b>414</b>	<b>440</b>
Minnesota	Hennepin Co Med Ctr - Minneapolis	67	47	50	78	87	78	80
	Metropolitan Med Ctr - Minneapolis	0	12	21	1	0	0	0
	Rochester Methodist Hosp - Rochester	64	53	83	73	73	87	85
	St Mary's Hospital - Rochester	0	0	0	1	1	4	4
	University of Minnesota Hosp - Minneapolis	166	188	189	209	214	233	222
	VA Medical Center - Minneapolis	4	5	1	0	0	0	0
		<b>Total</b>	<b>301</b>	<b>305</b>	<b>344</b>	<b>362</b>	<b>375</b>	<b>402</b>
Mississippi	Univ of Mississippi Med Ctr - Jackson	21	14	22	24	13	28	47
	<b>Total</b>	<b>21</b>	<b>14</b>	<b>22</b>	<b>24</b>	<b>13</b>	<b>26</b>	<b>47</b>
Missouri	Barnes Hosp - Saint Louis	86	82	73	71	57	115	100
	Childrens Mercy Hospital - Kansas City	0	0	0	4	0	8	0
	Depaul Health Center - Bridgeton	2	7	11	7	12	10	14
	Glennon Cardinal Mem Hosp - Saint Louis	2	4	2	5	4	3	4
	John Cochran VA Hospital - Saint Louis	22	13	0	0	0	0	3
	Research Med Ctr - Kansas City	22	25	21	27	26	29	34
	Saint Louis Childrens Hospital - Saint Louis	11	10	13	14	0	5	0
	Saint Louis Univ Medical Center - Saint Louis	31	26	50	55	66	52	73
	St John's Mercy Medical Ctr - Saint Louis	0	0	0	0	0	7	22
	St John's Regional Medical Ctr - Joplin	0	0	0	0	0	0	11
	St Luke's Hosp - Kansas City	39	46	38	39	27	27	28
	University Hospital & Clinic - Columbia	35	33	35	29	21	32	33
		<b>Total</b>	<b>250</b>	<b>248</b>	<b>248</b>	<b>251</b>	<b>225</b>	<b>294</b>

Source: UNOS Scientific Registry data as of October 7, 1995.



**Table 65**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Kidney Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Nebraska	Ami St Joseph Hospital - Omaha	14	6	8	13	9	10	11
	Bishop Clarkson Memorial Hosp - Omaha	49	54	52	70	65	69	63
	Univ of Nebraska Med Ctr - Omaha	2	1	3	4	4	7	8
	<b>Total</b>	<b>65</b>	<b>61</b>	<b>63</b>	<b>87</b>	<b>78</b>	<b>86</b>	<b>82</b>
Nevada	Sunrise Hospital & Medical Ctr - Las Vegas	0	9	13	19	19	27	19
	U.M.C. of Southern Nevada - Las Vegas	9	1	11	15	22	22	20
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>24</b>	<b>34</b>	<b>41</b>	<b>49</b>	<b>39</b>
New Hampshire	Mary Hitchcock Memorial Hosp - Hanover	0	0	0	0	4	27	23
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>4</b>	<b>27</b>	<b>23</b>
New Jersey	Newark Beth Israel Medical Ctr - Newark	31	37	36	50	58	60	49
	Our Lady of Lourdes Hospital - Camden	21	22	19	21	19	19	21
	St Barnabas Medical Center - Livingston	38	34	59	61	58	83	108
	University Hospital - Newark	0	1	9	1	1	9	1
	<b>Total</b>	<b>90</b>	<b>94</b>	<b>114</b>	<b>133</b>	<b>133</b>	<b>162</b>	<b>179</b>
New Mexico	Presbyterian Hosp Center - Albuquerque	22	22	20	24	21	14	17
	Univ of New Mexico Hosp - Albuquerque	43	28	38	48	32	35	49
	<b>Total</b>	<b>65</b>	<b>50</b>	<b>58</b>	<b>72</b>	<b>53</b>	<b>49</b>	<b>66</b>
New York	Albany Medical Ctr/ HLA Lab - Albany	52	65	54	61	70	62	71
	Buffalo General Hosp - Buffalo	34	21	21	23	20	33	17
	Childrens Hospital - Buffalo	5	4	7	4	9	12	6
	Erie Co Medical Center - Buffalo	19	17	9	9	19	16	11
	Montefiore Hosp - Bronx	72	70	70	72	77	66	62
	Mount Sinai Medical Center - New York	39	37	33	48	51	46	51
	NYU Medical Center-Univ Hosp - New York	9	9	7	4	9	12	19
	New York Hospital - New York	41	55	58	51	53	69	70
	Presbyterian Hosp in NY City - New York	42	46	62	51	61	52	72
	St Luke's-Roosevelt Hosp Ctr - New York	27	13	14	12	9	12	14
	Strong Memorial Hospital - Rochester	31	50	53	43	63	59	56
	Suny Downstate/Univ Hospital - Brooklyn	97	70	64	54	43	64	89
	Univ Hosp- SUNY - Syracuse	32	23	27	35	26	29	28
	University Hospital - Stony Brook	47	19	31	21	32	29	28
	Westchester Co Medical Center - Valhalla	0	13	60	68	82	95	108
<b>Total</b>	<b>529</b>	<b>527</b>	<b>567</b>	<b>556</b>	<b>614</b>	<b>643</b>	<b>709</b>	

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 65**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Kidney Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
North Carolina	Carolinas Medical Center - Charlotte	56	44	51	46	61	52	89
	Duke University Medical Center - Durham	61	55	56	76	51	59	89
	Durham VA Medical Center - Durham	12	11	5	5	6	6	3
	North Carolina Baptist Hosp - Winston-Salem	26	32	29	60	44	52	56
	North Carolina Memorial Hosp - Chapel Hill	27	29	45	49	38	24	61
	Pitt County Memorial Hospital - Greenville	27	26	26	23	23	20	34
	<b>Total</b>	<b>203</b>	<b>191</b>	<b>212</b>	<b>259</b>	<b>223</b>	<b>215</b>	<b>323</b>
North Dakota	Dakota Hospital - Fargo	0	0	6	7	6	6	9
	Medcenter One - Bismarck	1	7	11	10	12	10	14
	St Luke's Hospital-Meritcare - Fargo	6	2	7	6	11	10	18
	<b>Total</b>	<b>1</b>	<b>6</b>	<b>24</b>	<b>23</b>	<b>29</b>	<b>34</b>	<b>41</b>
Ohio	Akron City Hospital - Akron	27	24	30	26	34	25	26
	Childrens Hosp Medical Center - Cincinnati	14	4	10	10	7	5	19
	Childrens Hospital Med Ctr - Akron	5	0	1	2	2	1	5
	Christ Hospital - Cincinnati	30	29	26	45	52	48	54
	Cleveland Clinic Foundation - Cleveland	106	65	86	53	72	62	67
	Medical College Hospitals - Toledo	47	37	43	42	32	49	38
	Miami Valley Hosp - Dayton	22	10	23	27	23	27	24
	Ohio State University Hospital - Columbus	128	161	200	213	196	189	170
	St Elizabeth Hospital Med Ctr - Youngstown	4	12	27	17	33	26	21
	The Childrens Hospital - Columbus	4	3	4	5	1	1	0
	Univ of Cincinnati Med Ctr - Cincinnati	42	31	35	42	55	51	51
	University Hospital - Cleveland	64	46	52	43	82	72	72
	<b>Total</b>	<b>499</b>	<b>430</b>	<b>542</b>	<b>525</b>	<b>589</b>	<b>558</b>	<b>547</b>
Oklahoma	Baptist Medical Ctr of Oklahoma - Oklahoma City	22	22	28	28	34	41	41
	Hilcrest Medical Center - Tulsa	26	10	25	15	22	30	38
	Oklahoma Childrens Hospital - Oklahoma City	14	0	14	10	13	5	10
	St Anthony Hosp - Oklahoma City	37	32	19	19	11	16	8
	St John Medical Center - Tulsa	0	0	0	0	0	0	8
	The University Hospital - Oklahoma City	16	18	25	24	30	36	35
	<b>Total</b>	<b>118</b>	<b>99</b>	<b>111</b>	<b>102</b>	<b>110</b>	<b>128</b>	<b>140</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 65**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Kidney Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Oregon	Oregon Health Sciences Univ Hosp - Portland	122	109	115	116	134	136	135
	VA Hospital - Portland	0	0	0	2	0	0	0
	<b>Total</b>	<b>122</b>	<b>109</b>	<b>115</b>	<b>118</b>	<b>134</b>	<b>136</b>	<b>135</b>
Pennsylvania	Albert Einstein Med - Philadelphia	67	52	55	53	51	48	20
	Allegheny General Hosp - Pittsburgh	58	59	80	80	80	80	79
	Childrens Hosp - Pittsburgh	4	10	0	10	10	10	19
	Childrens Hospital - Philadelphia	0	0	0	0	0	10	7
	Geisinger Medical Ctr - Danville	34	20	41	39	42	36	30
	Hahnemann University Hosp - Philadelphia	19	23	17	67	79	69	45
	Hosp of Univ of Pennsylvania - Philadelphia	115	122	113	110	129	122	102
	Lankenau Hospital - Wynnewood	0	0	0	0	0	0	10
	Lehigh Valley Hospital - Allentown	0	0	0	5	18	20	23
	Presbyterian-University Hosp - Pittsburgh	209	223	209	158	198	186	179
	St Christopher Hosp for Children - Philadelphia	22	15	22	25	12	13	9
	Temple University Hospital - Philadelphia	0	2	13	10	0	0	14
	Thomas Jefferson Univ Hosp - Philadelphia	85	55	72	78	69	72	74
	University Hosp Milton Hershey - Hershey	66	41	57	77	63	66	61
	VA Medical Center - Pittsburgh	0	0	0	0	1	0	9
<b>Total</b>	<b>679</b>	<b>631</b>	<b>685</b>	<b>720</b>	<b>766</b>	<b>746</b>	<b>681</b>	
Puerto Rico	Auxilio Mutuo Hosp - Hato Rey	30	34	35	36	30	37	32
	<b>Total</b>	<b>30</b>	<b>34</b>	<b>35</b>	<b>30</b>	<b>30</b>	<b>37</b>	<b>32</b>
South Carolina	Medical University Hosp - Charleston	92	66	100	80	111	111	131
	<b>Total</b>	<b>92</b>	<b>66</b>	<b>100</b>	<b>89</b>	<b>111</b>	<b>111</b>	<b>131</b>
South Dakota	McKenna Hospital - Sioux Falls	0	0	0	0	0	5	15
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>15</b>
Tennessee	Centennial Med Ctr/Parkview - Nashville	0	0	20	21	27	31	27
	Erlanger Medical Center - Chattanooga	0	5	24	39	31	24	26
	Johnson City Medical Center - Johnson City	0	0	5	19	24	10	20
	Lebonheur Childrens Hosp - Memphis	3	2	3	5	7	5	5
	Nashville VA Medical Center - Nashville	14	15	5	6	8	6	7

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 65**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Kidney Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
	St Thomas Hospital - Nashville	0	2	12	0	4	0	0
	University of Tn Medical Ctr - Memphis	74	66	77	66	72	96	73
	University of Tn Memorial Hosp - Knoxville	20	33	40	39	38	34	24
	Vanderbilt University Med Ctr - Nashville	83	96	95	66	53	71	65
	<b>Total</b>	<b>202</b>	<b>228</b>	<b>290</b>	<b>267</b>	<b>264</b>	<b>291</b>	<b>253</b>
Texas	Baylor University Medical Ctr - Dallas	43	52	49	45	53	51	47
	Brackenridge Hosp - Austin	31	37	23	24	27	26	30
	Childrens Med Ctr - Dallas	10	13	10	0	19	17	12
	Cook Ft Worth Childrens Med Ct - Fort Worth	0	0	0	0	0	4	4
	East Texas Medical Center - Tyler	11	21	17	26	23	23	26
	Harris Methodist - Fort Worth	20	20	26	25	33	39	44
	Hermann Hospital - Houston	89	94	103	109	114	80	107
	Methodist Hospital - Lubbock	0	0	6	20	28	18	19
	Methodist Medical Center - Dallas	117	107	84	102	59	92	95
	Parkland Memorial Hospital - Dallas	45	54	60	63	64	51	67
	San Antonio Regional Hospital - San Antonio	72	63	109	81	94	104	79
	Sierra Medical Center - El Paso	5	1	1	0	10	31	26
	St Luke's Episcopal Hosp - Houston	33	26	26	38	52	53	66
	Texas Childrens Hosp - Houston	3	5	13	3	0	13	17
	The Methodist Hospital - Houston	39	32	49	49	38	43	40
	UTHSC - San Antonio	15	19	15	0	19	25	21
	University Medical Center - Lubbock	7	0	0	10	13	13	6
	University of Texas-Med Branch - Galveston	66	83	58	60	63	60	76
Wilford Hall Medical Center - Lackland AFB	46	47	44	46	41	35	35	
<b>Total</b>	<b>658</b>	<b>694</b>	<b>695</b>	<b>721</b>	<b>757</b>	<b>784</b>	<b>811</b>	
Utah	Latter-Day Saints Hospital - Salt Lake City	71	64	75	91	69	76	63
	University of Utah Hosp - Salt Lake City	44	38	54	52	45	59	61
	VA Medical Center - Salt Lake City	3	0	0	0	0	0	0
	<b>Total</b>	<b>118</b>	<b>102</b>	<b>129</b>	<b>143</b>	<b>114</b>	<b>135</b>	<b>124</b>
Vermont	Medical Center Hosp of Vermont - Burlington	22	15	25	15	0	5	17
	<b>Total</b>	<b>22</b>	<b>15</b>	<b>25</b>	<b>15</b>	<b>0</b>	<b>5</b>	<b>17</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 65**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Kidney Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Virginia	Fairfax Hosp - Falls Church	0	0	0	0	0	22	38
	Henrico Doctors Hospital - Richmond	0	0	7	17	26	20	40
	Medical College of Virginia - Richmond	41	47	57	34	38	45	46
	Roanoke Memorial Hospital - Roanoke	0	0	0	0	0	11	20
	Sentara Norfolk General - Norfolk	50	53	78	52	47	42	47
	Univ of Va Hosp & Childrens Rehab - Charlottesville	25	43	62	58	58	52	41
	<b>Total</b>	<b>116</b>	<b>143</b>	<b>204</b>	<b>161</b>	<b>175</b>	<b>200</b>	<b>232</b>
Washington	Childrens Hospital & Med Ctr - Seattle	0	0	7	3	3	7	8
	Sacred Heart Medical Center - Spokane	29	13	37	33	32	26	35
	Swedish Hospital Medical Ctr - Seattle	47	66	50	47	25	29	45
	University Hospital - Seattle	15	21	55	57	62	67	73
	Virginia Mason Hospital - Seattle	73	91	109	97	74	98	92
	<b>Total</b>	<b>167</b>	<b>199</b>	<b>266</b>	<b>237</b>	<b>196</b>	<b>227</b>	<b>253</b>
West Virginia	Charleston Area Medical Ctr - Charleston	27	29	22	19	33	24	23
	West Virginia Univ Hosp - Morgantown	0	15	15	15	0	0	13
	<b>Total</b>	<b>35</b>	<b>44</b>	<b>37</b>	<b>34</b>	<b>41</b>	<b>32</b>	<b>36</b>
Wisconsin	Childrens Hosp of Wisconsin - Milwaukee	7	5	4	6	4	8	9
	Froedtert Memorial Lutheran - Milwaukee	107	100	128	118	75	103	113
	University of Wisconsin Hosp - Madison	191	186	188	214	240	280	241
	<b>Total</b>	<b>305</b>	<b>291</b>	<b>320</b>	<b>338</b>	<b>319</b>	<b>391</b>	<b>363</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 66**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Liver Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Alabama	University of Alabama Hosp - Birmingham	3	10	23	24	31	41	63
	<b>Total</b>	<b>3</b>	<b>10</b>	<b>23</b>	<b>24</b>	<b>31</b>	<b>41</b>	<b>63</b>
Arizona	Good Samaritan Med Ctr - Phoenix	8	9	12	13	7	14	9
	University Medical Ctr Corp - Tucson	0	0	0	0	1	18	17
	<b>Total</b>	<b>8</b>	<b>9</b>	<b>12</b>	<b>13</b>	<b>8</b>	<b>32</b>	<b>26</b>
California	California Pacific Med Ctr - San Francisco	31	82	76	106	110	110	107
	Cedars-Sinai Medical Center - Los Angeles	0	0	41	49	58	61	55
	Loma Linda University Med Ctr - Loma Linda	0	0	0	0	0	3	12
	Stanford University Hospital - Palo Alto	0	0	0	2	15	11	13
	The Green Hospital/Scripps - La Jolla	0	0	11	15	15	27	26
	U C L A Hosp Ctr for Health Sc - Los Angeles	136	149	169	208	260	246	245
	Univ of CA Davis Med Ctr - Sacramento	0	0	0	0	0	0	7
	Univ of Calif-Irvine Med Ctr - Orange	0	0	0	0	0	3	10
	University Hosp UCSD Med Ctr - San Diego	1	0	0	0	0	3	17
	University of California - San Francisco	39	89	92	105	120	112	106
	<b>Total</b>	<b>207</b>	<b>328</b>	<b>389</b>	<b>485</b>	<b>578</b>	<b>582</b>	<b>598</b>
Colorado	Porter Memorial Hospital - Denver	0	0	0	0	0	0	1
	The Childrens Hosp Association - Denver	0	0	3	7	10	0	0
	University Hospital - Denver	2	23	36	46	35	53	44
	<b>Total</b>	<b>2</b>	<b>23</b>	<b>39</b>	<b>53</b>	<b>45</b>	<b>62</b>	<b>54</b>
Connecticut	Hartford Hospital - Hartford	0	7	5	0	0	0	7
	Yale New Haven Hosp - New Haven	4	0	0	4	7	7	10
	<b>Total</b>	<b>12</b>	<b>15</b>	<b>11</b>	<b>13</b>	<b>13</b>	<b>15</b>	<b>17</b>
District of Columbia	Howard University Hospital - Washington	0	2	0	1	7	5	14
	<b>Total</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>5</b>	<b>14</b>
Florida	Jackson Memorial Hosp - Miami	7	0	10	37	37	43	115
	Shands Teaching Hosp & Clinics - Gainesville	0	0	12	17	29	25	36
	Tampa General Hosp - Tampa	3	0	0	0	4	2	1
	<b>Total</b>	<b>10</b>	<b>0</b>	<b>28</b>	<b>54</b>	<b>70</b>	<b>70</b>	<b>152</b>
Georgia	Emory University Hosp - Atlanta	31	19	28	31	37	88	72
	Henrietta Eggleston Childrens Hosp - Atlanta	0	0	2	9	7	4	6
	<b>Total</b>	<b>31</b>	<b>19</b>	<b>30</b>	<b>40</b>	<b>44</b>	<b>92</b>	<b>78</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 66**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Liver Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Hawaii	St Francis Hospital - Honolulu	0	0	0	0	0	3	2
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>
Illinois	Northwestern Memorial Hospital - Chicago	0	0	0	0	0	5	12
	Rush-Presbyterian-St Luke's Med - Chicago	36	32	47	38	82	68	77
	University of Chicago Med Ctr - Chicago	78	82	133	110	63	82	125
	University of Illinois Hosp - Chicago	7	2	2	5	4	4	4
	<b>Total</b>	<b>121</b>	<b>116</b>	<b>182</b>	<b>153</b>	<b>146</b>	<b>161</b>	<b>218</b>
Indiana	Indiana University Hospitals - Indianapolis	20	31	35	49	20	39	40
	Methodist Hosp of Indiana Inc - Indianapolis	0	11	14	18	21	18	20
	<b>Total</b>	<b>29</b>	<b>42</b>	<b>49</b>	<b>58</b>	<b>49</b>	<b>57</b>	<b>63</b>
Iowa	University of Iowa Hosp Clinic - Iowa City	7	4	7	12	0	43	39
	<b>Total</b>	<b>7</b>	<b>4</b>	<b>7</b>	<b>22</b>	<b>0</b>	<b>43</b>	<b>39</b>
Kansas	Univ of Kansas Med Ctr - Kansas City	0	0	12	20	22	16	20
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>20</b>	<b>22</b>	<b>16</b>	<b>20</b>
Kentucky	Jewish Hosp - Louisville	0	0	0	13	11	15	24
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>22</b>	<b>15</b>	<b>24</b>
Louisiana	Louisiana State Univ Hospital - Shreveport	2	0	0	0	0	0	0
	Ochsner Foundation Hospital - New Orleans	24	22	34	49	35	24	19
	Tulane Medical Ctr Hosp - New Orleans	0	0	0	0	0	0	12
	University Hospital - New Orleans	0	0	0	0	0	0	2
	Willis Knighton Medical Ctr - Shreveport	0	0	0	0	15	21	21
	<b>Total</b>	<b>26</b>	<b>22</b>	<b>34</b>	<b>58</b>	<b>50</b>	<b>45</b>	<b>54</b>
Maryland	Johns Hopkins Hosp - Baltimore	22	32	37	43	54	54	61
	University of Maryland Hospital - Baltimore	0	0	0	0	0	0	1
	<b>Total</b>	<b>22</b>	<b>32</b>	<b>37</b>	<b>43</b>	<b>54</b>	<b>54</b>	<b>62</b>
Massachusetts	Massachusetts General Hosp - Boston	18	22	21	27	20	22	25
	New England Deaconess Hosp - Boston	35	42	52	51	49	37	45
	New England Med Ctr Hosp - Boston	17	23	20	43	31	36	37
	The Childrens Hospital - Boston	8	0	7	22	0	11	7
	<b>Total</b>	<b>78</b>	<b>95</b>	<b>108</b>	<b>132</b>	<b>107</b>	<b>106</b>	<b>114</b>
Michigan	Henry Ford Hospital - Detroit	0	3	6	7	12	13	17
	Univ of Michigan Hospital - Ann Arbor	54	94	85	84	73	65	79
	<b>Total</b>	<b>54</b>	<b>97</b>	<b>91</b>	<b>91</b>	<b>85</b>	<b>78</b>	<b>96</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 66**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Liver Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Minnesota	Rochester Methodist Hosp - Rochester	56	42	55	61	69	72	76
	St Mary's Hospital - Rochester	0	0	0	0	1	0	3
	University of Minnesota Hosp - Minneapolis	33	28	29	29	32	26	30
	<b>Total</b>	<b>89</b>	<b>70</b>	<b>84</b>	<b>90</b>	<b>102</b>	<b>98</b>	<b>109</b>
Mississippi	Univ of Mississippi Med Ctr - Jackson	0	2	1	0	0	0	0
	<b>Total</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Missouri	Barnes Hosp - Saint Louis	30	45	34	30	26	30	59
	Glennon Cardinal Mem Hosp - Saint Louis	0	3	1	1	4	4	7
	Saint Louis Childrens Hospital - Saint Louis	0	0	4	11	6	0	6
	Saint Louis Univ Medical Center - Saint Louis	9	23	3	11	23	30	21
	St Luke's Hosp - Kansas City	0	0	0	3	5	0	0
	<b>Total</b>	<b>39</b>	<b>76</b>	<b>42</b>	<b>56</b>	<b>64</b>	<b>79</b>	<b>93</b>
Nebraska	Univ of Nebraska Med Ctr - Omaha	119	136	140	126	135	131	116
	<b>Total</b>	<b>119</b>	<b>136</b>	<b>140</b>	<b>126</b>	<b>135</b>	<b>131</b>	<b>116</b>
New Jersey	University Hospital - Newark	0	15	14	19	22	28	41
	<b>Total</b>	<b>0</b>	<b>15</b>	<b>14</b>	<b>19</b>	<b>22</b>	<b>28</b>	<b>41</b>
New York	Mount Sinai Medical Center - New York	14	52	104	144	165	176	175
	NYU Medical Center-Univ Hosp - New York	0	0	4	17	21	33	37
	Presbyterian Hosp in NY City - New York	0	3	2	1	0	0	6
	Strong Memorial Hospital - Rochester	0	0	0	0	4	2	5
	<b>Total</b>	<b>14</b>	<b>55</b>	<b>110</b>	<b>162</b>	<b>190</b>	<b>211</b>	<b>217</b>
North Carolina	Carolinas Medical Center - Charlotte	0	0	0	0	0	0	7
	Duke University Medical Center - Durham	11	22	31	34	33	21	30
	North Carolina Memorial Hosp - Chapel Hill	0	0	0	4	11	16	30
	<b>Total</b>	<b>11</b>	<b>22</b>	<b>31</b>	<b>38</b>	<b>44</b>	<b>37</b>	<b>84</b>
Ohio	Childrens Hosp Medical Center - Cincinnati	15	14	10	10	13	0	20
	Cleveland Clinic Foundation - Cleveland	11	10	27	34	30	30	52
	Ohio State University Hospital - Columbus	3	10	25	42	39	33	32
	The Childrens Hospital - Columbus	1	1	0	1	5	4	1
	Univ of Cincinnati Med Ctr - Cincinnati	3	4	2	19	37	40	30
	University Hospital - Cleveland	1	8	17	20	15	12	29
	<b>Total</b>	<b>34</b>	<b>55</b>	<b>95</b>	<b>134</b>	<b>145</b>	<b>134</b>	<b>164</b>

Source: UNOS Scientific Registry data as of October 7, 1995.



**Table 66**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Liver Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Oklahoma	Baptist Medical Ctr of Oklahoma - Oklahoma City	0	0	0	0	4	51	56
	The University Hospital - Oklahoma City	0	0	0	1	10	14	2
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>14</b>	<b>65</b>	<b>58</b>
Oregon	Oregon Health Sciences Univ Hosp - Portland	3	11	22	5	28	36	35
	VA Hospital - Portland	0	8	11	6	12	28	32
	<b>Total</b>	<b>3</b>	<b>19</b>	<b>33</b>	<b>11</b>	<b>40</b>	<b>64</b>	<b>67</b>
Pennsylvania	Albert Einstein Med - Philadelphia	0	0	0	1	0	14	3
	Childrens Hosp - Pittsburgh	99	77	84	64	54	60	40
	Childrens Hospital - Philadelphia	0	14	12	23	12	12	15
	Hosp of Univ of Pennsylvania - Philadelphia	15	31	27	29	30	29	19
	Presbyterian-University Hosp - Pittsburgh	406	441	471	356	290	309	220
	St Christopher Hosp for Children - Philadelphia	12	12	14	22	29	15	24
	Thomas Jefferson Univ Hosp - Philadelphia	18	25	29	17	23	29	33
	University Hosp Milton Hershey - Hershey	0	0	0	0	1	3	2
	VA Medical Center - Pittsburgh	0	13	16	29	21	20	26
	<b>Total</b>	<b>550</b>	<b>610</b>	<b>644</b>	<b>541</b>	<b>460</b>	<b>473</b>	<b>382</b>
South Carolina	Medical University Hosp - Charleston	0	0	3	14	26	32	34
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>14</b>	<b>26</b>	<b>32</b>	<b>34</b>
Tennessee	Lebonheur Childrens Hosp - Memphis	2	3	4	3	5	13	4
	University of Tn Medical Ctr - Memphis	7	13	16	16	12	34	19
	Vanderbilt University Med Ctr - Nashville	0	0	0	11	13	18	24
	<b>Total</b>	<b>9</b>	<b>16</b>	<b>20</b>	<b>30</b>	<b>30</b>	<b>63</b>	<b>47</b>
Texas	Baylor University Medical Ctr - Dallas	89	126	137	139	158	138	145
	Childrens Med Ctr - Dallas	29	24	19	23	4	21	26
	Hermann Hospital - Houston	2	0	0	29	47	43	31
	St Luke's Episcopal Hosp - Houston	0	0	0	0	1	1	8
	Texas Childrens Hosp - Houston	1	2	4	0	0	8	3
	The Methodist Hospital - Houston	7	11	11	0	5	0	0
	UTHSC - San Antonio	0	0	0	0	1	7	17
	University Medical Center - Lubbock	0	0	0	0	0	3	1
	University of Texas-Med Branch - Galveston	0	0	0	0	1	9	7
	Wilford Hall Medical Center - Lackland AFB	0	3	10	11	12	19	21
	<b>Total</b>	<b>127</b>	<b>166</b>	<b>181</b>	<b>216</b>	<b>238</b>	<b>249</b>	<b>256</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 66**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Liver Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Utah	Latter-Day Saints Hospital - Salt Lake City	12	18	16	21	16	19	29
	<b>Total</b>	<b>12</b>	<b>18</b>	<b>16</b>	<b>21</b>	<b>16</b>	<b>19</b>	<b>29</b>
Virginia	Fairfax Hosp - Falls Church	0	0	0	0	4	14	18
	Henrico Doctors Hospital - Richmond	0	0	0	5	0	0	0
	Medical College of Virginia - Richmond	21	18	15	27	31	37	33
	Univ of Va Hosp & Childrens Rehab - Charlottesville	1	17	51	51	36	66	62
	<b>Total</b>	<b>22</b>	<b>35</b>	<b>70</b>	<b>83</b>	<b>71</b>	<b>117</b>	<b>113</b>
Washington	Childrens Hospital & Med Ctr - Seattle	0	0	1	5	5	11	4
	University Hospital - Seattle	0	0	29	50	43	52	56
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>55</b>	<b>48</b>	<b>63</b>	<b>60</b>
Wisconsin	Childrens Hosp of Wisconsin - Milwaukee	1	2	6	8	3	5	5
	Froedtert Memorial Lutheran - Milwaukee	15	10	28	18	29	24	18
	University of Wisconsin Hosp - Madison	58	71	84	68	58	71	60
	<b>Total</b>	<b>74</b>	<b>83</b>	<b>118</b>	<b>94</b>	<b>90</b>	<b>100</b>	<b>83</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 67**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Pancreas Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Alabama	University of Alabama Hosp - Birmingham	8	7	7	0	8	9	13
	<b>Total</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>8</b>	<b>9</b>	<b>13</b>
Arizona	Good Samaritan Med Ctr - Phoenix	2	0	0	0	0	0	0
	<b>Total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Arkansas	Univ Hosp & Ambulatory Care Ct - Little Rock	0	0	0	6	5	10	11
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>5</b>	<b>10</b>	<b>11</b>
California	California Pacific Med Ctr - San Francisco	0	1	0	3	5	7	2
	L.A. County Harbor-UCLA Med Ctr - Torrance	0	0	1	0	0	0	0
	Loma Linda University Med Ctr - Loma Linda	0	0	0	0	0	10	7
	St Vincent Medical Center - Los Angeles	0	0	0	0	0	0	7
	Stanford University Hospital - Palo Alto	0	0	0	1	3	13	10
	U C L A Hosp Ctr for Health Sc - Los Angeles	0	0	0	0	0	1	13
	Univ of CA Davis Med Ctr - Sacramento	0	1	4	3	6	14	14
	University Hosp UCSD Med Ctr - San Diego	0	0	0	0	6	3	7
	University of California - San Francisco	0	2	19	14	14	15	16
	<b>Total</b>	<b>0</b>	<b>4</b>	<b>33</b>	<b>21</b>	<b>34</b>	<b>63</b>	<b>76</b>
Colorado	Porter Memorial Hospital - Denver	0	0	0	0	0	8	2
	Presbyterian/St Luke's Hosp - Denver	0	7	2	0	2	3	1
	University Hospital - Denver	0	0	4	0	0	2	12
	<b>Total</b>	<b>0</b>	<b>7</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>13</b>	<b>15</b>
Connecticut	Hartford Hospital - Hartford	0	0	1	3	3	3	3
	Yale New Haven Hosp - New Haven	0	3	5	4	1	0	3
	<b>Total</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>6</b>
District of Columbia	George Washington Univ Hosp - Washington	0	0	2	0	0	0	1
	Georgetown Univ Hosp - Washington	0	3	0	3	4	7	3
	Walter Reed Army Medical Ctr - Washington	0	0	0	0	1	2	3
	Washington Hosp Ctr - Washington	0	3	14	14	21	14	16
	<b>Total</b>	<b>0</b>	<b>6</b>	<b>22</b>	<b>17</b>	<b>26</b>	<b>23</b>	<b>23</b>
Florida	Jackson Memorial Hosp - Miami	0	0	1	4	4	7	25
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>7</b>	<b>25</b>
Georgia	Emory University Hosp - Atlanta	0	5	7	6	6	15	15
	Med College of Georgia Hosp - Augusta	0	0	0	0	0	2	1
	<b>Total</b>	<b>0</b>	<b>5</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>17</b>	<b>16</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 67**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Pancreas Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Hawaii	St Francis Hospital - Honolulu	0	0	0	0	0	1	2
	<b>Total</b>	0	0	0	0	0	1	2
Illinois	Northwestern Memorial Hospital - Chicago	0	0	0	0	0	10	22
	Rush-Presbyterian-St Luke's Med - Chicago	0	0	0	0	0	1	2
	University of Chicago Med Ctr - Chicago	13	12	20	16	0	0	10
	University of Illinois Hosp - Chicago	0	0	0	6	1	0	6
	<b>Total</b>	13	12	20	22	5	20	40
Indiana	Indiana University Hospitals - Indianapolis	2	0	0	3	5	1	0
	Methodist Hosp of Indiana Inc - Indianapolis	0	0	3	0	1	1	1
	<b>Total</b>	2	0	3	3	6	2	1
Iowa	University of Iowa Hosp Clinic - Iowa City	10	12	16	23	13	15	11
	<b>Total</b>	10	12	16	23	13	15	11
Kansas	St Francis Regional Med Ctr - Wichita	0	2	1	1	3	1	1
	<b>Total</b>	0	2	1	1	3	1	1
Kentucky	Jewish Hosp - Louisville	1	5	0	2	1	5	16
	<b>Total</b>	1	5	0	2	1	5	16
Louisiana	Ochsner Foundation Hospital - New Orleans	0	0	0	10	4	2	0
	Tulane Medical Ctr Hosp - New Orleans	0	0	0	0	0	0	13
	University Hospital - New Orleans	0	0	0	0	0	0	10
	<b>Total</b>	0	0	0	10	4	2	23
Maryland	Johns Hopkins Hosp - Baltimore	0	0	0	0	2	3	6
	University of Maryland Hospital - Baltimore	0	0	0	0	24	31	34
	<b>Total</b>	0	0	0	0	26	34	40
Massachusetts	Baystate Med Center - Springfield	0	0	0	0	0	2	1
	Beth Israel Hospital - Boston	3	3	3	1	0	3	3
	Massachusetts General Hosp - Boston	12	0	3	0	1	0	1
	New England Deaconess Hosp - Boston	3	0	10	6	0	6	3
	New England Med Ctr Hosp - Boston	0	0	0	0	0	0	1
	Univ of Mass. Medical Center - Worcester	0	0	0	0	0	1	1
	<b>Total</b>	18	20	16	7	10	12	10

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 67**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Pancreas Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Michigan	Grace Hospital - Detroit	2	0	1	0	0	0	0
	Henry Ford Hospital - Detroit	4	4	0	0	5	11	0
	St John Hospital & Med Ctr - Detroit	0	0	0	0	0	7	7
	Univ of Michigan Hospital - Ann Arbor	0	0	2	0	4	11	26
	<b>Total</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>11</b>	<b>31</b>	<b>39</b>
Minnesota	Rochester Methodist Hosp - Rochester	14	0	0	0	11	0	7
	University of Minnesota Hosp - Minneapolis	58	62	62	41	57	77	76
	<b>Total</b>	<b>72</b>	<b>70</b>	<b>68</b>	<b>47</b>	<b>68</b>	<b>86</b>	<b>83</b>
Missouri	Barnes Hosp - Saint Louis	0	4	4	0	0	0	0
	John Cochran VA Hospital - Saint Louis	7	7	3	0	0	0	0
	Saint Louis Univ Medical Center - Saint Louis	0	0	4	11	11	14	0
	University Hospital & Clinic - Columbia	0	0	3	0	0	0	0
	<b>Total</b>	<b>7</b>	<b>11</b>	<b>16</b>	<b>11</b>	<b>11</b>	<b>14</b>	<b>0</b>
Nebraska	Bishop Clarkson Memorial Hosp - Omaha	0	11	21	41	29	27	24
	Univ of Nebraska Med Ctr - Omaha	0	0	0	2	1	5	0
	<b>Total</b>	<b>0</b>	<b>11</b>	<b>21</b>	<b>43</b>	<b>30</b>	<b>32</b>	<b>32</b>
Nevada	U.M.C. of Southern Nevada - Las Vegas	0	0	0	0	0	1	0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>
New Jersey	St Barnabas Medical Center - Livingston	0	0	0	0	4	0	0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>
New York	Albany Medical Ctr/ HLA Lab - Albany	0	0	0	0	0	0	7
	Montefiore Hosp - Bronx	0	4	0	4	4	4	0
	Mount Sinai Medical Center - New York	0	0	0	0	0	0	3
	NYU Medical Center-Univ Hosp - New York	0	0	0	0	1	0	1
	Strong Memorial Hospital - Rochester	0	0	0	0	2	5	4
	Suny Downstate/Univ Hospital - Brooklyn	0	0	0	0	1	3	3
	Univ Hosp- SUNY - Syracuse	0	0	0	0	0	0	1
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>9</b>	<b>19</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 67**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Pancreas Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
North Carolina	Carolinas Medical Center - Charlotte	9	9	0	9	0	0	1
	Duke University Medical Center - Durham	0	6	13	16	4	12	13
	Durham VA Medical Center - Durham	9	9	0	9	0	1	1
	North Carolina Baptist Hosp - Winston-Salem	0	0	9	0	1	0	0
	North Carolina Memorial Hosp - Chapel Hill	0	0	9	0	9	0	5
	Pitt County Memorial Hospital - Greenville	0	1	2	0	0	0	0
	<b>Total</b>		<b>0</b>	<b>7</b>	<b>15</b>	<b>16</b>	<b>5</b>	<b>13</b>
Ohio	Cleveland Clinic Foundation - Cleveland	5	6	1	0	0	0	3
	Ohio State University Hospital - Columbus	9	33	46	46	53	62	47
	Univ of Cincinnati Med Ctr - Cincinnati	1	2	6	10	10	16	15
	University Hospital - Cleveland	9	10	11	10	15	14	17
	<b>Total</b>	<b>24</b>	<b>51</b>	<b>64</b>	<b>64</b>	<b>78</b>	<b>94</b>	<b>82</b>
Oregon	Oregon Health Sciences Univ Hosp - Portland	0	7	6	2	1	6	6
	<b>Total</b>	<b>0</b>	<b>7</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>6</b>
Pennsylvania	Albert Einstein Med - Philadelphia	7	9	17	12	14	6	4
	Allegheny General Hosp - Pittsburgh	6	0	2	2	1	5	5
	Childrens Hosp - Pittsburgh	1	9	9	1	1	7	0
	Hahnemann University Hosp - Philadelphia	9	9	9	0	9	9	0
	Hosp of Univ of Pennsylvania - Philadelphia	7	17	13	6	11	9	6
	Presbyterian-University Hosp - Pittsburgh	13	17	2	2	2	4	17
	University Hosp Milton Hershey - Hershey	2	2	2	7	5	3	1
	<b>Total</b>	<b>36</b>	<b>45</b>	<b>36</b>	<b>36</b>	<b>43</b>	<b>45</b>	<b>36</b>
South Carolina	Medical University Hosp - Charleston	9	9	9	9	4	7	6
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>4</b>	<b>7</b>	<b>6</b>
Tennessee	Centennial Med Ctr/Parkview - Nashville	0	1	3	4	1	1	0
	Lebonheur Childrens Hosp - Memphis	0	0	1	0	0	0	0
	University of Tn Medical Ctr - Memphis	0	15	13	16	13	12	11
	Vanderbilt University Med Ctr - Nashville	0	9	5	3	1	4	1
	<b>Total</b>	<b>0</b>	<b>25</b>	<b>22</b>	<b>26</b>	<b>15</b>	<b>17</b>	<b>12</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 67**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Pancreas Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Texas	Baylor University Medical Ctr - Dallas	0	1	0	0	0	0	0
	Methodist Medical Center - Dallas	0	1	13	0	7	7	5
	Parkland Memorial Hospital - Dallas	0	0	1	10	0	10	0
	The Methodist Hospital - Houston	0	0	5	0	4	7	3
	University of Texas-Med Branch - Galveston	2	12	0	12	7	14	13
	Wilford Hall Medical Center - Lackland AFB	0	3	4	4	3	4	4
	<b>Total</b>		<b>2</b>	<b>19</b>	<b>31</b>	<b>43</b>	<b>27</b>	<b>42</b>
Utah	Latter-Day Saints Hospital - Salt Lake City	11	7	12	13	0	3	9
	<b>Total</b>	<b>11</b>	<b>7</b>	<b>12</b>	<b>13</b>	<b>0</b>	<b>3</b>	<b>0</b>
Virginia	Fairfax Hosp - Falls Church	0	0	0	0	2	3	7
	Medical College of Virginia - Richmond	0	0	0	0	0	2	0
	Univ of Va Hosp & Childrens Rehab - Charlottesville	1	3	3	3	3	10	7
	<b>Total</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>15</b>	<b>23</b>
Washington	University Hospital - Seattle	0	0	9	19	29	28	21
	Virginia Mason Hospital - Seattle	0	0	0	0	2	5	8
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>19</b>	<b>31</b>	<b>33</b>	<b>29</b>
Wisconsin	Froedtert Memorial Lutheran - Milwaukee	6	11	10	12	13	12	8
	University of Wisconsin Hosp - Madison	27	48	46	46	42	71	49
	<b>Total</b>	<b>33</b>	<b>59</b>	<b>56</b>	<b>58</b>	<b>55</b>	<b>83</b>	<b>57</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 68**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Heart Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Alabama	University of Alabama Hosp - Birmingham	21	20	37	31	28	41	42
	<b>Total</b>	<b>21</b>	<b>20</b>	<b>37</b>	<b>31</b>	<b>28</b>	<b>41</b>	<b>42</b>
Arizona	Healthwest Regional Med Ctr - Phoenix	7	6	2	0	1	0	0
	University Medical Ctr Corp - Tucson	31	34	41	34	30	36	41
	<b>Total</b>	<b>38</b>	<b>40</b>	<b>43</b>	<b>34</b>	<b>31</b>	<b>36</b>	<b>41</b>
Arkansas	Arkansas Childrens Hosp - Little Rock	0	0	2	3	3	17	8
	Baptist Medical Center - Little Rock	0	2	6	6	10	13	8
	Univ Hosp & Ambulatory Care Ct - Little Rock	0	0	0	0	2	2	5
	<b>Total</b>	<b>0</b>	<b>2</b>	<b>8</b>	<b>9</b>	<b>15</b>	<b>32</b>	<b>21</b>
California	California Pacific Med Ctr - San Francisco	30	28	28	26	23	18	27
	Cedars-Sinai Medical Center - Los Angeles	1	16	29	23	26	29	28
	Childrens Hosp - Los Angeles	0	0	0	0	0	3	3
	Donald N. Sharp Mem Comm Hosp - San Diego	18	20	15	18	14	18	16
	Eisenhower Memorial Hospital - Rancho Mirage	0	0	0	0	1	2	0
	Hoag Memorial Hosp Presbyterian - Newport Beach	7	6	6	6	6	4	0
	Loma Linda University Med Ctr - Loma Linda	26	40	43	66	46	36	34
	St Vincent Medical Center - Los Angeles	1	10	9	2	10	12	14
	Stanford University Hospital - Palo Alto	39	50	54	46	41	38	36
	Sutter Memorial Hospital - Sacramento	0	9	4	8	9	7	7
	U C L A Hosp Ctr for Health Sc - Los Angeles	28	50	66	72	75	80	69
	USC - University Hospital - Los Angeles	0	0	0	0	0	3	5
	Univ of CA Davis Med Ctr - Sacramento	0	0	0	1	2	2	1
	Univ of Calif-Irvine Med Ctr - Orange	5	3	3	6	9	5	7
	University Hosp UCSD Med Ctr - San Diego	0	0	9	11	11	9	17
	University of California - San Francisco	0	9	19	13	9	16	4
<b>Total</b>	<b>155</b>	<b>241</b>	<b>285</b>	<b>298</b>	<b>282</b>	<b>282</b>	<b>268</b>	
Colorado	Memorial Hospital - Colorado Springs	0	0	0	0	4	5	1
	Presbyterian/St Luke's Hosp - Denver	14	8	11	4	7	9	5
	The Childrens Hosp Association - Denver	0	0	3	5	9	20	22
	University Hospital - Denver	4	13	13	8	20	29	23
	<b>Total</b>	<b>18</b>	<b>21</b>	<b>27</b>	<b>27</b>	<b>40</b>	<b>63</b>	<b>51</b>

Source: UNOS Scientific Registry data as of October 7, 1995.



**Table 68**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Heart Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Connecticut	Hartford Hospital - Hartford	17	12	12	10	14	12	11
	Yale New Haven Hosp - New Haven	4	14	9	19	11	12	12
	<b>Total</b>	<b>21</b>	<b>26</b>	<b>21</b>	<b>29</b>	<b>25</b>	<b>24</b>	<b>23</b>
District of Columbia	Childrens Hospital NMC - Washington	0	2	2	3	1	4	3
	George Washington Univ Hosp - Washington	1	2	4	4	1	2	0
	Georgetown Univ Hosp - Washington	5	2	2	5	1	4	2
	Washington Hosp Ctr - Washington	14	7	10	13	10	13	0
	<b>Total</b>	<b>20</b>	<b>13</b>	<b>10</b>	<b>25</b>	<b>13</b>	<b>23</b>	<b>14</b>
Florida	Jackson Memorial Hosp - Miami	8	9	10	12	15	12	13
	Shands Teaching Hosp & Clinics - Gainesville	14	10	21	28	36	38	40
	St Joseph's Hosp - Tampa	5	0	0	0	0	0	0
	Tallahassee Mem Reg Med Ctr - Tallahassee	9	10	7	0	0	0	8
	Tampa General Hosp - Tampa	14	29	36	34	36	37	27
	<b>Total</b>	<b>50</b>	<b>67</b>	<b>74</b>	<b>82</b>	<b>93</b>	<b>95</b>	<b>88</b>
Georgia	Emory University Hosp - Atlanta	18	24	26	25	27	31	31
	Henrietta Egleston Childrens Hosp - Atlanta	4	3	6	4	7	6	16
	St Joseph's Hospital - Atlanta	47	26	22	19	16	20	18
	University Hosp - Augusta	3	0	0	0	0	0	0
	<b>Total</b>	<b>72</b>	<b>53</b>	<b>54</b>	<b>48</b>	<b>50</b>	<b>57</b>	<b>65</b>
Hawaii	St Francis Hospital - Honolulu	1	3	3	3	6	1	4
	<b>Total</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>4</b>
Illinois	Childrens Memorial Hospital - Chicago	5	11	6	11	6	4	6
	Evanston Hospital - Evanston	9	5	6	2	8	8	11
	Hines VA Hospital - Hines	8	10	4	3	7	6	0
	Loyola University Med Center - Maywood	30	23	31	34	29	33	28
	Rush-Presbyterian-St Luke's Med - Chicago	1	6	0	3	2	1	14
	St Francis Medical Center - Peoria	8	9	13	14	10	9	14
	University of Chicago Med Ctr - Chicago	1	2	3	3	5	3	3
	University of Illinois Hosp - Chicago	15	0	0	0	0	0	2
	<b>Total</b>	<b>77</b>	<b>66</b>	<b>63</b>	<b>70</b>	<b>67</b>	<b>64</b>	<b>78</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 68**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Heart Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Indiana	Indiana University Hospitals - Indianapolis	17	13	14	25	13	13	13
	Methodist Hosp of Indiana Inc - Indianapolis	21	17	21	12	13	15	24
	St Vincent Hosp & Health Ctr - Indianapolis	9	7	7	6	13	20	21
	The Lutheran Hosp of Ft. Wayne - Fort Wayne	18	11	18	13	13	9	14
	<b>Total</b>	<b>65</b>	<b>48</b>	<b>60</b>	<b>58</b>	<b>55</b>	<b>58</b>	<b>72</b>
Iowa	Mercy Hospital Med Ctr - Des Moines	13	9	6	4	13	3	7
	University of Iowa Hosp Clinic - Iowa City	13	7	13	12	13	17	11
	<b>Total</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>13</b>	<b>20</b>	<b>20</b>	<b>18</b>
Kansas	St Francis Regional Med Ctr - Wichita	6	6	9	12	7	12	6
	Univ of Kansas Med Ctr - Kansas City	6	5	13	11	11	6	4
	<b>Total</b>	<b>13</b>	<b>11</b>	<b>13</b>	<b>23</b>	<b>18</b>	<b>18</b>	<b>13</b>
Kentucky	Audubon Reg Medical Center - Louisville	4	0	0	0	0	0	0
	Jewish Hosp - Louisville	9	13	20	17	15	17	20
	Kosair Childrens Hospital - Louisville	5	3	1	5	1	7	1
	University Hosp - Lexington	0	0	0	20	11	21	17
	<b>Total</b>	<b>20</b>	<b>20</b>	<b>21</b>	<b>42</b>	<b>27</b>	<b>45</b>	<b>38</b>
Louisiana	Louisiana State Univ Hospital - Shreveport	0	0	0	0	0	0	1
	Ochsner Foundation Hospital - New Orleans	13	18	27	41	50	49	55
	Tulane Medical Ctr Hosp - New Orleans	0	0	0	0	1	4	13
	Willis Knighton Medical Ctr - Shreveport	0	0	12	13	22	17	27
	<b>Total</b>	<b>13</b>	<b>18</b>	<b>39</b>	<b>57</b>	<b>73</b>	<b>70</b>	<b>93</b>
Maryland	Johns Hopkins Hosp - Baltimore	13	18	13	18	13	13	14
	University of Maryland Hospital - Baltimore	1	1	2	3	6	6	3
	<b>Total</b>	<b>13</b>	<b>18</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>25</b>	<b>17</b>
Massachusetts	Brigham & Woman's Hospital - Boston	23	31	33	37	31	34	23
	Massachusetts General Hosp - Boston	7	4	13	13	22	13	17
	New England Med Ctr Hosp - Boston	3	7	5	4	13	5	6
	The Childrens Hospital - Boston	6	5	4	1	4	6	7
	<b>Total</b>	<b>39</b>	<b>47</b>	<b>52</b>	<b>58</b>	<b>67</b>	<b>67</b>	<b>55</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 68**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Heart Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Michigan	Harper Grace Hosp - Detroit	0	2	5	3	4	0	0
	Henry Ford Hospital - Detroit	21	16	19	7	11	17	19
	Univ of Michigan Hospital - Ann Arbor	30	20	17	29	20	29	22
	William Beaumont Hospital - Royal Oak	0	1	3	1	2	1	1
	<b>Total</b>	<b>51</b>	<b>48</b>	<b>55</b>	<b>48</b>	<b>37</b>	<b>47</b>	<b>42</b>
Minnesota	Abbott-Northwestern Hospital - Minneapolis	29	20	18	17	13	20	16
	St Mary's Hospital - Rochester	3	0	7	11	19	16	21
	University of Minnesota Hosp - Minneapolis	24	21	23	23	32	18	23
	<b>Total</b>	<b>56</b>	<b>53</b>	<b>49</b>	<b>51</b>	<b>64</b>	<b>54</b>	<b>60</b>
Mississippi	Univ of Mississippi Med Ctr - Jackson	0	1	0	2	0	0	14
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>14</b>
Missouri	Barnes Hosp - Saint Louis	34	25	19	17	27	19	26
	Depaul Health Center - Bridgeton	1	1	0	0	0	0	0
	Glennon Cardinal Mem Hosp - Saint Louis	2	1	2	4	2	5	0
	Menorah Med Ctr - Kansas City	2	3	0	0	0	0	0
	Saint Louis Childrens Hospital - Saint Louis	3	3	5	13	0	14	18
	Saint Louis Univ Medical Center - Saint Louis	24	20	17	20	22	29	22
	St Luke's Hosp - Kansas City	13	11	11	18	18	14	25
	University Hospital & Clinic - Columbia	0	2	3	19	0	14	19
	<b>Total</b>	<b>79</b>	<b>66</b>	<b>57</b>	<b>92</b>	<b>79</b>	<b>95</b>	<b>101</b>
Nebraska	Ami St Joseph Hospital - Omaha	0	0	3	1	1	0	0
	Bishop Clarkson Memorial Hosp - Omaha	1	0	0	0	0	0	0
	Bryan Mem Hosp - Lincoln	7	0	0	0	0	11	11
	Univ of Nebraska Med Ctr - Omaha	0	0	0	0	0	0	0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>13</b>	<b>11</b>	<b>19</b>
New Jersey	Newark Beth Israel Medical Ctr - Newark	0	0	12	19	20	21	20
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>16</b>	<b>26</b>	<b>21</b>	<b>26</b>
New Mexico	Presbyterian Hosp Center - Albuquerque	17	6	20	15	8	13	10
	<b>Total</b>	<b>17</b>	<b>6</b>	<b>20</b>	<b>15</b>	<b>8</b>	<b>13</b>	<b>10</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 68**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Heart Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
New York	Buffalo General Hosp - Buffalo	6	8	10	12	12	15	6
	Childrens Hospital - Buffalo	0	0	1	0	0	0	0
	Mount Sinai Medical Center - New York	0	2	8	22	25	31	26
	Presbyterian Hosp in NY City - New York	60	84	108	83	85	58	76
	VA Medical Center - Buffalo	3	1	2	2	0	0	1
	<b>Total</b>		<b>69</b>	<b>95</b>	<b>129</b>	<b>119</b>	<b>122</b>	<b>104</b>
North Carolina	Carolinas Medical Center - Charlotte	17	16	24	18	26	19	22
	Duke University Medical Center - Durham	13	8	15	10	8	20	25
	North Carolina Baptist Hosp - Winston-Salem	4	1	0	0	0	2	7
	North Carolina Memorial Hosp - Chapel Hill	8	5	12	6	20	11	15
	Pitt County Memorial Hospital - Greenville	1	0	5	0	0	7	3
	<b>Total</b>		<b>43</b>	<b>30</b>	<b>56</b>	<b>34</b>	<b>54</b>	<b>59</b>
Ohio	Childrens Hosp Medical Center - Cincinnati	0	0	2	5	1	3	2
	Cleveland Clinic Foundation - Cleveland	17	19	33	41	68	60	64
	Medical College Hospitals - Toledo	7	10	7	0	0	8	7
	Ohio State University Hospital - Columbus	11	12	18	17	18	18	16
	Univ of Cincinnati Med Ctr - Cincinnati	13	10	17	24	19	22	22
	University Hospital - Cleveland	5	5	2	4	7	0	1
	<b>Total</b>		<b>53</b>	<b>56</b>	<b>79</b>	<b>91</b>	<b>113</b>	<b>111</b>
Oklahoma	Baptist Medical Ctr of Oklahoma - Oklahoma City	35	22	25	24	27	17	26
	Oklahoma Childrens Hospital - Oklahoma City	1	5	4	3	1	1	0
	St Francis Hospital - Tulsa	0	0	0	0	0	2	17
	The University Hospital - Oklahoma City	3	6	2	2	5	7	9
	<b>Total</b>		<b>39</b>	<b>33</b>	<b>31</b>	<b>29</b>	<b>33</b>	<b>27</b>
Oregon	Oregon Health Sciences Univ Hosp - Portland	24	25	42	34	34	31	27
	<b>Total</b>		<b>24</b>	<b>25</b>	<b>42</b>	<b>34</b>	<b>34</b>	<b>31</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 68**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Heart Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Pennsylvania	Allegheny General Hosp - Pittsburgh	19	7	15	19	13	11	8
	Childrens Hosp - Pittsburgh	7	0	11	13	5	9	9
	Childrens Hospital - Philadelphia	0	0	7	13	2	2	4
	Hahnemann University Hosp - Philadelphia	0	0	2	0	19	25	33
	Hosp of Univ of Pennsylvania - Philadelphia	16	12	15	18	23	18	22
	Presbyterian-University Hosp - Pittsburgh	54	41	39	39	35	40	34
	St Christopher Hosp for Children - Philadelphia	2	4	4	3	7	12	9
	Temple University Hospital - Philadelphia	19	31	49	29	59	61	67
	University Hosp Milton Hershey - Hershey	12	7	19	19	14	13	22
	<b>Total</b>		<b>131</b>	<b>111</b>	<b>161</b>	<b>151</b>	<b>175</b>	<b>191</b>
South Carolina	Medical University Hosp - Charleston	19	11	14	13	13	18	20
	<b>Total</b>	<b>19</b>	<b>11</b>	<b>14</b>	<b>11</b>	<b>19</b>	<b>19</b>	<b>20</b>
Tennessee	Baptist Memorial Hosp - Memphis	5	4	14	0	0	11	13
	Lebonheur Childrens Hosp - Memphis	1	2	1	2	0	2	1
	Methodist Hosp - Memphis	19	0	0	4	0	3	4
	St Thomas Hospital - Nashville	12	7	13	11	19	23	19
	Vanderbilt University Med Ctr - Nashville	12	28	19	25	20	19	24
	<b>Total</b>	<b>40</b>	<b>50</b>	<b>72</b>	<b>50</b>	<b>50</b>	<b>69</b>	<b>61</b>
Texas	Baylor University Medical Ctr - Dallas	20	21	25	32	12	15	16
	Brooke Army Medical Center - Fort Sam Houston	0	0	0	0	0	2	2
	Childrens Med Ctr - Dallas	3	5	1	5	3	2	4
	Hermann Hospital - Houston	0	0	0	3	0	0	0
	Medical City Dallas Hospital - Dallas	0	0	0	5	0	15	12
	Methodist Hospital - Lubbock	0	0	0	4	13	12	8
	Methodist Medical Center - Dallas	15	19	0	7	12	10	4
	San Antonio Regional Hospital - San Antonio	13	12	12	13	20	17	15
	Seton Medical Center - Austin	19	19	13	14	11	8	6
	St Luke's Episcopal Hosp - Houston	64	61	47	47	44	40	51
	St Paul Medical Center - Dallas	8	25	31	19	20	18	15
	The Methodist Hospital - Houston	35	37	44	40	30	27	23
	UTHSC - San Antonio	13	9	14	14	9	13	6
	University of Texas-Med Branch - Galveston	0	0	0	0	0	10	5
<b>Total</b>		<b>181</b>	<b>196</b>	<b>193</b>	<b>201</b>	<b>185</b>	<b>189</b>	<b>167</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 68**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Heart Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Utah	Latter-Day Saints Hospital - Salt Lake City	21	24	24	22	19	12	11
	Primary Childrens Medical Ctr - Salt Lake City	0	0	0	1	7	7	9
	University of Utah Hosp - Salt Lake City	31	31	35	18	15	11	15
	VA Medical Center - Salt Lake City	18	24	18	20	16	16	4
	<b>Total</b>	<b>71</b>	<b>79</b>	<b>77</b>	<b>62</b>	<b>60</b>	<b>46</b>	<b>39</b>
Virginia	Childrens Hosp Kings Daughter - Norfolk	0	0	7	3	3	1	3
	Fairfax Hosp - Falls Church	9	11	12	16	12	16	22
	Henrico Doctors Hospital - Richmond	0	1	13	11	17	12	9
	McGuire VA Medical Center - Richmond	27	11	12	16	7	0	12
	Medical College of Virginia - Richmond	46	18	20	25	15	0	4
	Sentara Norfolk General - Norfolk	0	16	16	21	0	9	14
	Univ of Va Hosp & Childrens Rehab - Charlottesville	0	3	20	25	25	22	27
	<b>Total</b>	<b>82</b>	<b>54</b>	<b>97</b>	<b>105</b>	<b>87</b>	<b>77</b>	<b>91</b>
Washington	Childrens Hospital & Med Ctr - Seattle	0	0	0	0	0	0	1
	Sacred Heart Medical Center - Spokane	0	0	16	15	9	13	16
	University Hospital - Seattle	17	13	20	24	21	16	14
	<b>Total</b>	<b>17</b>	<b>13</b>	<b>38</b>	<b>39</b>	<b>30</b>	<b>32</b>	<b>31</b>
Wisconsin	Childrens Hosp of Wisconsin - Milwaukee	0	0	0	1	0	1	1
	John L. Doyne Hospital - Milwaukee	0	0	11	0	4	2	5
	St Luke's Medical Center - Milwaukee	22	22	20	27	27	20	24
	University of Wisconsin Hosp - Madison	13	15	0	16	19	42	57
	<b>Total</b>	<b>41</b>	<b>45</b>	<b>49</b>	<b>53</b>	<b>50</b>	<b>73</b>	<b>87</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 69**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Lung Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Alabama	University of Alabama Hosp - Birmingham	0	1	2	6	9	11	23
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>6</b>	<b>9</b>	<b>11</b>	<b>23</b>
Arizona	University Medical Ctr Corp - Tucson	0	0	4	4	4	5	6
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>6</b>
California	Cedars-Sinai Medical Center - Los Angeles	1	9	12	0	0	5	7
	Childrens Hosp - Los Angeles	0	0	0	0	0	2	3
	Donald N. Sharp Mem Comm Hosp - San Diego	0	0	1	2	5	4	3
	Stanford University Hospital - Palo Alto	0	0	0	0	6	0	0
	U C L A Hosp Ctr for Health Sc - Los Angeles	0	0	3	0	3	11	21
	USC - University Hospital - Los Angeles	0	0	0	0	1	10	17
	Univ of CA Davis Med Ctr - Sacramento	0	0	0	0	0	0	1
	University Hosp UCSD Med Ctr - San Diego	0	0	3	15	12	10	17
	University of California - San Francisco	0	0	0	1	4	11	6
<b>Total</b>	<b>1</b>	<b>17</b>	<b>28</b>	<b>35</b>	<b>40</b>	<b>70</b>	<b>83</b>	
Colorado	Presbyterian/St Luke's Hosp - Denver	2	2	2	3	1	0	1
	University Hospital - Denver	0	0	0	0	0	14	20
	<b>Total</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>10</b>	<b>14</b>	<b>21</b>
Connecticut	Yale New Haven Hosp - New Haven	0	0	2	0	1	1	0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>
Florida	Shands Teaching Hosp & Clinics - Gainesville	0	0	0	0	0	0	17
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>
Georgia	Emory University Hosp - Atlanta	0	0	0	0	0	3	7
	Henrietta Eggleston Childrens Hosp - Atlanta	0	0	0	0	0	0	1
	University Hosp - Augusta	1	0	0	0	0	0	0
	<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>
Illinois	Loyola University Med Center - Maywood	1	1	0	0	28	50	33
	Northwestern Memorial Hospital - Chicago	1	0	0	0	0	0	0
	University of Illinois Hosp - Chicago	0	0	0	0	0	0	3
	<b>Total</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>50</b>	<b>36</b>
Indiana	Indiana University Hospitals - Indianapolis	0	0	0	4	3	3	4
	Methodist Hosp of Indiana Inc - Indianapolis	0	1	4	16	10	15	11
	The Lutheran Hosp of Ft. Wayne - Fort Wayne	0	1	1	3	2	5	2
	<b>Total</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>23</b>	<b>15</b>	<b>23</b>	<b>17</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 69**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Lung Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Iowa	Mercy Hospital Med Ctr - Des Moines	1	0	0	0	0	0	0
	University of Iowa Hosp Clinic - Iowa City	1	2	0	5	6	8	6
	<b>Total</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>6</b>
Kentucky	Audubon Reg Medical Center - Louisville	0	1	0	0	0	0	0
	Jewish Hosp - Louisville	0	0	0	1	0	1	7
	University Hosp - Lexington	0	0	0	1	5	12	19
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>13</b>	<b>26</b>
Louisiana	Ochsner Foundation Hospital - New Orleans	0	0	0	2	5	5	9
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>9</b>
Maryland	Johns Hopkins Hosp - Baltimore	0	0	0	0	0	1	3
	University of Maryland Hospital - Baltimore	0	0	0	0	2	3	2
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>5</b>
Massachusetts	Brigham & Woman's Hospital - Boston	0	0	6	8	12	12	9
	Massachusetts General Hosp - Boston	0	0	3	11	7	6	7
	The Childrens Hospital - Boston	0	0	1	1	4	4	2
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>23</b>	<b>22</b>	<b>18</b>
Michigan	Henry Ford Hospital - Detroit	0	0	0	0	0	0	1
	Univ of Michigan Hospital - Ann Arbor	0	0	3	19	17	10	16
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>19</b>	<b>17</b>	<b>10</b>	<b>17</b>
Minnesota	Abbott-Northwestern Hospital - Minneapolis	2	0	2	1	5	0	0
	Rochester Methodist Hosp - Rochester	0	0	1	0	0	0	0
	St Mary's Hospital - Rochester	0	0	2	3	12	0	2
	University of Minnesota Hosp - Minneapolis	2	0	11	16	25	29	31
	<b>Total</b>	<b>0</b>	<b>16</b>	<b>16</b>	<b>20</b>	<b>42</b>	<b>35</b>	<b>33</b>
Mississippi	Univ of Mississippi Med Ctr - Jackson	0	2	1	0	0	0	0
	<b>Total</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Missouri	Barnes Hosp - Saint Louis	5	23	37	42	46	48	48
	Saint Louis Childrens Hospital - Saint Louis	0	0	3	12	16	14	21
	Saint Louis Univ Medical Center - Saint Louis	1	2	1	3	0	0	5
	<b>Total</b>	<b>0</b>	<b>25</b>	<b>41</b>	<b>57</b>	<b>70</b>	<b>68</b>	<b>74</b>
Nebraska	Bryan Mem Hosp - Lincoln	0	0	0	0	3	4	3
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>3</b>

Source: UNOS Scientific Registry data as of October 7, 1995.



**Table 69**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Lung Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
New Jersey	Newark Beth Israel Medical Ctr - Newark	0	0	0	0	3	8	4
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>4</b>
New York	Mount Sinai Medical Center - New York	0	0	0	0	2	3	4
	Presbyterian Hosp in NY City - New York	0	3	15	19	18	32	20
	<b>Total</b>	<b>0</b>	<b>3</b>	<b>15</b>	<b>19</b>	<b>20</b>	<b>35</b>	<b>24</b>
North Carolina	Duke University Medical Center - Durham	0	0	0	0	5	15	25
	North Carolina Baptist Hosp - Winston-Salem	0	1	1	0	0	0	0
	North Carolina Memorial Hosp - Chapel Hill	0	0	11	26	22	20	18
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>12</b>	<b>26</b>	<b>27</b>	<b>35</b>	<b>43</b>
Ohio	Cleveland Clinic Foundation - Cleveland	0	0	5	18	19	21	16
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>18</b>	<b>19</b>	<b>21</b>	<b>16</b>
Oklahoma	Baptist Medical Ctr of Oklahoma - Oklahoma City	0	0	1	5	2	7	5
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>7</b>	<b>5</b>
Oregon	Oregon Health Sciences Univ Hosp - Portland	0	0	0	0	2	3	3
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>3</b>
Pennsylvania	Allegheny General Hosp - Pittsburgh	0	0	0	0	3	4	3
	Childrens Hosp - Pittsburgh	0	1	1	4	8	4	4
	Childrens Hospital - Philadelphia	0	0	0	0	1	0	1
	Hosp of Univ of Pennsylvania - Philadelphia	0	0	0	3	12	30	32
	Presbyterian-University Hosp - Pittsburgh	5	5	13	54	55	63	38
	Temple University Hospital - Philadelphia	0	0	0	0	0	0	13
	<b>Total</b>	<b>5</b>	<b>6</b>	<b>14</b>	<b>61</b>	<b>79</b>	<b>101</b>	<b>91</b>
South Carolina	Medical University Hosp - Charleston	0	0	0	0	0	0	6
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>
Tennessee	Baptist Memorial Hosp - Memphis	0	0	0	2	5	2	2
	Lebonheur Childrens Hosp - Memphis	0	0	0	1	0	0	0
	Vanderbilt University Med Ctr - Nashville	0	0	5	9	9	8	14
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>12</b>	<b>14</b>	<b>10</b>	<b>16</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 69**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Lung Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Texas	Baylor University Medical Ctr - Dallas	0	0	2	2	5	4	16
	Hermann Hospital - Houston	0	0	0	0	0	0	1
	San Antonio Regional Hospital - San Antonio	0	1	0	0	0	0	0
	St Luke's Episcopal Hosp - Houston	0	0	0	0	0	0	3
	St Paul Medical Center - Dallas	0	0	1	1	1	2	4
	The Methodist Hospital - Houston	3	0	5	10	10	15	14
	UTHSC - San Antonio	2	13	22	10	15	14	12
	<b>Total</b>	<b>5</b>	<b>20</b>	<b>30</b>	<b>31</b>	<b>37</b>	<b>35</b>	<b>50</b>
Utah	University of Utah Hosp - Salt Lake City	0	0	0	0	1	3	0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>
Virginia	Fairfax Hosp - Falls Church	0	0	0	1	1	2	0
	McGuire VA Medical Center - Richmond	0	0	0	1	1	1	1
	Medical College of Virginia - Richmond	0	0	0	3	4	5	0
	Sentara Norfolk General - Norfolk	0	0	0	0	3	3	2
	Univ of Va Hosp & Childrens Rehab - Charlottesville	0	0	3	0	17	18	18
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>13</b>	<b>20</b>	<b>20</b>	<b>22</b>
Washington	Sacred Heart Medical Center - Spokane	0	0	0	0	4	7	1
	University Hospital - Seattle	0	0	0	0	12	13	13
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>14</b>
Wisconsin	John L. Doyne Hospital - Milwaukee	0	0	0	2	2	4	9
	St Luke's Medical Center - Milwaukee	0	0	0	0	5	1	1
	University of Wisconsin Hosp - Madison	1	0	0	1	2	8	16
	<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>9</b>	<b>13</b>	<b>26</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 70**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Heart-Lung Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Alabama	University of Alabama Hosp - Birmingham	1	2	2	0	1	1	2
	<b>Total</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>
Arizona	University Medical Ctr Corp - Tucson	3	8	1	4	1	2	7
	<b>Total</b>	<b>3</b>	<b>8</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>7</b>
California	Childrens Hosp - Los Angeles	0	0	0	0	0	1	4
	Donald N. Sharp Mem Comm Hosp - San Diego	0	0	0	0	1	1	1
	Stanford University Hospital - Palo Alto	16	14	14	11	4	7	12
	U C L A Hosp Ctr for Health Sc - Los Angeles	1	1	0	0	0	0	0
	University Hosp UCSD Med Ctr - San Diego	0	0	1	1	1	2	2
	University of California - San Francisco	0	0	0	0	0	0	1
	<b>Total</b>	<b>17</b>	<b>15</b>	<b>15</b>	<b>12</b>	<b>6</b>	<b>12</b>	<b>20</b>
Colorado	Presbyterian/St Luke's Hosp - Denver	0	1	1	1	0	0	0
	University Hospital - Denver	0	0	0	0	0	0	1
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
Connecticut	Yale New Haven Hosp - New Haven	3	3	4	1	0	0	0
	<b>Total</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
Georgia	Emory University Hosp - Atlanta	1	2	0	1	0	0	0
	Henrietta Egleston Childrens Hosp - Atlanta	0	0	0	0	0	1	0
	University Hosp - Augusta	1	0	0	0	0	0	0
	<b>Total</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>
Illinois	Loyola University Med Center - Maywood	0	1	0	3	1	0	3
	University of Illinois Hosp - Chicago	1	0	0	0	0	0	0
	<b>Total</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>3</b>
Indiana	Methodist Hosp of Indiana Inc - Indianapolis	0	1	1	0	1	1	0
	The Lutheran Hosp of Ft. Wayne - Fort Wayne	0	1	0	0	0	0	0
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>
Iowa	University of Iowa Hosp Clinic - Iowa City	1	0	0	0	2	0	2
	<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>
Kentucky	Jewish Hosp - Louisville	1	0	0	0	0	1	0
	University Hosp - Lexington	0	0	0	0	0	2	2
	<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>
Louisiana	Ochsner Foundation Hospital - New Orleans	0	0	1	0	0	0	0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 70**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Heart-Lung Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Maryland	Johns Hopkins Hosp - Baltimore	4	2	3	0	0	0	0
	<b>Total</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Massachusetts	Brigham & Woman's Hospital - Boston	0	0	0	0	1	1	1
	The Childrens Hospital - Boston	0	0	0	0	1	1	1
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>2</b>
Michigan	Harper Grace Hosp - Detroit	0	1	0	0	0	0	0
	Univ of Michigan Hospital - Ann Arbor	1	0	0	2	2	1	2
	<b>Total</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>2</b>
Minnesota	Abbott-Northwestern Hospital - Minneapolis	3	0	3	0	0	0	0
	St Mary's Hospital - Rochester	0	0	0	0	0	0	1
	University of Minnesota Hosp - Minneapolis	2	9	6	3	1	3	5
	<b>Total</b>	<b>5</b>	<b>9</b>	<b>9</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>6</b>
Mississippi	Univ of Mississippi Med Ctr - Jackson	1	0	1	0	0	0	0
	<b>Total</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Missouri	Barnes Hosp - Saint Louis	1	0	0	0	0	0	0
	Saint Louis Childrens Hospital - Saint Louis	0	0	0	0	0	4	1
	Saint Louis Univ Medical Center - Saint Louis	0	1	0	2	1	2	1
	<b>Total</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>2</b>
New Mexico	Presbyterian Hosp Center - Albuquerque	0	3	1	0	0	0	0
	<b>Total</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
New York	Mount Sinai Medical Center - New York	0	0	0	0	3	2	2
	Presbyterian Hosp in NY City - New York	2	3	3	3	1	2	2
	<b>Total</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>4</b>
North Carolina	Duke University Medical Center - Durham	0	0	0	0	1	0	2
	North Carolina Memorial Hosp - Chapel Hill	0	0	0	2	0	1	1
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>
Ohio	Cleveland Clinic Foundation - Cleveland	0	0	0	0	1	2	1
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>
Oklahoma	Baptist Medical Ctr of Oklahoma - Oklahoma City	2	1	0	0	0	0	0
	<b>Total</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Oregon	Oregon Health Sciences Univ Hosp - Portland	0	0	0	0	0	2	0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>

Source: UNOS Scientific Registry data as of October 7, 1995.

**Table 70**  
**Transplants by State and Transplant Center -- 1988 to 1994**

**Heart-Lung Transplants**

State	Transplant Center	1988	1989	1990	1991	1992	1993	1994
Pennsylvania	Childrens Hosp - Pittsburgh	0	1	0	4	6	5	1
	Presbyterian-University Hosp - Pittsburgh	11	3	4	3	8	5	3
	Temple University Hospital - Philadelphia	3	0	0	0	0	0	0
	<b>Total</b>	<b>14</b>	<b>4</b>	<b>4</b>	<b>7</b>	<b>14</b>	<b>10</b>	<b>4</b>
South Carolina	Medical University Hosp - Charleston	0	0	0	0	0	0	1
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
Tennessee	Baptist Memorial Hosp - Memphis	0	0	0	1	0	2	2
	Vanderbilt University Med Ctr - Nashville	3	0	0	0	0	0	0
	<b>Total</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>2</b>
Texas	Baylor University Medical Ctr - Dallas	0	2	0	0	0	1	1
	San Antonio Regional Hospital - San Antonio	1	1	0	1	0	0	0
	The Methodist Hospital - Houston	4	4	1	0	0	0	0
	UTHSC - San Antonio	3	1	0	0	0	0	0
	University of Texas-Med Branch - Galveston	0	0	0	0	0	0	1
	<b>Total</b>	<b>8</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>
Utah	University of Utah Hosp - Salt Lake City	1	0	0	0	0	0	0
	<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Virginia	McGuire VA Medical Center - Richmond	1	0	1	0	1	0	1
	Medical College of Virginia - Richmond	1	0	1	2	1	1	0
	Sentara Norfolk General - Norfolk	0	0	0	0	0	1	1
	Univ of Va Hosp & Childrens Rehab - Charlottesville	0	0	0	2	0	0	0
	<b>Total</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>
Washington	Sacred Heart Medical Center - Spokane	0	0	2	4	6	1	0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>1</b>	<b>0</b>
Wisconsin	Childrens Hosp of Wisconsin - Milwaukee	0	0	0	0	0	0	1
	University of Wisconsin Hosp - Madison	0	1	0	0	2	0	1
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>

Source: UNOS Scientific Registry data as of October 7, 1995.



## **Appendix A**

### **History of the OPTN and the Scientific Registry**





## APPENDIX A

### History of the OPTN and the Scientific Registry

#### LEGISLATIVE HISTORY OF THE OPTN AND SCIENTIFIC REGISTRY

By the early 1980s, organ transplantation had brought new hope to thousands of people suffering from diseases of the heart, liver, kidneys, lungs, and other organs. Nevertheless, many patients were having difficulties obtaining transplants, leading some to seek assistance through media coverage. During 1983 and 1984, issues related to human organ transplantation were widely publicized. As the issues drew Congressional attention, it soon became clear that a more comprehensive solution to transplantation-related problems was necessary. On November 3, 1983, a bill was introduced providing for the establishment of a *Task Force on Organ Procurement and Transplantation* and an *Organ Procurement and Transplantation Network*. This law, PL 98-507, passed by Congress in October 1984, is known as *The National Organ Transplant Act (NOTA)*.

As required by law, the Secretary of Health and Human Services assembled a 25-member Task Force to conduct comprehensive studies of medical, legal, ethical, economic, and social issues relevant to human organ transplantation. To study these issues, experts in medicine, immunology, law, theology, ethics, allied health, the health insurance industry, and public advocacy were joined by representatives of the Office of the Surgeon General of the Public Health Service (PHS), the National Institutes of Health (NIH), the Food and Drug Administration (FDA), the Health Care Financing Administration (HCFA), and staff from the Office of Organ Transplantation, Health Resources and Services Administration (HRSA). Upon completion of the Task Force report, HRSA issued a request in the fall of 1986 for proposals to establish a National Organ Procurement and Transplantation Network (OPTN) under the National Organ Transplant Act. In the same year, new legislation (Omnibus Budget Reconciliation Act, PL 99-509) mandated that *all* Organ Procurement Organizations (OPOs) and transplant programs be members of the OPTN. On September 30, 1986, UNOS was awarded the OPTN

contract; the Scientific Registry contract was awarded one year later. Both contracts with UNOS were competitively renewed for three years in September 1990 and most recently in September 1993.

Provisions of NOTA were amended in 1988 and 1990, including expansion of OPTN responsibilities to increase the donor organ supply and assist OPOs in nationwide placement of organs not placed locally.

#### CURRENT ROLE OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES

The OPTN and Scientific Registry contracts are administered by the Division of Transplantation, a division of HRSA within the United States Department of Health and Human Services (DHHS). Under the terms of both contracts, UNOS conducts numerous tasks and projects to meet the Federally-established goals of the OPTN and the Scientific Registry. Written reports on the progress and completion of these tasks are regularly provided to the HRSA Project Officer and the Director of the Division of Transplantation (DT). Representatives of the DT attend all UNOS Board of Directors and committee meetings (except for executive sessions devoted to matters not involving contract funds).

The government has access to all data collected and generated under both contracts. On a monthly basis, UNOS is required to supply all data to HRSA and HCFA, including patient and institution-identified information. Any distribution of data by UNOS to parties other than HRSA or HCFA must include necessary Privacy Act protection.

#### PURPOSE OF THE OPTN

From the inception of the OPTN, its purpose has been "to improve the effectiveness of the nation's organ donation, procurement, and transplantation system by increasing the availability of and access

to donor organs for patients with end-stage organ failure."<sup>1</sup> More specifically, as specified in the original HRSA Request for Proposals, the goals of the OPTN are to:

- Improve the effectiveness of cadaver organ procurement and distribution.
- Increase patient access to state-of-the-art transplantation technology.
- Improve the system for sharing renal and extra-renal organs so as to:
  - facilitate donor and recipient matching, based on specific criteria established for each organ;
  - improve transplantation outcomes;
  - provide a system by which immunologically sensitized patients are afforded the best possible opportunity to be matched with a compatible donor;
  - decrease the wastage of organs.
- Assure quality control by collection, analysis, and publication of data on organ donation, procurement, and transplantation.
- Maintain and improve professional skills of those involved in organ procurement and transplantation.

To achieve these goals, the OPTN operates and maintains a national computer list of patients waiting for kidney, heart, heart/lung, lung, liver, pancreas, and small bowel transplants. UNOS also maintains a computer-assisted organ allocation system and an Organ Center, which allows 24-hour transplant program access to the donor/recipient matching system. Data collected by the OPTN pertain to patients waiting for transplants, donors and recipients of donated organs, donor/recipient

<sup>1</sup> From HRSA 1986 Request for Proposals for OPTN contract.

matching and organ allocation, and donor/recipient histocompatibility.

In order to operate the OPTN, UNOS has adopted corporate by-laws and policies governing membership standards, organ allocation, and data management. These policies and by-laws have been reviewed by the Secretary of the DHHS. On September 8, 1994, the DHHS published for public comment a Notice of Proposed Rulemaking for the OPTN in the *Federal Register*. The proposed rules establish requirements and procedures for membership in the OPTN, listing transplants on a nationwide computer network, allocating organs, and maintaining records and reporting by member Organ Procurement Organizations (OPOs) and transplant hospitals. Subject to consideration of the comments submitted, some of the policies may be promulgated as regulations by the DHHS for operation of the OPTN. Until that time, UNOS policies are considered *voluntary guidance* to OPTN members.

#### ORGAN ALLOCATION ACCORDING TO 1995 UNOS POLICIES--A BRIEF DESCRIPTION

The UNOS computer list of potential transplant recipients, together with information pertinent to matching them with donors, is known as the *Waiting List*. UNOS requires that all cadaveric donors be matched against this list before an organ is offered for transplantation. When specific information about a donor is entered into the UNOS computer match program by the local OPO or by UNOS Organ Center staff, the computer rules out each potential recipient with incompatible blood type and body size. The computer then employs a ranking system (Appendix F) to calculate priority for each patient still on the list. A list of potential recipients is then printed, with patients ranked in descending point order. A patient's priority score is determined by a number of different variables that are specific for the type of organ to be transplanted. For example, in renal transplantation, waiting list points are assigned according to 1) time on the waiting list, 2) age (if the recipient is under 19), 3) degree of histocompatibility with the donor, and 4) other indices of immunological compatibility. Although seemingly straightforward, the details of the allocation process are complex. Because time is

crucial once an organ is removed from its donor, current allocation policy requires that organs be offered first to *local* patients (patients within the host OPO's service area) with highest priority. In general, if no suitable local recipients are available, organs are shared regionally and then nationally.

#### PURPOSE OF THE SCIENTIFIC REGISTRY

In the Transplant Act of 1984, it was stipulated that a Scientific Registry be established to collect data for continuous evaluation of the clinical and scientific status of transplantation in the United States. The specific goals of the Scientific Registry, articulated in the Task Force recommendations,<sup>2</sup> the Transplant Act, and the HRSA contract, are as follows:

- To collect, in a computer system, data on all transplant recipients and all transplant programs in the U.S.
- To provide a database that enables regular periodic analysis and reporting on the efficacy of transplantation nationwide.
- To provide a national database for basic and clinical research on organ transplantation.

In contrast to the OPTN, which collects data about donors, Waiting List patients, and information pertinent to organ allocation, the Scientific Registry collects post-transplant recipient data--from the time of transplant until two years following graft failure or recipient death, whichever comes first. Using UNOS organ-specific data collection forms (Appendix G), transplant recipient data are collected, processed, and validated.

Validated data are entered into the Scientific Registry. Data collected include comprehensive medical and histocompatibility information about donors, registrants, and recipients, as well as graft and patient survival information.

<sup>2</sup> Task Force on Organ Transplantation. Organ Transplantation: Issues and Recommendations. Rockville, MD: Division of Transplantation, Health Resources and Services Administration, 1986.

Subject to Privacy Act limitations, data collected and generated by the Scientific Registry are available to members of UNOS, UNOS staff, Board of Directors and committees, the medical community, government officials, private organizations, and the general public. The data have been used in a variety of ways, perhaps the most important of which is to serve as the basis for the development of transplantation policies. With the aid of accurate and timely information about previous transplants and their outcomes, the Federal Government and the transplant community can identify specific factors that maximize the number of transplants, graft survival, and equity in organ allocation. Examples of specific issues that can be addressed with the aid of Scientific Registry data are:

- The impact of HLA matching on transplant outcome.
- The impact of various organ preservation methods on outcome.
- The impact of various donor characteristics (e.g., age, cause of death, medical history) on outcome.
- Differential waiting times, transplant rates, and outcomes among racial, ethnic, gender, and age groups.
- Differential patient/graft survival rates among transplant programs.
- Transplant outcome as a function of patient status and disease diagnosis.

#### BRIEF HISTORY OF UNOS

The UNOS organization functions as both a private, non-profit corporation and a Federal contractor that operates the national OPTN and the Scientific Registry of Transplant Recipients. It is unique in that it is a private corporation that, with input from the Federal Government, develops and implements voluntary policy for a sector of the medical community. A primary goal for UNOS is to ensure equitable organ allocation which results in the best graft survival possible.

In January 1977, UNOS was established as an outgrowth of the South Eastern Regional Organ Procurement Foundation (SEOPF), to facilitate the national use of a computer system for matching kidneys and other organs with suitable recipients. In anticipation of changes in both transplantation technology and related legislation, UNOS was incorporated as a private, non-profit voluntary membership organization in 1984. In 1986, in response to NOTA, the Health Resources and Services Administration issued a Request for Proposals (RFP) from private organizations to operate the national Organ Procurement and Transplantation Network. UNOS submitted a proposal and was awarded the OPTN contract on September 30, 1986. In response to a later RFP, UNOS was awarded the Scientific Registry contract on September 30, 1987. These contracts were competitively renewed for three years in September 1990 and again in September 1993.

The UNOS organization consists of the Board of Directors, members, committees, and a staff in Richmond, Virginia. For details on the composition of these groups and their roles in UNOS policy development, see Appendix C.

#### **ROLE OF UNOS IN THE OPTN AND SCIENTIFIC REGISTRY**

When UNOS was awarded the OPTN and Scientific Registry contracts, it changed its operation to accommodate the mandates of Federal law as established by NOTA. In doing so, the corporation adopted the following objectives:

- Develop policies for the equitable access of available organs for those in need and for the equitable distribution of procured organs.
- Establish and maintain standards of quality in organ procurement, distribution and transportation, histocompatibility testing, and data collection; and assure that such standards are met.
- Collect, verify, store, analyze, and publish data about human organ procurement and transplantation.

- Provide information, communications, and transportation systems to enhance the successful utilization of available donor organs.
- Increase the number of organs available for transplantation by providing information, consultation, and guidance to persons and organizations concerned with human organ transplantation.
- Serve as a national resource regarding all aspects of organ procurement and transplantation.
- Provide administrative and logistical services that enhance the effectiveness of transplant professionals engaged in furthering transplantation.

#### **TASKS REQUIRED IN 1993 OPTN AND SCIENTIFIC REGISTRY CONTRACTS**

Under the terms of the most recent (1993) OPTN and Scientific Registry contracts administered by the Division of Transplantation, UNOS conducts a number of tasks to meet Federally-established goals of the OPTN and the Scientific Registry.

Tasks required by the OPTN contract include the election of a Board of Directors, comprised of representatives from the transplant community, patient advocacy groups, scientific organizations, and public members. The contract also calls for the establishment and maintenance of a committee system with regional representation, for the purposes of OPTN policy development. A computer-based system for listing transplant candidates and matching them with suitable donor organs is also required. The contract specifies certain requirements for data collection as necessary to operate the computer based matching system, and calls for research and data analyses to monitor the various effects of allocation policy.

As required by the Scientific Registry contract, UNOS must establish a Scientific Advisory Committee and maintain a data system which can be used as a resource by the Government and other interested parties. This database maintains medical and demographic information about every transplant

recipient transplanted since October 1, 1987. UNOS also must produce and distribute a report of transplant center-specific survival rates (required to satisfy the Scientific Registry contract) and an Annual Statistical Report (required to satisfy both the OPTN and Scientific Registry contracts).

Also required in both contracts is the performance of special studies at the request of the government. Special studies for the Scientific Registry during this contract period include a study of the effects of conventional and CREG HLA matching on renal graft survival. Special studies for the OPTN include a report on UNOS's development of a computer simulation model for liver allocation.



**Appendix B**  
**Key Transplant Organizations**





## APPENDIX B

### Key Transplant Organizations

Organization	Contact
<b>American Academy of Pediatrics</b> 141 Northwest Point Blvd. P.O. Box 927 Elk Grove Village, IL 60009-0927	Joseph M. Sanders, Jr., M.D. Executive Director Phone: (708) 228-5005
<b>American Association for the Study of Liver Diseases</b> Center for Liver Diseases 1500 NW 12th Ave., Suite 1101 Jackson Medical Towers, East Wing Miami, FL 33136	Eugene R. Schiff, M.D. Secretary-Treasurer Phone: (305) 547-5787
<b>American Association of Blood Banks</b> 8101 Glenbrook Road Bethesda, MD 20814-2749	Karen Lipton Executive Director Phone: (301) 907-6977
<b>American Association of Critical-Care Nurses</b> 101 Columbia Aliso Viejo, CA 92656	Sarah J. Sanford, RN, MA, CNAA, Chief Executive Director Phone: (714) 362-2000
<b>American Association of Kidney Patients</b> 100 S. Ashley Drive, Suite 280 Tampa, FL 33602	Kris Robinson Executive Director Phone: 1-800-749-2257 or (813) 223-7099
<b>American Association of Neurological Surgeons</b> 22 South Washington Street Park Ridge, IL 60068	Carl H. Hauler, COE, Exec. Director Susan Nowicki, APR, Dir. of Communications/Public Relations Phone: (708) 692-9500
<b>American Association of Tissue Banks</b> 1350 Beverly Road, Suite 220-A Mcean, VA 22101	Jeanne Mowe Executive Director Phone: (703) 827-9582
<b>American Board of Transplant Coordinators</b> P.O. Box 15384 Lenea, KS 66285-5384	Deidre Panjada Executive Director Phone: (913) 599-0198
<b>American College of Cardiology</b> 9111 Old Georgetown Road Bethesda, MD 20814-1699	Margit Marselas Manager, Special Projects Phone: (301) 493-2365
<b>American Congress for Organ Recovery and Donation</b> 2111 Swann Avenue Tampa, FL 33606-2486	William W. Pfaff, M.D. President Phone: 1-800-262-5775
<b>American Diabetes Association</b> 1660 Duke Street Alexandria, VA 22314	Richard Kahn, Chief Scientific and Medical Officer Phone: (703) 549-1500 ext. 209

Organization	Contact
<b>American Gastroenterological Association</b> 1500 NW 12th Avenue Suite 1101 Miami, FL 33136	Eugene R. Schiff, M.D. Director Phone: (305) 547-5787
<b>American Heart Association</b> 7272 Greenville Avenue Dallas, TX 75231	Sidney C. Smith, Jr., M.D., President Rodman D. Starke, M.D. Phone: (214) 373-6300
<b>American Hospital Association</b> One North Franklin Street Chicago, IL 60606	Alexandria Gekas Director, National Society for Patient Representation and Consumer Affairs Phone: (312) 422-3000
<b>American Kidney Fund</b> 6110 Executive Boulevard, Suite 1010 Rockville, MD 20852	Francis Soldovere Executive Director Phone: (301) 881-3052 or 1-800-638-8299
<b>American Liver Foundation</b> 1429 Pompton Avenue Cedar Grove, NJ 07009	Alan P. Brownstein, President Ari Maravel, ext. 228 Phone: (201) 256-2550 or 1-800-223-0179
<b>American Medical Association</b> 515 North State Street Chicago, IL 60610	James Todd, M.D. Executive Vice President Phone: (312) 464-5000
<b>American Nephrology Nurses Association</b> East Holly Ave., Box 56 Pitman, NJ 08071	Ron Brady Executive Director Phone: (609) 256-2320
<b>American Nurses Association</b> 600 Maryland Avenue, S.W. Suite 100 West Washington, DC 20024-2571	Geri Marullo, M.S., R.N. Interim Director Phone: (202) 651-7012
<b>American Red Cross Tissue Services</b> National Headquarters 2025 E Street, N.W., Suite 207 Washington, DC 20006	S. Randolph May, Ph.D. National Head, Tissue Services Phone: (202) 728-6501
<b>American Society for Histocompatibility and Immunogenetics</b> P.O. Box 15804 Lenexa, KS 66285-5804	Debbie Elder Executive Director Phone: (913) 541-0009
<b>American Society for Minority Health &amp; Transplant Professionals</b> Post Office Box 8324 St. Louis, MO 63132-0324	Tereasa D. Parks-Thomas President Phone: (314) 991-1661
<b>American Society of Nephrology</b> 1200 19th Street, NW, Suite 300 Washington, DC 20036	Judith Thomas Executive Director Phone: (202) 857-1190

Organization	Contact
<b>American Society of Transplant Physicians</b> ASTP National Office 6900 Grove Road Thorofare, NJ 08086-9447	Douglas J. Norman, M.D., President Susan J. Nelson, ASTP Acct. Exec. Phone: (609) 848-6205
<b>American Society of Transplant Surgeons</b> 716 Lee Street Des Plaines, IL 60016	Nicholas Tilney, M.D. President Phone: (708) 824-5700
<b>American Thoracic Society</b> 1740 Broadway New York, NY 10019	Marilyn Hansen Executive Director Maggie Fallon Phone: (212) 315-6444
<b>American Urological Association</b> 1120 North Charles Street Baltimore, MD 21201	Mr. G. James Gallagher Executive Director Phone: (410) 727-1100
<b>Annenberg Washington Program</b> Indiana University School of Law 3rd Street at Indiana Avenue Bloomington, IN 47405	Fred Cate Senior Fellow Phone: (812) 855-1161
<b>Association of Organ Procurement Organizations</b> One Cambridge Court 8110 Gatehouse Road Suite 101 West Falls Church, VA 22042	Daniel F. Whiteside, D.D.S. Executive Director Phone: (703) 573-AOPO
<b>Boston Center for Liver Transplantation</b> 32 Fruit Street Boston, MA 02114	A. Benedict Cosimi, M.D. Executive Director Phone: (617) 726-8256
<b>The Coalition on Donation</b> 1100 Boulders Parkway, Suite 500 Richmond, VA 23225	Edie Servino Administrator Phone: (804) 330-8620
<b>The Children's Organ Transplant Association</b> 2501 COTA Drive Bloomington, IN 47403	David Cain, President, Founder David Speicher, Executive Director Phone: (812) 336-8872 / (800) 366-2682
<b>College of American Pathologists</b> 325 Waukegan Road Northfield, IL 60093-2750	Herbert F. Polesky, M.D. Director Phone: (612) 871-3307
<b>Congress of Neurological Surgeons</b> 22 South Washington Street Parkridge, IL 60068	Stephen Haines, M.D. President (612) 624-8651
<b>Division of Organ Transplantation</b> Health Resources and Services Administration (HRSA) 5600 Fishers Lane 7-18 Parklawn Building Rockville, MD 20857	Judith B. Braslow Director Phone: (301) 443-7577

Organization	Contact
<b>Eye Bank Association of America</b> 1001 Connecticut Avenue, NW, Suite 601 Washington, DC 20036-5504	Patricia Aiken-O'Neill, Esq. President and CEO Phone: (202) 775-4999
<b>Forum of ESRD Networks</b> Midatlantic Renal Coalition 1527 Huguenot Road Midlothian, VA 23113	Nancy Armistead Executive Director Phone: (804) 794-3757
<b>International Bone Marrow Transplant Registry</b> c/o Medical College of Wisconsin 8701 Watertown Plank Road Milwaukee, WI 53226	Mary M. Horowitz, M.D. Scientific Director Phone: (414) 456-8325
<b>International Society for Heart and Lung Transplantation</b> Stanford University School of Medicine Falk Cardiovascular Research Center Stanford, CA 94305-5246	Sharon Hunt, M.D., President Amanda Rowe, Executive Dir. Phone: (214) 490-9495
<b>International Society for Organ Sharing</b> GMD l'Esperanza Department of Nephrology Transplant Section Avenue St. Josep de la Montanya, 12 08024 Barcelona, Spain	Joseph Lloveras, M.D. President Phone: 34-3-285-0200 Fax: 34-3-210-4301
<b>International Transplant Nurses Society</b> 651 Holiday Drive Foster Plaza 5, Suite 300 Pittsburgh, PA 15220	Nancy Stitt Executive Director Phone: (412) 928-3667
<b>National Association of Medical Examiners</b> 1402 South Grand Boulevard, RM C305 St. Louis, MO 63104	Ross Zumwalt, M.D., President Michael Graham, M.D., Sec./Treas. Phone: (314) 577-8298
<b>The National Marrow Donor Program</b> 3433 Broadway Street, N.E. Suite 400 Minneapolis, MN 55413	Craig Howe, M.D., Ph.D. CEO 1-800-MARROW-2 (627-7692)
<b>National Digestive Diseases Advisory Board</b> 5640 Nicholson Lane, Suite 300 Rockville, MD 20852	Tommie Sue Tralka Executive Director Phone: (301) 231-0551
<b>National Heart Assist &amp; Transplant Fund</b> P.O. Box 258 6 Bryn Mawr Avenue, Suite 201 Bryn Mawr, PA 19010	Patricia M. Kolff, R.N. Executive Director Phone: (215) 527-5056
<b>National Kidney Foundation</b> 30 E. 33rd Street New York, NY 10016	John Davis Executive Director Phone: (212) 889-2210

Organization	Contact
<b>National Kidney and Urologic Diseases Advisory Board</b> 5640 Nicholson Lane, Suite 300 Rockville, MD 20852	Ralph L. Bain, Ph.D. Executive Director Phone: (301) 231-0551
<b>New York Center for Liver Transplantation</b> c/o NYU Medical Center 550 1st Avenue New York, NY 10016	Frank C. Spencer, M.D. President Phone: (212) 263-6382
<b>North American Transplant Coordinators Organization</b> P.O. Box 15384 Lenexa, KS 66285-5384	Deidre Panjada Executive Director Phone: (913) 492-3600
<b>Ohio Solid Organ Transplantation Consortium</b> 7100 N. High Street, Suite 203 Worthington, OH 43085	Audrey Bohnengel, Ph.D. Executive Director Phone: (614) 436-6060
<b>Organ Transplant Fund, Inc.</b> 1027 S. Yates Road Memphis, TN 38119	Suzanne D. Norman National Director Phone: 1-800-489-3863 or (901) 684-1697
<b>The Partnership for Organ Donation, Inc.</b> 2 Oliver Street Boston, MA 02109-4901	Carol Beasley Managing Director Phone: (617) 482-5746
<b>South-Eastern Organ Procurement Foundation</b> 5004 Monument Avenue, Suite 101 Richmond, VA 23230	Thomas Armata Executive Director Phone: (804) 342-1414
<b>Transplant Recipient International Organization, Inc.</b> 1753 I Street, NW, Suite 917 Washington, DC 20006-2461	Lisa R. Kory, BSN, RN, CPTC Executive Director Phone: (202) 293-0980
<b>United Network for Organ Sharing</b> 1100 Boulders Parkway, Suite 500 P.O. Box 13770 Richmond, VA 23225-8770	Walter K. Graham, Esq. Executive Director Phone: (804) 330-8500
<b>Washington Regional Transplant Consortium</b> 1 Cambridge Court 8110 Gatehouse Road Suite 101 West Falls Church, VA 22042	Lori Brigham Executive Director Phone: (703) 641-0100



**Appendix C**  
**The UNOS Organization**





## APPENDIX C

### The UNOS Organization

#### THE UNOS ORGANIZATION

##### Board of Directors

To conform with OPTN contract requirements, UNOS elects annually a new Board of Directors, which comprises representatives from *groups* of UNOS members. As mandated by the contract, the Board is composed of transplant physicians and surgeons representing each of the UNOS regions (regional councilors, 1 per region), and non-physicians representing the following UNOS member categories: Independent Organ Procurement Organizations, Transplant Coordinators, Tissue Typing Laboratories, Voluntary Health Organizations, and Public Members. Also included on the Board are members of the transplant community serving as President, Immediate Past President, Vice President, Treasurer, and Secretary. The composition of the 1995-96 Board is shown in Table C-1.

##### Internal Administration

UNOS also has an established internal administrative organization with an Executive Director, three Assistant Executive Directors, and internal departments including: 24-hour Organ Center, Information Technology, Professional Education, Communications, Travel, Finance, Membership, Personnel, Policy, Research, Clinical Data Systems, and Compliance Auditing.

##### Membership

As part of its duties in carrying out the functions of the OPTN, UNOS has established membership criteria and medical criteria for allocating organs and, in many instances, has provided an opportunity for members of the public and other interested persons to comment with respect to these criteria. UNOS admits to the OPTN and retains as members all organ procurement organizations and hospitals that apply for membership and agree to comply with OPTN rules and requirements. Pursuant to its contract with the Department of Health and Human Services (DHHS), UNOS, through its Board of Directors, has adopted By-Laws and Policies

**Table C-1**  
**UNOS Board Composition as of**  
**June 1995.**

President
Vice President
Secretary
Treasurer
Immediate Past President
11 Regional Representatives
Heart Transplant Representative
2 Histocompatibility Representatives
2 IOPO Representatives
2 Transplant Coordinator Representatives
5 Voluntary Health and Medical/Scientific Organization Representatives
11 General Public Representatives
<b>39 Total Board Members</b>

developed with the aid of organ transplant professionals and patient representatives. These By-Laws and Policies have been submitted to the Secretary of DHHS for review and are considered voluntary guidance to OPTN members until approved as OPTN rules and requirements by the Secretary of DHHS. UNOS is responsible for keeping these By-Laws and Policies up-to-date and for monitoring compliance by OPTN members.

UNOS members fall into one of two categories, institutional members and public members.

Institutional members include transplant centers, independent organ procurement organizations (IOPOs) and independent tissue typing laboratories which serve two or more centers. Public members include the following: 1) private, non-profit voluntary health organizations which promote organ donation nationwide or which serve the interests of transplant patients and their families, 2) private, non-profit medical/scientific organizations with involvement in transplantation, or 3) individuals representing the general public. General public members commonly represent such fields as theology, ethics, health care financing, social and behavioral sciences, patients, patient advocates, and others. The composition of UNOS membership on December 31, 1994, is displayed in Table C-2.

UNOS member transplant programs are enumerated according to type in Table C-3.

For administrative purposes, UNOS has divided the country into 11 geographic regions. Each region is assigned a UNOS staff administrator to assist in coordinating regional activities. Additionally, each region is represented on the Board of Directors and on each of UNOS' permanent standing committees. Figure C-1 on the following page depicts the current UNOS regions.

#### Policy Development Process

It is through committees, constituted to ensure geographic, individual, and organizational representation, that policies are formulated for approval by the UNOS Board of Directors. UNOS committees may develop policy recommendations on their own initiative or upon recommendation by the Board. The Board accepts policy proposals on all issues affecting transplantation. Each proposal is accompanied by a description of the underlying rationale and, where applicable, a summary of medical, ethical, and scientific evidence upon which the proposed policy is based. The Board may approve, disapprove, or amend the proposed policy statement or they may return it to committee for further consideration.

UNOS members and the general public are given an opportunity to contribute to the policy development process. Policy statements developed by

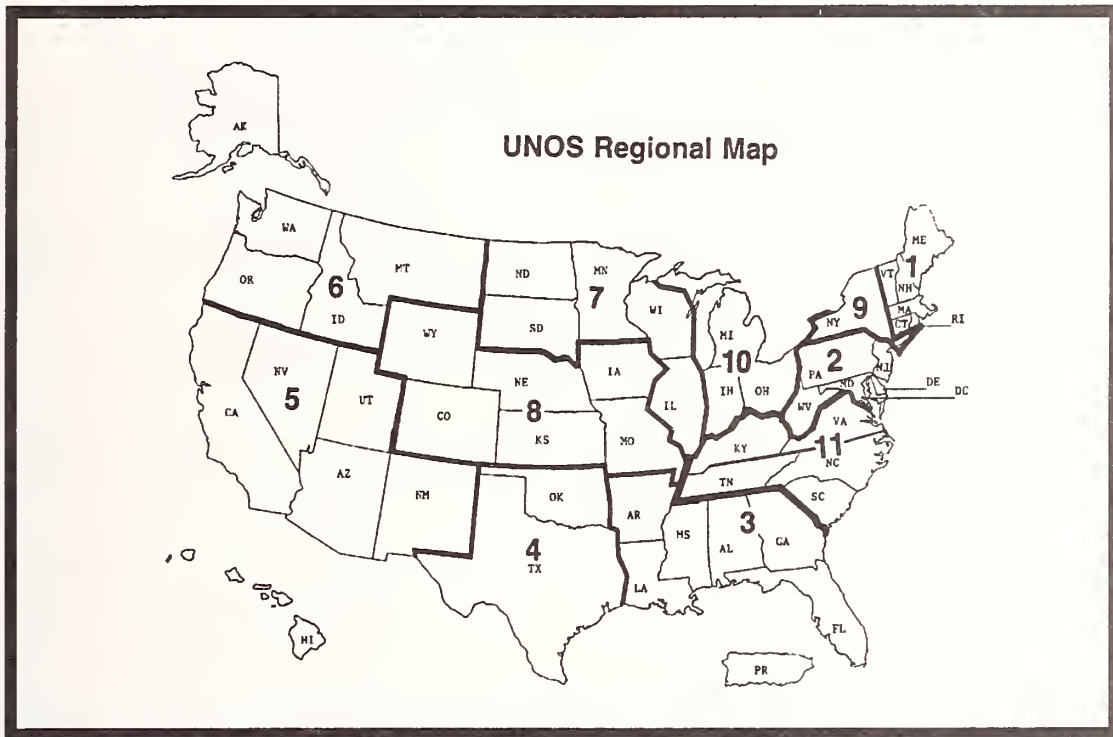
**Table C-2**  
**UNOS Membership as of**  
**December 31, 1994.**

Transplant Centers	278
Consortium Members	4
Independent Organ Procurement Orgs. (OPOs)	53
Independent Tissue Typing Laboratories (TTLs)	52
Voluntary Health Organizations	11
General Public Members	12
Medical/Scientific Organizations	26
<b>TOTAL</b>	<b>436</b>

**Table C-3**  
**Transplant Programs**  
**as of December 31, 1994.**

Kidney Transplant Programs	248
Liver Transplant Programs	117
Pancreas Transplant Programs	116
Heart Transplant Programs	165
Heart-Lung Transplant Programs	92
Lung Transplant Programs	85
Intestinal Programs	19
<b>TOTAL</b>	<b>842</b>

Figure C-1



committees and approved by the Board are distributed, before final approval, to UNOS members and the government. They also are made available to the general public via media coverage and/or public hearings. Following a 45-day public comment period, the committee reviews and amends the policy as it deems necessary, then resubmits the amended policy proposal to the Board of Directors for a final vote. In some instances, new policies and policy revisions are implemented after Board approval, but prior to the end of the public comment period. (See Appendix F for a further description of UNOS Policies.)

#### UNOS Committees

As of June 1995, UNOS had 16 standing committees and five ad hoc committees. Members are recommended by the regional councilors and/or selected to provide broad expertise for committee activities. Committees receive input from regional subcommittees, the transplant community, and the public. For 1995-1996, the UNOS standing and ad hoc committees are as follows:

1. Allocation Advisory
2. Communication
3. Ethics
4. Executive
5. Finance
6. Histocompatibility
7. Kidney/Pancreas Transplantation
8. Liver/Intestine Transplantation
9. Membership and Professional Standards
10. Minority Affairs
11. Organ Procurement Organization
12. OPTN Planning
13. Patient Affairs
14. Pediatric Transplantation
15. Scientific Advisory
16. Thoracic Organ Transplant
17. Ad Hoc Allocation Modelling Oversight
18. Ad Hoc Donations
19. Ad Hoc Foreign Relations
20. Ad Hoc Standardized Patient Listing Criteria
21. Ad Hoc Transplant Administrators

**UNOS BOARD OF DIRECTORS  
1995-1996**

Bruce A. Lucas, M.D., President  
University of Kentucky Medical Center  
Lexington, KY

James F. Burdick, M.D., Vice President  
Johns Hopkins Hospital  
Baltimore, MD

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University of Iowa Hospital & Clinic  
Iowa City, IA

W. Daniel Barker, MHA, FACHE, Treasurer  
Atlanta, GA

Margaret D. Allen, M.D.  
Immediate Past President  
University of Washington Hospital  
Seattle, WA

Region 7 William D. Payne, M.D.  
University of Minnesota Hospital  
Minneapolis, MN

Region 8 Jameson Forster, M.D.  
University of Kansas Medical Ctr.  
Kansas City, KS

Region 9 Charles M. Miller, M.D.  
Mt. Sinai Medical Center  
New York, NY

Region 10 Jerry C. Rosenberg, M.D., Ph.D.  
Transplantation Society of Michigan  
Detroit, MI

Region 11 Patricia L. Adams, M.D.  
Bowman Gray School of Medicine  
Winston-Salem, NC

**COUNCILORS**

Region 1 William E. Harmon, M.D.  
Children's Hospital  
Boston, MA

Region 2 Timothy R. Shaver, M.D.  
Walter Reed Army Medical Ctr.  
Washington, DC

Region 3 James J. Wynn, M.D.  
Medical College of Georgia  
Augusta, GA

Region 4 Goran B. G. Klintmalm, M.D., Ph.D.  
Baylor University Medical Center  
Dallas, TX

Region 5 J. Thomas Rosenthal, M.D.  
UCLA Medical Center  
Los Angeles, CA

Region 6 James D. Perkins, M.D.  
University of Washington Med. Ctr.  
Seattle, WA

**HEART TRANSPLANT REPRESENTATION**

Dale G. Renlund, M.D.  
University of Utah Medical Center  
Salt Lake City, UT

**HISTOCOMPATIBILITY REPRESENTATION**

Mary S. Leffell, Ph.D. -- ASHI  
Johns Hopkins University  
Baltimore, MD

Peter Stastny, M.D. -- ASHI  
U.T. Southwestern Medical Ctr.  
Dallas, TX

**IOPO REPRESENTATION**

Dean F. Kappel -- AOPO  
Mid-America Transplant Assoc.  
St. Louis, MO

Phyllis Weber, R.N., CPTC -- AOPO  
CA Transplant Donor Network  
San Francisco, CA

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Christine J. Gilmore, R.N., BSN -- NATCO  
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Suzanne Lane Conrad, R.N., MHA -- NATCO  
Southwest Organ Bank  
Dallas, TX

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New York, NY

Marjorie D. Hunter, Esq.  
Atlanta, GA

Lynn Hill Slabaugh  
Richmond, VA

Philip H. Berry, Jr., M.D.  
Dallas, TX

Thealeta Monroe, M.A.  
Raleigh, NC

Kimberly Y. Brooks  
Raleigh, NC

Charles Washington, Ph.D.  
Oak Ridge, TN

Manuel Zapata  
Austin, TX

**VOLUNTARY HEALTH ORGANIZATION  
REPRESENTATION**

John M. Newmann, Ph.D., MPH  
American Association of Kidney Patients  
Reston, VA

Cynthia H. Rodriguez, LPN  
ROPA of Southern California  
Azusa, CA

**MEDICAL/SCIENTIFIC ORGANIZATION  
REPRESENTATION**

James L. Locke, M.D.  
National Association of Medical Examiners  
Medical Examiners Office  
Baltimore, MD

Frank P. Stuart, Jr., M.D. -- ASTS  
Northwestern Memorial Hospital  
Chicago, IL

Manikkam Suthanthiran, M.D. -- ASTP  
New York Hospital  
New York, NY

AOPO -- Association of Organ Procurement Organizations  
ASHI -- American Society for Histocompatibility and Immunogenetics  
ASTP -- American Society of Transplant Physicians  
ASTS -- American Society of Transplant Surgeons  
NATCO -- North American Transplant Coordinators Organization

**UNOS BOARD OF DIRECTORS  
1994-1995**

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University of Washington Hospital  
Seattle, WA

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Children's Hospital  
Boston, MA

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Johns Hopkins Hospital  
Baltimore, MD

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Tulane University Medical Center  
New Orleans, LA

Region 4 Goran B. G. Klintmalm, M.D., Ph.D.  
Baylor University Medical Center  
Dallas, TX

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Chicago, IL

Region 8 Joel D. Cooper, M.D.  
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Region 9 Charles M. Miller, M.D.  
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New York, NY

Region 10 Ronald M. Ferguson, M.D., Ph.D.  
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Columbus, OH

Region 11 Mitchell H. Goldman, M.D.  
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LifeGift Organ Donation Center of North Texas  
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Portland, OR

Charles Washington, Ph.D.  
Oak Ridge, TN

Manuel Zapata  
Austin, TX

**VOLUNTARY HEALTH ORGANIZATION  
REPRESENTATION**

John M. Newmann, Ph.D., MPH  
American Association of Kidney Patients  
Reston, VA

Cynthia H. Rodriguez, LPN  
ROPA of Southern California  
Azusa, CA

**MEDICAL/SCIENTIFIC ORGANIZATION  
REPRESENTATION**

W. Daniel Barker, MHA, FACHE  
American Hospital Association  
Atlanta, GA

Thomas F. Hegert, M.D.  
National Association of Medical Examiners  
Medical Examiners Office  
Orlando, FL

Frank P. Stuart, Jr., M.D. -- ASTS  
Northwestern Memorial Hospital  
Chicago, IL

Manikkam Suthanthiran, M.D. -- ASTP  
New York Hospital  
New York, NY

AOPC -- Association of Organ Procurement Organizations  
ASHI -- American Society for Histocompatibility and Immunogenetics  
ASTP -- American Society of Transplant Physicians  
ASTS -- American Society of Transplant Surgeons  
NATCO -- North American Transplant Coordinators Organization

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AND COMMITTEE CHAIRS  
1994-1996**

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University of Utah Medical Ctr.  
Salt Lake City, UT  
Chair, 1995-96

James F. Burdick, M.D.  
Chair, 1994-95

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UCSD Transplant Center  
San Diego, CA  
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VA Medical Center  
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University of Kentucky Medical Ctr.  
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Brigham & Women's Hospital  
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Yale University School of Medicine  
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The Johns Hopkins Hospital  
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Tampa, FL  
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Lightle, Beebe, Raney, Bell & Hudgins  
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**PEDIATRIC TRANSPLANTATION  
COMMITTEE**

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Children's Hospital Medical Ctr.  
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St. Francis Regional Medical Ctr.  
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COMMITTEE**

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Cleveland Clinic Foundation  
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University of Kentucky Medical Center  
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Margaret D. Allen, M.D.  
Chair, 1994-95

**AD HOC DONATIONS COMMITTEE**

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Jacksonville Transplant Center  
Jacksonville, FL  
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Chair, 1994-95

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University of Mississippi Medical Ctr  
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Nancy Wilkening Durance  
University of Michigan Hospital  
Ann Arbor, MI  
Chair, 1995-96

Angelina Korsun, R.N., MSN  
Chair, 1994-95



**Appendix D**  
**The UNOS Membership**



## APPENDIX D UNOS Membership

### UNOS MEMBER INDEPENDENT HISTOCOMPATIBILITY LABS - 1995

NAME	CITY	STATE
Genetrix Immunogenetics Laboratory	Phoenix	AZ
Blood Systems Laboratories	Scottsdale	AZ
Metic Transplantation Laboratory	Los Angeles	CA
Univ. of California at Los Angeles Tissue Typing Laboratory	Los Angeles	CA
Sacramento Medical Foundation Blood Center	Sacramento	CA
Immuno. & Transplantation Lab, Univ. of California at San Francisco	San Francisco	CA
Immunological Associates of Denver, Inc.	Denver	CO
Histocompatibility & Immunogenetics Lab at Howard University Hospital	Washington	DC
Medlantic Research Foundation, Transplant & Immunogenetic Laboratory	Washington	DC
Univ of Miami/Jackson Memorial Hosp, Histocompatibility Testing Lab	Miami	FL
Lifelink Transplantation Immunology Laboratory	Tampa	FL
Regional Organ Bank of Illinois, Histocompatibility Laboratory	Chicago	IL
Central Indiana Regional Blood Center	Indianapolis	IN
Cross Clinical Laboratories	Kansas City	KS
Midwest Organ Bank Histocompatibility Laboratory	Westwood	KS
Midwest Organ Bank Histocompatibility & Immunogenetics Lab	Wichita	KS
University of Louisville Renal Transplant Laboratory	Louisville	KY
LSU Immunocytogenetics Laboratory	New Orleans	LA
Ochsner Histocompatibility & Immunogenetics Laboratory	New Orleans	LA
Tulane University Histocompatibility & Immunogenetics Lab	New Orleans	LA
New England Organ Bank Tissue Typing Laboratory	Boston	MA
American Red Cross Blood Services	Dedham	MA
Immunogenetics Laboratory, Johns Hopkins University	Baltimore	MD
Transplant Society of Michigan Histocompatibility Lab	Ann Arbor	MI
Immunoematology & Serology Laboratory at Michigan State Univ.	East Lansing	MI
Memorial Blood Center of Minneapolis	Minneapolis	MN
Barnes Hosp Histo Lab, Washington Univ School of Medicine	St. Louis	MO
Durham Veterans Administration Med. Center Transplantation Lab	Durham	NC
Histocompatibility Laboratory, Bowman Gray School of Medicine	Winston-Salem	NC
Histocompatibility Laboratory, Medcenter One Health Services	Bismarck	ND
Transplantation Services of Fargo Histocompatibility Laboratory	Fargo	ND
New Jersey Organ & Tissue Sharing Network, Histocompatibility Lab	Springfield	NJ
New Mexico Immunogenetics Laboratory	Albuquerque	NM
Genetrix of Las Vegas	Las Vegas	NV
Erie County Histocompatibility Laboratory, Erie County Medical Ctr.	Buffalo	NY
Immunogenetics & Transplantation Lab, The Rogosin Institute	New York	NY
SUNY Health Science Center Histocompatibility Laboratory	Syracuse	NY
University of Puerto Rico Laboratory of Histocompatibility	San Juan	PR
DCI Laboratory at Erlanger Medical Center	Chattanooga	TN
Mid-South Transplant Foundation, Histocompatibility Laboratory	Memphis	TN
DCI Laboratory	Nashville	TN
Gene Proof Technologies	Nashville	TN

Univ. of Texas Southwestern Medical Center, Tissue Typing Lab	Dallas	TX
Histocompatibility & Immune Evaluation Laboratory at U.T. Houston	Houston	TX
Texas Tech University Health Sciences Center HLA Laboratory	Lubbock	TX
Immuno D, Inc.	San Antonio	TX
Southwest Immunodiagnostics, Inc.	San Antonio	TX
Stewart Regional Blood Center	Tyler	TX
Puget Sound Blood Center - Clinical Histocompatibility Laboratory	Seattle	WA
Inland Northwest Blood Center	Spokane	WA
The Blood Center of Southeastern Wisconsin	Milwaukee	WI

#### UNOS MEMBER HOSPITAL-BASED HISTOCOMPATIBILITY LABS - 1995

NAME	CITY	STATE
University of Alabama Hospital/Histocompatibility Lab	Birmingham	AL
University of Arkansas Hospital/Tissue Typing Lab	Little Rock	AR
University of Arizona Medical Center/Clinical Pathology Lab	Tucson	AZ
Loma Linda University Medical Center/Histocompatibility Lab	Loma Linda	CA
Cedars-Sinai Medical Center/Medical Genetics/HLA Lab	Los Angeles	CA
Children's Hospital Los Angeles/HLA Laboratory	Los Angeles	CA
UCLA Medical Center/Pediatric Histocompatibility Lab	Los Angeles	CA
Sharp Memorial Hospital/Sharp Pathology Lab	San Diego	CA
UCSD Medical Center/Histocompatibility & Immunogenetics Lab	San Diego	CA
California Pacific Medical Center/Tissue Typing Laboratory	San Francisco	CA
Stanford University Medical Center/Tissue Typing & HLA Lab	Stanford	CA
Hartford Hospital/Transplant Histocompatibility Lab	Hartford	CT
Yale-New Haven Hospital/Histo & Immunogenetics Evaluation Lab	New Haven	CT
George Washington University Medical Center/Histo Lab	Washington	DC
Georgetown University Medical Center/Histocompatibility Lab	Washington	DC
Walter Reed Army Medical Center/Tissue Typing Lab	Washington	DC
Shands Hospital at the University of Florida/Immuno/Transplantation Lab	Gainesville	FL
Methodist Medical Center/Transplantation & Cellular Immunology	Jacksonville	FL
Florida Hospital Medical Center/Tissue Typing Lab	Orlando	FL
Tallahassee Memorial Reg. Med. Ctr./Southeastern Community Blood Center	Tallahassee	FL
Emory University Hospital/HLA Lab	Atlanta	GA
Medical College of Georgia Hospital/Histo/Immunology Lab	Augusta	GA
Saint Francis Medical Center/Clinical Lab of Hawaii	Honolulu	HI
Iowa Methodist Medical Center/HLA Lab	Des Moines	IA
Mercy Hospital Medical Center/Histocompatibility Lab	Des Moines	IA
Univ of Iowa Hospitals, Clinics & VA Med Center - Tissue Typing Lab	Iowa City	IA
Northwestern Memorial Hospital/Tissue Typing Lab	Chicago	IL
Rush-Presbyterian - St. Luke's Medical Center/Tissue Typing Lab	Chicago	IL
University of Illinois Hospital & Clinics/Tissue Typing Lab	Chicago	IL
Loyola University Medical Center & Hines VA Hospital/Clinical Lab	Maywood	IL
Memorial Medical Center/Immuno-Transplant Lab	Springfield	IL
Indiana University Medical Center/Transplant Immunology & Histo Lab	Indianapolis	IN
Methodist Hospital of Indiana/Histocompatibility Lab	Indianapolis	IN
University of Kentucky Medical Center/Immuno-Molecular Path Lab	Lexington	KY

Jewish Hospital/Histocompatibility Lab	Louisville	KY
Southern Baptist Hospital/HLA Lab	New Orleans	LA
Louisiana State University Medical Center/HLA Lab	Shreveport	LA
Schumpert Medical Center/Transplant/Immunology Lab	Shreveport	LA
Massachusetts General Hospital/Histocompatibility Lab	Boston	MA
New England Deaconess Hospital/Tissue Typing Lab	Boston	MA
Immunogenetics Laboratory/Maine Medical Center	Portland	ME
University of Michigan Medical Center/HLA Lab	Ann Arbor	MI
Harper Hospital /DMC University Laboratories/Immunogenetics Lab	Detroit	MI
Henry Ford Hospital/Histocompatibility Lab	Detroit	MI
William Beaumont Hospital/Histocompatibility Lab	Royal Oak	MI
University of Minnesota Hospital & Clinics/Clinical Histocompatibility Lab	Minneapolis	MN
Rochester Methodist Hospital/Mayo Clinic Affil. Hosp\Tissue Typing Lab	Rochester	MN
Univ of Missouri Hosp & Clinics/Mid-Missouri Red Cross Blood Center	Columbia	MO
St. Louis University Medical Center/Tissue Typing Lab	St. Louis	MO
Univ of Mississippi Medical Center/Tissue Typing Lab	Jackson	MS
UNC Hospitals, UNC at Chapel Hill/Histocompatibility Lab	Chapel Hill	NC
Carolinas Medical Center/Tissue Typing Lab	Charlotte	NC
Pitt County Memorial Hospital/HLA Laboratory	Greenville	NC
University of Nebraska Medical Center/Transplant Immunology Lab	Omaha	NE
Our Lady of Lourdes Medical Center/Tissue Typing Lab	Camden	NJ
University Hospital/Tissue Typing Lab	Newark	NJ
Albany Medical Center Hospital/Histocompatibility Lab	Albany	NY
Montefiore Medical Center/Transplant Immunology Lab	Bronx	NY
SUNY Health Sciences Center at Brooklyn/Transplant Immunology Lab	Brooklyn	NY
Columbia/Presbyterian Medical Center/Immunogenetics Lab	New York	NY
Strong Memorial Hospital/Tissue Typing Lab	Rochester	NY
University Hospital of SUNY at Stony Brook/HLA Lab	Stony Brook	NY
Westchester County Medical Center/Clinical Lab	Valhalla	NY
Univ of Cincinnati Medical Center/Hoxworth Tissue Typing Lab	Cincinnati	OH
The Cleveland Clinic Foundation/Histocompatibility Lab	Cleveland	OH
University Hospitals of Cleveland/HLA Lab	Cleveland	OH
Ohio State University Hospital/Clinical Histocompatibility Lab	Columbus	OH
Miami Valley Hospital/Community Blood Center	Dayton	OH
Medical College Hospitals/Tissue Typing Lab	Toledo	OH
Saint Anthony Hospital/Tissue Typing Lab	Oklahoma City	OK
University Hospital/Tissue Typing Lab	Oklahoma City	OK
Saint Francis Hospital/Histocompatibility Lab	Tulsa	OK
Oregon Health Sciences Univ Hosp/Lab of Immuno & Transplantation	Portland	OR
Lehigh Valley Hospital/Health Network Lab	Allentown	PA
Geisinger Medical Center/Tissue Typing Lab	Danville	PA
Milton S. Hershey Medical Center/Histo & Clinical Immunology Lab	Hershey	PA
Albert Einstein Medical Center/Immunology & Organ Preservation Lab	Philadelphia	PA
Hahnemann University Hospital/Histocompatibility Lab	Philadelphia	PA
The Hospital of the University of PA/Immunology & Organ Preservation Lab	Philadelphia	PA
Thomas Jefferson University Hospital/Tissue Typing Lab	Philadelphia	PA
Allegheny General Hospital/Histocompatibility Lab	Pittsburgh	PA
Children's Hospital of Pittsburgh/Clinical Lab Services	Pittsburgh	PA
Medical University of South Carolina/Tissue Typing Lab	Charleston	SC
University of Tennessee Medical Center/Transplant Lab	Knoxville	TN

Brackenridge Hospital/Histocompatibility Lab	Austin	TX
Baylor University Medical Center/Transplant Immunology Lab	Dallas	TX
Methodist Medical Center-Dallas/Histocompatibility Lab	Dallas	TX
Sierra Medical Center/HLA Lab	El Paso	TX
University of Texas Medical Branch/Tissue Antigen Lab	Galveston	TX
The Methodist Hospital/Histo & Clinical Immunology Lab	Houston	TX
Wilford Hall USAF Medical Center/Immunology/HLA Lab	Lackland AFB	TX
Medical Center Hospital/Histocompatibility Lab	San Antonio	TX
Univ of Utah Medical Center/Histocompatibility & Immunogenetics Lab	Salt Lake City	UT
University of Virginia Medical Center/Tissue Typing Lab	Charlottesville	VA
Sentara Norfolk General Hospital/HLA Immunology Lab	Norfolk	VA
Henrico Doctors' Hospital/Histocompatibility Lab	Richmond	VA
Medical College of Virginia Hospitals/Tissue Typing Lab	Richmond	VA
Medical Center Hospital of Vermont/Histocompatibility Lab	Burlington	VT
University of Wisconsin Hospital & Clinics/Histocompatibility Lab	Madison	WI
Saint Luke's Medical Center/HLA Lab	Milwaukee	WI
West Virginia University Hospital/Immunopathology Lab	Morgantown	WV

#### UNOS MEMBER INDEPENDENT ORGAN PROCUREMENT ORGANIZATIONS - 1995

NAME	CITY	STATE
Alabama Organ Center	Birmingham	AL
Arkansas Regional Organ Recovery Agency	Little Rock	AR
Donor Network of Arizona	Phoenix	AZ
Regional Organ Procurement Agency of Southern California	Los Angeles	CA
Southern California Organ Procurement Center	Los Angeles	CA
Golden State Transplant Services	Sacramento	CA
California Transplant Donor Network	San Francisco	CA
Colorado Organ Recovery Systems, Inc.	Denver	CO
Lifelink of Southwest Florida	Ft. Myers	FL
University of Miami Organ Procurement Organization	Miami	FL
Lifelink of Florida	Tampa	FL
Lifelink of Georgia	Atlanta	GA
Organ Donor Center of Hawaii	Honolulu	HI
Iowa Statewide OPO	Iowa City	IA
Chicago Regional Organ and Tissue Bank	Chicago	IL
Regional Organ Bank of Illinois	Chicago	IL
Indiana Organ Procurement Organization	Indianapolis	IN
Midwest Organ Bank, Inc.	Westwood	KS
Kentucky Organ Donor Affiliates	Louisville	KY
Louisiana Organ Procurement Agency	Metairie	LA
New England Organ Bank	Newton	MA
Transplant Resource Center of Maryland	Baltimore	MD
Transplantation Society of Michigan	Ann Arbor	MI
LifeSource, Upper Midwest Organ Procurement Organization	Minneapolis	MN
Mid-America Transplant Association	St. Louis	MO
Mississippi Organ Recovery Agency	Jackson	MS



Carolina Organ Procurement Agency	Greenville	NC
Nebraska Organ Retrieval System, Inc.	Omaha	NE
New Jersey Organ & Tissue Sharing	Springfield	NJ
New Mexico Donor Program	Albuquerque	NM
Nevada Donor Organ Recovery Service	Las Vegas	NV
Organ Procurement Organization of Albany Medical College	Albany	NY
Upstate New York Transplant Services	Buffalo	NY
New York Regional Transplant Program, Inc.	New York	NY
Life Connection of Ohio	Maumee	OH
Ohio Valley Lifecenter	Cincinnati	OH
Lifebanc	Cleveland	OH
Lifeline of Ohio Organ Procurement Agency, Inc.	Columbus	OH
Oklahoma Organ Sharing Network	Oklahoma City	OK
Delaware Valley Transplant Program	Philadelphia	PA
Center for Organ Recovery & Education	Pittsburgh	PA
Lifelink of Puerto Rico	Guaynabo	PR
South Carolina Organ Procurement Agency	Charleston	SC
Life Resources Regional Donor Center	Johnson City	TN
Mid-South Transplant Foundation	Memphis	TN
Tennessee Donor Services	Nashville	TN
Southwest Organ Bank	Dallas	TX
Lifegift Organ Donation Center	Houston	TX
South Texas Organ Bank, Inc.	San Antonio	TX
Intermountain Organ Recovery Systems	Salt Lake City	UT
Washington Regional Transplant Consortium	Falls Church	VA
Virginia's Organ Procurement Agency	Midlothian	VA
Lifenet Transplant Services	Virginia Beach	VA
Northwest Organ Procurement Agency	Seattle	WA

#### UNOS MEMBER HOSPITAL-BASED ORGAN PROCUREMENT ORGANIZATIONS - 1995

NAME	CITY	STATE
UCSD Medical Center/Organ & Tissue Acquisition Center of S. CA	San Diego	CA
Hartford Hospital/ OPO	Hartford	CT
Shands Hospital/OPO	Gainesville	FL
Florida Hospital Medical Center/Translife	Orlando	FL
Medical College of Georgia Hospital/Organ & Tissue Donor Services	Augusta	GA
Carolinas Medical Center/Lifeshare of the Carolinas	Charlotte	NC
North Carolina Baptist Hospital/Carolina Lifecare	Winston-Salem	NC
Univ. Hospital of SUNY/Long Island Transplant Program	Stony Brook	NY
Strong Memorial Hospital/University of Rochester OPO	Rochester	NY
Hillcrest Medical Center/OPO	Tulsa	OK
Oregon Health Sciences Univ. Hospital/Pacific NW Transplant Bank	Portland	OR
Brackenridge Hospital/Central Texas Organ Program	Austin	TX
Sacred Heart Medical Center/Sacred Heart Organ Procurement Agency	Spokane	WA
University of Wisconsin Hospital & Clinics/OPO	Madison	WI
Froedtert Memorial Lutheran Hospital/Wisconsin Donor Network	Milwaukee	WI

## UNOS MEMBER TRANSPLANT PROGRAMS - 1995

NAME	CITY	STATE
Children's Hospital of Alabama	Birmingham	AL
University of Alabama Hospital	Birmingham	AL
Arkansas Children's Hospital	Little Rock	AR
Baptist Medical Center	Little Rock	AR
The University Hospital of Arkansas	Little Rock	AR
Good Samaritan Regional Medical Center	Phoenix	AZ
Healthwest Regional Medical Center	Phoenix	AZ
Saint Joseph's Hospital and Medical Center	Phoenix	AZ
University Medical Center, University of AZ Health Science Center	Tucson	AZ
Alta Bates Medical Center	Berkeley	CA
Green Hospital of Scripps Clinic	La Jolla	CA
Loma Linda University Medical Center	Loma Linda	CA
Saint Mary Medical Center	Long Beach	CA
Cedars-Sinai Medical Center	Los Angeles	CA
Children's Hospital of Los Angeles	Los Angeles	CA
Kaiser Permanente Hospital	Los Angeles	CA
Saint Vincent Medical Center	Los Angeles	CA
University of California at Los Angeles Medical Center	Los Angeles	CA
University of Southern California - University Hospital	Los Angeles	CA
El Camino Hospital	Mountain View	CA
Hoag Memorial Hospital Presbyterian	Newport Beach	CA
Kaiser Permanente Hospital	Oakland	CA
Summit Medical Center	Oakland	CA
Saint Joseph Hospital	Orange	CA
University of California Irvine Medical Center	Orange	CA
Eisenhower Memorial Hospital	Rancho Mirage	CA
Sutter Memorial Hospital	Sacramento	CA
University of California, Davis Medical Center	Sacramento	CA
Saint Bernardine Medical Center	San Bernardino	CA
San Bernardino County Medical Center	San Bernardino	CA
Sharp Memorial Hospital	San Diego	CA
University of California, San Diego Medical Center	San Diego	CA
California Pacific Medical Center	San Francisco	CA
University of California, San Francisco Medical Center	San Francisco	CA
Western Medical Center	Santa Ana	CA
Santa Rosa Memorial Hospital	Santa Rosa	CA
Stanford University Medical Center	Stanford	CA
Harbor - Univ. of California at Los Angeles Medical Center	Torrance	CA
Porter Memorial Hospital	Denver	CO
Presbyterian - Saint Luke's Medical Center	Denver	CO
The Children's Hospital	Denver	CO
University Hospital, University of Colorado Health Science Center	Denver	CO
Poudre Valley Hospital	Fort Collins	CO
Hartford Hospital	Hartford	CT
Yale-New Haven Hospital	New Haven	CT
Children's Hospital National Medical Center	Washington	DC

George Washington University Medical Center & VA Medical Center	Washington	DC
Georgetown University Medical Center	Washington	DC
Howard University Hospital	Washington	DC
Providence Hospital	Washington	DC
Walter Reed Army Medical Center	Washington	DC
Washington Hospital Center	Washington	DC
Alfred I. Dupont Institute	Wilmington	DE
Southwest Florida Regional Medical Center	Ft. Meyers	FL
Shands Hospital at The University of Florida	Gainesville	FL
Methodist Medical Center	Jacksonville	FL
Jackson Memorial Hospital, Univ. of Miami School of Medicine	Miami	FL
Miami Children's Hospital	Miami	FL
Florida Hospital Medical Center	Orlando	FL
All Children's Hospital	St. Petersburg	FL
Tallahassee Memorial Regional Medical Center	Tallahassee	FL
Saint Joseph's Hospital	Tampa	FL
Tampa General Hospital	Tampa	FL
Egleston Children's Hospital at Emory University	Atlanta	GA
Emory University Hospital	Atlanta	GA
Piedmont Hospital	Atlanta	GA
Saint Joseph's Hospital of Atlanta	Atlanta	GA
Medical College of Georgia	Augusta	GA
Saint Francis Medical Center	Honolulu	HI
Iowa Methodist Medical Center	Des Moines	IA
Mercy Hospital Medical Center	Des Moines	IA
Univ. of Iowa Hospitals & Clinics & VA Medical Center of Iowa City	Iowa City	IA
Children's Memorial Hospital	Chicago	IL
Northwestern Memorial Hospital	Chicago	IL
Rush-Presbyterian-St. Luke's Medical Center	Chicago	IL
University of Chicago Medical Center	Chicago	IL
University of Illinois Hospital & Clinics	Chicago	IL
Evanston Hospital	Evanston	IL
Loyola University Medical Center & Hines VA Hospital	Maywood	IL
Saint Francis Medical Center	Peoria	IL
Saint John's Hospital	Springfield	IL
Memorial Medical Center, Southern Illinois Univ. School of Medicine	Springfield	IL
Lutheran Hospital of Ft. Wayne	Ft. Wayne	IN
Indiana University Medical Center	Indianapolis	IN
Methodist Hospital of Indiana	Indianapolis	IN
Saint Vincent Hospital and Health Care Center	Indianapolis	IN
University of Kansas Medical Center	Kansas City	KS
Via Christi Medical Center	Wichita	KS
University of Kentucky Medical Center	Lexington	KY
Audubon Regional Medical Center	Louisville	KY
Jewish Hospital	Louisville	KY
Kosair Children's Hospital	Louisville	KY
Children's Hospital	New Orleans	LA
University Hospital - Louisiana State University Medical Center	New Orleans	LA
Ochsner Foundation Hospital	New Orleans	LA
Southern Baptist Hospital	New Orleans	LA

Tulane University Medical Center	New Orleans	LA
Louisiana State University Medical Center	Shreveport	LA
Schumpert Medical Center	Shreveport	LA
Willis-Knighton Medical Center	Shreveport	LA
Beth Israel Hospital	Boston	MA
Boston Veteran's Administration Medical Center	Boston	MA
Brigham & Women's Hospital	Boston	MA
Children's Hospital	Boston	MA
Massachusetts General Hospital	Boston	MA
New England Deaconess Hospital	Boston	MA
New England Medical Center	Boston	MA
The University Hospital, Boston University Medical Center	Boston	MA
Lahey Clinic Medical Center	Burlington	MA
Baystate Medical Center	Springfield	MA
University of Massachusetts Medical Center	Worcester	MA
Johns Hopkins Hospital	Baltimore	MD
Johns Hopkins Bayview Medical Center	Baltimore	MD
University of Maryland Medical System	Baltimore	MD
Shady Grove Adventist Hospital	Rockville	MD
Maine Medical Center	Portland	ME
University of Michigan Medical Center	Ann Arbor	MI
Children's Hospital of Michigan	Detroit	MI
Harper Hospital	Detroit	MI
Henry Ford Hospital	Detroit	MI
Saint John Hospital and Medical Center	Detroit	MI
Hurley Medical Center	Flint	MI
Saint Mary's Health Services	Grand Rapids	MI
Borgess Medical Center	Kalamazoo	MI
William Beaumont Hospital	Royal Oak	MI
Abbott Northwestern Hospital	Minneapolis	MN
Hennepin County Medical Center	Minneapolis	MN
Minneapolis Children's Health Care	Minneapolis	MN
University of Minnesota Hospital & Clinics	Minneapolis	MN
Rochester Methodist Hospital, Mayo Clinic Affiliated Hospital	Rochester	MN
Saint Mary's Hospital	Rochester	MN
DePaul Health Center	Bridgeton	MO
University of Missouri Hospital and Clinics	Columbia	MO
St. John's Regional Medical Center	Joplin	MO
Menorah Medical Center	Kansas City	MO
Research Medical Center	Kansas City	MO
Saint Luke's Hospital of Kansas City	Kansas City	MO
The Children's Mercy Hospital	Kansas City	MO
Barnes Hospital	St. Louis	MO
Cardinal Glennon Children's Hospital	St. Louis	MO
John Cochran Veterans Administration Hospital	St. Louis	MO
Saint John's Mercy Medical Center	St. Louis	MO
Saint Louis Children's Hospital At Washington Univ. Medical Center	St. Louis	MO
Saint Louis University Medical Center	St. Louis	MO
University of Mississippi Medical Center	Jackson	MS
North Carolina Memorial Hospital, Univ. of N.C. - Chapel Hill	Chapel Hill	NC

Carolinas Medical Center	Charlotte	NC
Duke University Medical Center & Durham VA Medical Center	Durham	NC
Pitt County Memorial Hosp., East Carolina Univ. School of Medicine	Greenville	NC
North Carolina Baptist Hospital, Bowman Gray School of Medicine	Winston-Salem	NC
Medcenter One Hospital	Bismarck	ND
Dakota Hospital	Fargo	ND
Meritcare Hospital	Fargo	ND
Bryan Memorial Hospital	Lincoln	NE
Bishop Clarkson Memorial Hospital	Omaha	NE
Saint Joseph Hospital	Omaha	NE
University Hospital, University of Nebraska Medical Center	Omaha	NE
Mary Hitchcock Memorial Hospital	Lebanon	NH
Our Lady of Lourdes Medical Center	Camden	NJ
Saint Barnabas Medical Center	Livingston	NJ
Newark Beth Israel Medical Center	Newark	NJ
University Hospital	Newark	NJ
Presbyterian Hospital	Albuquerque	NM
University Hospital, University of New Mexico	Albuquerque	NM
Sunrise Hospital and Medical Center	Las Vegas	NV
University Medical Center of Southern Nevada	Las Vegas	NV
Albany Medical Center	Albany	NY
Montefiore Medical Center	Bronx	NY
State University of New York Health Science Center at Brooklyn	Brooklyn	NY
Buffalo Gen. Hosp. and Buffalo Veteran's Administration Med. Center	Buffalo	NY
Children's Hospital of Buffalo	Buffalo	NY
Erie County Medical Center	Buffalo	NY
Mount Sinai Medical Center	New York	NY
New York University Medical Center	New York	NY
Saint Luke's-Roosevelt Hospital Center	New York	NY
The New York Hospital	New York	NY
The Presbyterian Hosp. in N.Y. City, Columbia-Presbyterian Med. Ctr.	New York	NY
Strong Memorial Hospital, University of Rochester School of Medicine	Rochester	NY
University Hospital of SUNY at Stony Brook	Stony Brook	NY
SUNY Health Science Center at Syracuse	Syracuse	NY
Westchester County Medical Center	Valhalla	NY
Akron City Hospital	Akron	OH
Children's Hospital Medical Center of Akron	Akron	OH
Children's Hospital Medical Center	Cincinnati	OH
The Christ Hospital	Cincinnati	OH
University of Cincinnati Medical Center - University Hospital	Cincinnati	OH
The Cleveland Clinic Foundation	Cleveland	OH
University Hospitals of Cleveland	Cleveland	OH
Children's Hospital	Columbus	OH
Ohio State University Hospital	Columbus	OH
Miami Valley Hospital	Dayton	OH
Medical College Hospitals	Toledo	OH
Saint Elizabeth Hospital Medical Center	Youngstown	OH
Baptist Medical Center of Oklahoma	Oklahoma City	OK
Children's Hospital of Oklahoma	Oklahoma City	OK
Saint Anthony Hospital	Oklahoma City	OK

University Hospital	Oklahoma City	OK
Hillcrest Medical Center	Tulsa	OK
Saint Francis Hospital	Tulsa	OK
Saint John Medical Center	Tulsa	OK
Good Samaritan Hospital & Medical Center	Portland	OR
St. Vincent Hospital & Medical Center	Portland	OR
Oregon Health Sciences Univ. Hospital & Portland VA Medical Center	Portland	OR
Lehigh Valley Hospital	Allentown	PA
Geisinger Medical Center	Danville	PA
Milton S. Hershey Medical Center	Hershey	PA
Albert Einstein Medical Center	Philadelphia	PA
Children's Hospital of Philadelphia	Philadelphia	PA
Hahnemann University Hospital	Philadelphia	PA
Hospital of the University of Pennsylvania	Philadelphia	PA
Saint Christopher's Hospital for Children	Philadelphia	PA
Temple University Hospital	Philadelphia	PA
Thomas Jefferson University Hospital	Philadelphia	PA
Allegheny General Hospital	Pittsburgh	PA
Children's Hospital of Pittsburgh	Pittsburgh	PA
University of Pittsburgh Medical Center & Oakland VA Medical Center	Pittsburgh	PA
The Lankenau Hospital	Wynnewood	PA
Auxilio Mutuo Hospital	Hato Rey	PR
Medical University of South Carolina	Charleston	SC
Mckennan Hospital	Sioux Falls	SD
Erlanger Medical Center	Chattanooga	TN
Johnson City Medical Center Hospital	Johnson City	TN
University of Tennessee Medical Center at Knoxville	Knoxville	TN
Baptist Memorial Hospital	Memphis	TN
Le Bonheur Children's Medical Center	Memphis	TN
Methodist Hospitals of Memphis	Memphis	TN
William F. Bowld Hospital, University of Tennessee	Memphis	TN
Centennial Medical Center/Parkview	Nashville	TN
Saint Thomas Hospital	Nashville	TN
Vanderbilt University Medical Center & Nashville VA Medical Center	Nashville	TN
Brackenridge Hospital	Austin	TX
Seton Medical Center	Austin	TX
Baylor University Medical Center	Dallas	TX
Children's Medical Center of Dallas	Dallas	TX
Medical City Dallas Hospital	Dallas	TX
Methodist Medical Center	Dallas	TX
Parkland Memorial Hospital	Dallas	TX
Saint Paul Medical Center, University of Texas Southwestern	Dallas	TX
Sierra Medical Center	El Paso	TX
Brooke Army Medical Center	Fort Sam Houston	TX
Cook - Fort Worth Children's Medical Center	Fort Worth	TX
Harris - Methodist - Fort Worth	Fort Worth	TX
University of Texas Medical Branch at Galveston	Galveston	TX
Hermann Hospital-University of Texas at Houston	Houston	TX
Saint Luke's Episcopal Hospital	Houston	TX
Texas Children's Hospital	Houston	TX

The Methodist Hospital - Baylor College of Medicine	Houston	TX
Wilford Hall USAF Medical Center	Lackland AFB	TX
Methodist Hospital	Lubbock	TX
University Medical Center	Lubbock	TX
San Antonio Regional Hospital	San Antonio	TX
Medical Center Hospital, University of Texas Health Science Center	San Antonio	TX
East Texas Medical Center	Tyler	TX
LDS Hospital	Salt Lake City	UT
Primary Children's Medical Center	Salt Lake City	UT
Univ. of Utah Medical Center & Salt Lake City VA Medical Center	Salt Lake City	UT
University of Virginia Medical Center	Charlottesville	VA
Fairfax Hospital	Falls Church	VA
Children's Hospital of the King's Daughters	Norfolk	VA
Sentara Norfolk General Hospital	Norfolk	VA
Henrico Doctors' Hospital	Richmond	VA
McGuire Veterans Administration Medical Center	Richmond	VA
Medical College of Virginia Hospitals	Richmond	VA
Roanoke Memorial Hospital	Roanoke	VA
Medical Center Hospital of Vermont	Burlington	VT
Children's Hospital and Medical Center	Seattle	WA
Swedish Hospital Medical Center	Seattle	WA
University of Washington Medical Center	Seattle	WA
Virginia Mason Medical Center	Seattle	WA
Sacred Heart Medical Center	Spokane	WA
University of Wisconsin Hospital & Clinics	Madison	WI
Children's Hospital of Wisconsin	Milwaukee	WI
Froedtert Memorial Lutheran Hospital, Medical College of Wisconsin	Milwaukee	WI
John L. Doyne Hospital	Milwaukee	WI
Saint Luke's Medical Center	Milwaukee	WI
Charleston Area Medical Center	Charleston	WV
West Virginia University Hospital	Morgantown	WV

## UNOS MEMBER CONSORTIA - 1995

NAME	CITY	STATE
New England Liver Consortium	Boston	MA
New York Center for Liver Transplantation	New York	NY
Ohio Solid Organ Transplantation Consortium	Worthington	OH
Washington Regional Transplant Consortium	Falls Church	VA

## UNOS MEMBER MEDICAL/SCIENTIFIC ORGANIZATIONS - 1995

NAME	CITY	STATE
American Association of Critical-Care Nurses	Aliso Viejo	CA
American Nurses Association	Washington	DC
American Society of Nephrology	Washington	DC
Eye Bank Association of America	Washington	DC
American Association for the Study of Liver Diseases	Miami	FL
American Hospital Association	Chicago	IL
American Medical Association	Chicago	IL
American Society of Transplant Surgeons	Des Plaines	IL
American Academy of Pediatrics	Elk Grove Village	IL
College of American Pathologists	Northfield	IL
American Society for Histo. & Immunogenetics	Lenexa	KS
North America Transplant Coordinators Organization	Lenexa	KS
American Urological Association, Inc.	Baltimore	MD
American Association of Blood Banks	Bethesda	MD
American College of Cardiology	Bethesda	MD
American Society for Minority Health and Transplant Prof.	Bethesda	MD
National Association of Medical Examiners	St. Louis	MO
American Nephrology Nurses Association	Pitman	NJ
American Gastroenterological Association	Thorofare	NJ
American Society of Transplant Physicians	Thorofare	NJ
Society of Heart & Lung Transplant Social Workers	Portland	OR
International Transplant Nurses Society	Pittsburgh	PA
Organ Transplant Fund	Memphis	TN
International Society for Heart & Lung Transplantation	Dallas	TX
Association of Organ Procurement Organization	Falls Church	VA
American Association of Tissue Banks	McLean	VA
Forum of End Stage Renal Disease Network	Richmond	VA
South-Eastern Organ Procurement Foundation	Richmond	VA

## UNOS MEMBER GENERAL PUBLIC - 1995

NAME	CITY	STATE
Charles E. Fiske	Bridgewater	MA
Jeffery M. Prottas, Ph.D	Waltham	MA
Roger W. Evans, Ph.D.	Rochester	MN
Mark D. Fox, Ph.D.	Franklin	TN
Margo L. Akerman	Knoxville	TN
Manuel Zapata	Austin	TX



## UNOS MEMBER VOLUNTARY HEALTH ORGANIZATIONS - 1995

NAME	CITY	STATE
American Red Cross	Washington	DC
American Association of Kidney Patients	Tampa	FL
The Children's Organ Transplant Association	Bloomington	IN
American Kidney Fund	Rockville	MD
American Liver Foundation	Cedar Grove	NJ
National Kidney Foundation	New York	NY
National Heart Assist and Transplant Fund	Bryn Mawr	PA
Organ Transplant Fund	Memphis	TN
American Diabetes Association	Alexandria	VA
The Transplant Foundation	Richmond	VA



**Appendix E**  
**UNOS Research**



## APPENDIX E

### UNOS Research: Data Systems, Studies, and Publications

#### UNOS STAFF

Among its research responsibilities, UNOS coordinates Scientific Advisory Committee activities, operates the Scientific Registry and OPTN data collection systems, compiles and analyzes data, and ensures data quality control. These tasks are accomplished by four departments-- Research, Clinical Data Systems, Information Technology, and Compliance Auditing. These departments collaborate to fulfill contractual obligations and organizational objectives regarding data collection, analysis, and reporting.

The Research Department processes requests for data, conducts computerized data analysis for UNOS scientific studies, and supports other research using OPTN and Scientific Registry data. In addition, the Research Department prepares and distributes pertinent government contract deliverables and the annual statistical report.

The Clinical Data Systems Department conducts data collection and quality assurance activities related to the Scientific Registry and the OPTN data collection systems.

The Information Technology Department develops and supports all computer systems involved in Scientific Registry and OPTN data collection systems.

The Compliance Auditing Department monitors members' adherence to UNOS data submission policies and conducts on-site data audits at member institutions.

#### Research Department

Otis P. Daily, Ph.D.	Asst. Executive Director for Operations
Mary D. Ellison, Ph.D.	Asst. Director, Research, Senior Scientist
Erick B. Edwards, Ph.D.	Chief Biostatistician, Team Leader
Leah Bennett, Ph.D.	Senior Biostatistician, Team Leader
Hung-Mo Lin, Ph.D.	Senior Biostatistician
Maureen McBride, Ph.D.	Senior Biostatistician
Ray White, M.A.	Research Analyst
Darcy B. Davies, M.S.	Biostatistician
Wendy London, B.S.	Biostatistician
Carol M Smith, M.A.	Policy Analyst
Andrew Baker, B.S.	SAS Programmer
Bennie Fiol, B.S.	SAS Programmer
Ann Harper, B.A.	SAS Programmer
Dan Simon	SAS Programmer
Samia Buckingham	Database Analyst
Michelle Tolliver	Department Secretary

#### Clinical Data Systems Department

Berkeley M. Keck, B.S.N., M.P.H.	Asst. Director, Clinical Data Systems
Paula C. Bryant, B.A.	Manager, Data Operations
Jack Koller	Manager, Data Applications
Brenda A. Parham	Manager, Data Quality
Beth Wilson, B.S.	Manager, Data Analysis

#### Information Technology Department

Kim Boyd, B.S.	Asst. Director, Information Technology
Scott Hall, B.S.	Manager, Systems Technology
Karen Williams, B.S.	Systems Analyst
Robert McTier, B.S.	Systems Analyst
Jaime Pierce, B.S.	Systems Analyst
Guanghui Cao, M.E.E.	Programmer Analyst
Kurt Plowman, M.B.A.	Senior Operations Analyst
Susan Anderson	PC Support Specialist
Steve Parsons	Operations Analyst

**Compliance Auditing Department**

Ruth Martindale, B.A.	Assistant Director, Compliance Auditing
Elizabeth Lawrence, B.S., R.R.A.	Compliance Auditor
Jean Verostko, B.S.	Organ Allocation Specialist
Olivia Davis	Organ Allocation Analyst

**THE SCIENTIFIC REGISTRY AND OPTN DATA**

Otis P. Daily, Ph.D. UNOS Central	Project Director Richmond, VA
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**UNOS/ISHLT THORACIC REGISTRY**

Jeffrey Hosenpud, M.D.	Medical Director
Berkeley M. Keck, B.S.N., M.P.H.	Registry Director

**UNOS DISTRIBUTED PANCREAS REGISTRY,  
UNIVERSITY OF MINNESOTA**

David E. R. Sutherland, M.D., Ph.D.	Medical Director
Rainer W. G. Gruessner, M.D., Ph.D.	Associate Director (Medical)
Angelika Gruessner, M.S., Ph.D.	Associate Director (Scientific)
Barbara Bland, R.N., B.A.N., M.S.	Registrar/Manager
Tanya Maxson	Data Processing Supervisor
Bonnie Jean Walker	Data Specialist

**UNOS DISTRIBUTED LIVER REGISTRY,  
UNIVERSITY OF PITTSBURGH**

Katherine Detre, M.D., Dr.PH	Medical Director
Steven Belle, Ph.D.	Associate Director
Kimberly Beringer, BS	Registry Manager
Julie Reigel, B.S., R.D.	Data Coordinator

**UNOS DISTRIBUTED KIDNEY REGISTRY,  
UNIVERSITY OF CALIFORNIA**

Paul I Terasaki, Ph.D.	Medical Director
J. Michael Cecka, Ph.D.	Manager
David W. Gjertson, Ph.D.	Statistician
Steven Takemoto, B.S.	Programmer Analyst
Debbie Burgos	Quality Assurance

**SCIENTIFIC STUDIES AND ACCESS TO  
UNOS TRANSPLANTATION DATA**

The UNOS Scientific Advisory Committee (SAC) considers research proposals submitted by scientific investigators that require access to UNOS transplantation data. Such studies should be submitted by the principal investigator to the SAC for review and approval.

Research Department staff at UNOS coordinate the review process, which consists of two steps: (1) investigators should first prepare a "Concept Paper" describing the proposed research; (2) upon review and acceptance, the authors of concept papers are asked to submit a complete "Research Proposal." Once approved, the studies are given a priority for assignment of UNOS staff time and progress is monitored by Research staff.

In order to protect and ensure confidentiality, UNOS policies prohibit the release of data containing patient and center identifiers, unless specifically approved by the UNOS Board of Directors.

Proposal studies are likely to be one of the following three types:

**Level I Studies.** Level I studies consist of little more than a special request for the analysis of UNOS registry data. These analyses are conducted by UNOS staff or appropriate subcontractors and the results are presented to the individuals requesting the analyses. To defray the costs associated with such data analysis tasks, interested parties may be asked to reimburse UNOS for the efforts of its staff and/or subcontractors.

**Level II Studies.** Level II studies are those that essentially request access to raw data maintained

by UNOS Central and/or its Distributed Registries. In reviewing such proposals, the scientific purpose, data confidentiality, and patient anonymity are all considered. Because direct access to raw data is being requested, Level II studies are carefully scrutinized.

**Level III Studies.** Level III studies are special studies involving primary data collection with possible inclusion of existing UNOS registry data. These are often major research efforts of primary significance to UNOS and the transplant community as a whole. These studies generally will be more costly than either Level I or Level II studies, and are likely to be conducted over an extended period of time. Because of the scope and cost of conducting Level III studies, the SAC thoroughly reviews each proposal and makes appropriate recommendations to the Board concerning disposition of each study. The SAC is most interested in the scientific nature of the study, privacy act issues, and ensuring that appropriate levels of funding are available to support the costs of each Level III study. UNOS is unlikely to be able to fully support such studies.

### UNOS DATA REQUEST SYSTEM

A UNOS goal is to make available information contained within the Scientific Registry to all interested groups and individuals involved in various aspects of transplantation and medical science. UNOS receives data requests pertaining to various aspects of transplantation from numerous sources which often require analyses by Research Department staff. The requests are logged in, prioritized, and assigned to a staff member for completion. Data requests incur a financial charge if special programming is required. During 1994, UNOS Research staff received 1,384 data requests of which all were successfully completed. Table E-1 on the following page provides a breakdown of the numbers of requests from various sectors for the years 1990 through 1994.

Data requests can be processed by calling the UNOS Data Request telephone number at 804/330-8576, by faxing requests to 804/323-3794, or by sending written requests to UNOS.

### UNOS PUBLIC USE DATA TAPE

UNOS has developed a Public Use Data Tape that is available for any requesting party. This tape is updated periodically and includes data based on the UNOS produced reports of center specific transplant survival rates. Patient and Center identifiers are encrypted to comply with privacy act constraints. The Public Use Data Tape may be purchased on diskette by contacting the UNOS Data Request system.

### 1994 REPORT OF UNOS RESEARCH EFFORTS

Tasks 3.i and 8.a of the OPTN contract require UNOS to submit an annual report of research efforts to the HRSA Project Officer by September 30 of each contract year. This 1995 report includes research projects that have been reviewed and approved by the UNOS Scientific Advisory Committee and contains a summary of completed and ongoing research studies. Each study is identified by title and includes the principal investigators, the purpose of the study, the status of the study, a brief summary of the findings, and a list of publications and abstracts resulting from the studies.

Beginning on page E-5, this report includes a summary of 13 completed research studies, 8 ongoing studies and list of 91 publications that have utilized UNOS data since 1991. The report is organized as follows:

Section 1	Recently Completed UNOS Studies
Section 2	Ongoing UNOS Research Studies
Section 3	Recent Publications Using UNOS Data

**Table E-1**  
**UNOS Data Requests -- 1990 to 1994**

SOURCE	1990 N	1991 N	1992 N	1993 N	1994 N
Federal Government	30	41	45	63	50
UNOS Committee	49	50	30	17	9
Media	23	47	31	28	18
UNOS Staff	14	45	67	82	93
UNOS Member	171	303	398	677	808
Other	35	61	97	133	163
Private Company	32	39	82	161	243
<b>TOTAL</b>	<b>344</b>	<b>586</b>	<b>750</b>	<b>1,161</b>	<b>1,384</b>



## SECTION 1 -- RECENTLY COMPLETED UNOS STUDIES

## 1) Title: 1994 Report of Center Specific Graft and Patient Survival Rates.

Investigators: UNOS Scientific Advisory Committee (L.G. Hunsicker, M.D., Chairman) and UNOS Research Staff (E.B. Edwards, Ph.D., T.J. Breen, Ph.D., D.B. Davies, R.R. White, B.S. Fiol, L.E. Bennett, Ph.D., T.G. Guo, Ph.D. and O.P. Daily, Ph.D.).

Purpose: This project was designed to determine center specific patient and graft survival rates adjusted for patient and donor mix covariates for all transplants performed from 1988 through 1991. The study used logistic regression modeling to compute actual and expected survival rates on a center specific basis.

Status: This project began in the fall of 1992 and was completed in late 1994. The *1994 Report of Center Specific Graft and Patient Survival Rates* was published and released to the public by UNOS in January 1995.

Findings: This study, the largest and most complete analysis of transplant survival rates ever undertaken, included outcome data on over 60,000 solid organ transplants. The study included national 1, 2 and 3 year national survival rates for both graft and patient for the recipients of the following organs: kidney, pancreas, liver, heart, lung and heart-lung. The relative risks or odds ratios of patient and donor mix covariates were also included in the study. Survival rates at each transplant center were determined by logistic regression techniques and were included in the 2700 page report.

To date, two publications have resulted from the study:

- (1) Hunsicker, L.G., Bennett, L.E., Breen, T.J., Sutherland, D.E.R. and Daily, O.P. 1994. Impact of Center Volume on Graft Survival Following Pancreas Transplantation in the United States. 1994. *Abstracts of the 15th International Congress of the Transplantation Society*, no. 726.
- (2) Edwards, E.B., Hunsicker, L.G., Guo, T., Breen, T.J. and Daily, O.P. 1994. Impact of Center Volume on Patient Mortality Following Liver Transplantation in the United States. 1994. *Abstracts of the 15th International Congress of the Transplantation Society*, no. 223.

## 2) Title: Antilymphocytic Induction Therapy in Primary Cadaver Renal Transplantation: UNOS Experience.

Investigators: Shield, C., UNOS Scientific Advisory Committee and E.B. Edwards, UNOS Staff.

Purpose: This study examines the effectiveness of antilymphocytic induction therapy on kidney patient and graft survival.

Status: Completed.

Findings: This study examined the effectiveness of antilymphocytic preparations administered to 15,954 patients who received renal cadaveric transplantations from October 1, 1987 through December 31, 1991. Data utilized in this study were collected and validated as part of the UNOS 1994 *Report of Graft and Patient Survival Rates* project. A Cox Regression Model was used to analyze the entire data set. To estimate the functional relationship between

duration of therapy of either MALG or OKT3 and the probability of graft survival within the first year after transplant, a nonparametric logistic regression model was used. Finally Kaplan-Meier survival curves were generated.

Patient demographics were similar among the three groups (MALG, OKT3 or NONE [no therapy]), as were percentages of patients with ATN, number of rejection episodes by discharge date, degree of mismatch and cold ischemia time. Factors identified as significant in the Cox Regression Model included race, age and sex of both donor and recipient, primary versus repeat transplant, diabetic versus nondiabetic, degree of mismatch, year of transplant pretransplant transfusion state, cold ischemia time, medical condition, duration of therapy, PRA, and recipient body mass index. Median duration of therapy was shorter for MALG than OKT3. The Kaplan-Meier curves indicated highly significant graft survival outcomes for those receiving either therapy compared to those recipients who received no antilymphocytic therapy. Lowest graft loss was associated with either MALG use for 7 days or OKT3 use for 8 days.

Earlier studies have examined the effect of prophylactic ALG or OKT3 on survival of cadaver renal transplants and a single-center study demonstrated a significant OKT3 induction effect; however, duration of therapy was not included in these studies. Since this was not an intent-to-treat study, several potential biases could effect the interpretation of the data; however, this study has demonstrated the usefulness of induction antilymphocytic therapy. Further studies will examine the long-term effectiveness of antilymphocytic therapy as the graft function of this patient cohort is followed over time.

To date the following publications were generated from this study:

- (1) Shield, C.F., Edwards, E.B., Daily, O.P. and Breen, T.J. 1994. Antilymphocytic Induction Therapy in Primary Cadaver Renal Transplantation: UNOS Experience. *Abstracts of the 13th Annual Meeting of the American Society of Transplant Physicians*, (P2-38) 95.
- (2) Shield, C.F., Edwards, E.B., Davies, D. and Daily, O.P. Antilymphocytic Induction Therapy in Cadaver Renal Transplantation: A Retrospective Multicenter UNOS Study. Submitted for publication in *Transplantation*.

- 3) **Title:** **A Multivariate Analysis of the Effect of HLA Matching on Kidney Distribution and Graft Survival.**
- Investigators:** UNOS Scientific Advisory Committee (L.G. Hunsicker, M.D., Chairman, Technical Oversight Subcommittee) and UNOS Staff (M.D. Ellison, Ph.D and L.E. Bennett, Ph.D).
- Purpose:** This is a two-part study. The first part of this study examined the role of HLA matches/mismatches on survival of kidney grafts using multivariate analysis techniques. Several patient and donor covariates were included to determine relative risk of mismatching on outcome. In the second part of the study the potential effects of HLA matching using the CREG (Cross Reactive Groups) on graft survival were examined.
- Status:** Completed.
- Findings:** This analysis demonstrated that after adjusting for several non-HLA risk factors, conventional HLA mismatch level remained a strong predictor of graft survival. The

association between HLA and graft survival is strongest when post-transplant deaths with functioning grafts are not considered in the analysis along with graft losses due to immunological causes. A locus mismatches were found to be predictors of long term (greater than one year) graft losses. Conversely, B and D locus mismatches were significant predictors of both short and long term graft loss.

The second part of the study examined the effect of Cross Reactive Group (CREG) and residue matching using the Thompson and Takemoto methods. Among transplants mismatched for one or more conventional HLA antigens, CREG-matched transplants (according to the Thompson and Takemoto matching systems), showed short- and long-term graft survival that was equal to or higher than those with CREG mismatches. Matching A- and B-locus antigens according to CREGs or residues increased the number of zero mismatched patients by 71% to 74%.

Although adjusted survival rates were slightly lower for black recipients than white recipients, the HLA mismatch level was an important predictor of graft survival in both groups. It therefore appears that differences in risk of graft loss must be due to factors not included as covariates in the study. This study found that the relative effects of conventional HLA matching as compared to CREG and residue matching were the same for both racial groups.

Preliminary results were reported at the 27th Annual Meeting of the American Society of Nephrology, October 26-29, 1995.

This study resulted in the following publication:

- (1) Ellison, M.D., L.E. Bennett, E.B. Edwards, T.J. Breen, O.P. Daily, L.G. Hunsicker. 1994. Multivariate Analysis of Verified National Data To Assess the Impact of HLA Mismatch Level on Kidney Graft Survival. *Journal of the American Society of Nephrology*, vol 5:1003.

- 4) **Title:** Comparison of Liver Allocation Systems Using Computer Simulation.
- Investigators:** UNOS Allocation Modelling Oversight Committee (M. Allen, M.D., Chair), UNOS Liver Committee (J. Roberts, M.D., Chairman) and UNOS Staff (E.B. Edwards, Ph.D., A. Harper, L.E. Bennett, Ph.D. and O.P. Daily, Ph.D.) and Pritsker Corporation Staff (A.A.B. Pritsker, Ph.D.).
- Purpose:** The purpose of this study was to compare the current UNOS liver allocation system with four proposed alternative liver allocation systems.
- Status:** Completed.
- Findings:** This study used the UNOS Liver Allocation Model software system developed by UNOS and Pritsker Corporation to compare the current liver allocation system with four proposed alternative liver allocation systems selected by the UNOS Liver Committee. Each system utilized variations on local, regional (superregional) and national sharing of cadaveric livers. One proposal simulated a single national list for liver allocation, with status 1 patients transplanted first, followed by status 2s then status 3s and 4s. For each policy, several outcomes were collected including the following: patient survival, pre and post transplant deaths, percent of local, regional and national sharing of organs, waiting times

by status codes, transplants by status codes and the number of relists and retransplants and distances that organs would be transported. None of the policies appeared to vary significantly with respect to the current UNOS liver allocation policy in respect to numbers of total transplants. Retransplant rates were higher and survival rates lower in those policies that emphasized transplanting status 1 patients ahead of other patient status codes. The current UNOS policy resulted in the shortest transportation distances for the livers, and the single national list resulted in the highest average transported distances. In general, the five policies were remarkably similar, with no large differences noted in any of the outcome measures. The detailed results of this study were provided to the Division of Organ Transplantation, HRSA. A complete manuscript describing this study is in preparation.

- 5) Title:** **Effect of H-Y Minor Histocompatibility Antigen in Zero-Mismatched Living-Donor Renal Transplantation.**
- Investigators:** Norman, D.J., Oregon Health Sciences University and M.D. Ellison, T. J. Breen, E.B. Edwards, D.B. Davies and O.P. Daily, UNOS Staff.
- Purpose:** The purpose of this study was to determine the effect of the H-Y minor histocompatibility antigen in renal graft rejection.
- Status:** Completed.
- Findings:** UNOS Scientific Registry data collected over a 5-year period showed no donor-gender effects on 3-year graft survival rates in living-donor, zero-mismatched first renal transplants. This study showed that female recipients of such transplants are not at an increased risk for graft loss when the H-Y minor H antigen is present in the graft (from a male donor). Although female recipients of male-donor cadaveric kidneys showed lower graft survival than male recipients, it is likely that the poorer outcomes among such female recipients were due not to the presence of the H-Y alloantigen but to a variety of factors previously shown to influence the outcomes of cadaveric grafts.
- This study resulted in the following publication:
- (1) Ellison, M.D., D.J. Norman, T.J. Breen, E.B. Edwards, D.B. Davies and O.P. Daily. 1994. No Effect of H-Y Minor Histocompatibility Antigen in Zero-Mismatched Living-Donor Renal Transplants. *Transplantation*, 58: 518-520.
- 6) Title:** **Identification of Poorly Performing Transplant Programs Using the UNOS Center Specific Data.**
- Investigators:** Burdick, J., D.J. Norman, M. Costanso, R.R. Bollinger, UNOS Membership and Professional Standards Committee; L.G. Hunsicker, UNOS Scientific Advisory Committee; and E.B. Edwards, UNOS Staff.
- Purpose:** The purpose of this study was to develop a methodology for identifying transplant programs that were performance outliers in the UNOS Center Specific Report.
- Status:** Completed.

**Findings:** The authors used data from the UNOS 1991 *Report of Center Specific Graft and Patient Survival Rates* and developed a statistical methodology to identify transplant programs that appear to have survival results that deviate significantly from expected when adjusted for patient mix and program volume. A process and a formula for identifying such programs was developed and has been implemented as a quality review tool by the UNOS Membership and Professional Standards Committee. UNOS currently uses the process to identify programs for peer review and site visits in order to help identify reasons for outlier performance and correct any detected deficiencies.

**7) Title:** Preliminary Report on the UNOS Ad Hoc Donations Committee Retrospective Study of Expanded Donors.

**Investigators:** First, M.R., J.W. Alexander, UNOS Ad Hoc Donations Committee; L.E. Bennett, T.J. Breen, L.J. McGaw, UNOS Staff.

**Purpose:** The purpose of this study was to determine factors which distinguish expanded donors from optimal donors.

**Status:** Completed.

**Findings:** A retrospective study was conducted to determine factors which distinguish expanded donors from optimal donors. Cadaveric donor data from the UNOS Scientific Registry and additional data from 10 Organ Procurement Organizations were utilized in the study. A sample of 953 donors, of which 149 were considered to be expanded donors, were utilized in the study. Logistic regression models for graft survival at 3 months and 1 year were computed based on all the donor risk factors and selected recipient factors. Odds ratios were computed for risk factors associated with kidney, liver and heart transplants. For kidney, significant donor factors were donor age and donor sex. Significant liver donor factors were donor age, donor sex and norepinephrine usage. Significant heart donor factors were presence of clinical infection and prolonged hypotension.

This study resulted in the following publications:

- (1) Bennett, L.E., M.R. First, L.J. McGaw, T.J. Breen and J.W. Alexander. 1994. A Retrospective Study of Expanded Donors. *Abstracts of the 15th International Congress of the Transplantation Society*, no. 379.
- (2) Bennett, L.E., M.R. First, L.J. McGaw, T.J. Breen and J.W. Alexander. 1994. Preliminary Report of the UNOS Ad Hoc Donation Committee Retrospective Study of Expanded Donors. *Abstracts of the 20th Annual Scientific Meeting of the American Society of Transplant Surgeons*, (34) I-4.

**8) Title:** Heart Transplantation in Dilated Heart Muscle Disease and Myocarditis.

**Investigators:** O'Connell, J.B. and J.D. Hosenpud, UNOS Scientific Advisory Committee and T.J. Breen, UNOS Staff.

**Purpose:** The purpose of this study was to determine whether dilated heart muscle disease predicted survival in cardiac transplant recipients.

Status: Completed.

Findings: The authors performed a detailed analysis of outcome with reference to pretransplant diagnosis on 14,055 cardiac transplant recipients in order to determine whether dilated heart muscle disease predicted survival. Overall survival at one year was greater than 80% in all patients. In general, those patients with dilated heart muscle disease had a small but significantly improved survival compared to those with other diagnoses. Outcome in women, which is significantly poorer than men, showed similar diagnosis-specific results. Multivariate analysis confirmed the significant difference ( $p=0.02$ ) with a minimal reduction in risk (relative risk 0.927). The authors concluded that carefully selected patients with dilated heart muscle disease are excellent candidates for cardiac transplantation.

This study resulted in the following publication:

- (1) O'Connell, J.B., T.J. Breen, J.D Hosenpud. Heart Transplantation in Dilated Heart Muscle Disease and Myocarditis. *European Heart Journal*, in press.

**9) Title: Pancreas Transplant Outcome With or Without Biological Anti-T Cell Therapy for Induction Immunosuppression According to Use of Cyclosporine for Induction/Maintenance Immunosuppression Versus for Maintenance.**

Investigators: Sutherland, D.E.R., K.C. Moudry-Munns, and A. Gruessner, University of Minnesota and UNOS Pancreas Registry.

Purpose: This study was designed to determine if broadly-defined variations in induction immunosuppressive protocols influence outcome in pancreas transplant recipients maintained on cyclosporine.

Status: Completed.

Findings: Utilizing the UNOS Pancreas Registry, actuarial survival rates were determined for over 3500 U.S. recipients of simultaneous pancreas and kidney (SPK), pancreas after kidney (PAK) and pancreas transplants alone (PTA). For each type of transplant, survival rates were determined for 4 subgroups: 1) Induction and maintenance (I/M) with Anti-T cell therapy (ATC) with cyclosporine (CsA); 2) ATC with CsA for maintenance only (MO); 3) No ATC with CsA or I/M; and 4) No ATC with CsA for MO.

For SPK transplants the graft survival rates were highest in the groups that received ATC, regardless of whether CsA was (81% at 1 year) or was not (79% at 1 year) included in the induction regimen. If ATC was not used in SPK recipients, the graft survival rate was still good as long as CsA was given for induction (76% at 1 year). The SPK group given neither ATCD nor CsA for induction had the lowest 1 year graft survival rate (69%).

This study resulted in the following publication:

- (1) Sutherland, D.E.R., K.C. Moudry-Munns, A. Gruessner. Pancreas Transplant Outcome With or Without Biological Anti-T Cell Therapy for Induction Immunosuppression with use of Cyclosporine. *Transplantation Proceedings* 26(5):2752-2755

- 10) **Title:** **An Analysis of Offers of Cadaveric Kidneys During 1993.**
- Investigators:** Keck, B.M., T.J. Breen LE. Bennett, G. Bowen, M.D. Ellison, and O.P. Daily, UNOS Staff.
- Purpose:** This study was designed to assess renal acceptance and refusal rates and the relative frequencies of refusal reasons reported to the UNOS OPTN and Scientific Registries.
- Status:** Completed.
- Findings:** Acceptance and refusal rates and frequencies of reasons were determined for a 15% random sample of cadaveric kidneys that were offered for transplantation from January 1 to September 30, 1993. Information was available on 1,217 kidneys from 705 cadaveric donors. In the sample, 11,945 cadaveric kidney offers were made and 1,217 were accepted for transplant, resulting in an overall acceptance rate of 10.2% in this cohort. The number of offers made to white patients was 6,956 (58.7% of the total offers) and 3,502 were offered to black patients (29.5% of the total offers). The acceptance rate for white patients was 12% as compared to 7% observed for black patients. The overall relative frequencies of reasons cited for the 10,278 refusals were grouped into eleven categories. Most frequently cited refusal reasons were: 1) positive crossmatch (35.1%); 2) other administrative (22.5%); and 3) reason not given (12.9%). Significant differences between rates of refusal reasons for whites versus blacks were noted in the following categories: recipient ill, recipient unavailable/refused, donor characteristics/history, other labs/tests and reason not given.
- This study resulted in the following publication:
- (1) Keck, B.M., T.J. Breen, L. Bennett, G. Bowen, M.D. Ellison, O.P. Daily. 1995. An analysis of offers of cadaveric kidneys during 1993. *Journal of Transplant Coordination*, 5:46-49.
- 11) **Title:** **Effect of Donor Age on Outcome in Liver Transplantation.**
- Investigators:** Detre, K.M., M. Lombardero, S. Belle, K. Beringer, UNOS/Pitt Liver Registry; T.J. Breen, O.P. Daily, UNOS Staff; and N. Ascher, UNOS Scientific Advisory Committee.
- Purpose:** This study was designed to determine the impact of increasing donor age on patient and graft survival in liver transplant recipients.
- Status:** Completed.
- Findings:** To determine the impact of increasing donor age on the outcome of liver transplantation the authors analyzed 6-months of graft survival in 7,988 adults who received their first liver graft between October 1987 and September 1992. Graft survival was measured by death and/or retransplantation and donor age in decades. The independent effect of donor age on graft survival was estimated by Cox regression analysis controlling for the possible confounding on donor, recipient, and institutional characteristics. Between 1987 and 1992, the percentage of donors over 50 years increased from 2.1% to 17.5% resulting in a change of median donor age from 23 to 31 years. For donors of 50 years or older, graft failure rate was 50% higher than with a donor age less than 20 years. Adjustments for characteristics associated to donor age or outcome did not eliminate the

excess risk found with increasing donor age. Graft failure rate in recipients from oldest donors was 27.2% in 1992 which was nearly equivalent to the graft failure rate of 26.9% in recipients of the youngest donors in 1987 to 1988. Although increasing donor age has an adverse effect on 6-month graft survival, improvements in transplantation technology and patient care over time have more than compensated for poorer graft function associated with the simultaneous rise in median donor age.

This study resulted in the following publication:

- (1) Detre, K.M., M. Lombardero, S. Belle, K. Beringer, T. Breen, O.P. Daily and N.L. Ascher. 1995. Influence of Donor Age on Graft Survival After Liver Transplantation--United Network for Organ Sharing Registry. *Liver Transplantation and Surgery*, 1:311-319.

**12) Title: Effect of Simultaneous Liver-Kidney Transplantation on Acute Rejection of Transplanted Kidneys.**

**Investigators:** Katznelson, M.D. and J.M. Cecka, Ph.D, UNOS/UCLA Kidney Registry.

**Purpose:** This study was designed to compare outcomes of combined kidney and liver transplants in the UNOS Scientific Registry using the contralateral kidney from the same donor as controls. The study attempted to determine if liver allografts protect simultaneously transplanted kidney allografts from early acute rejection and assess the effects on long term survival.

**Status:** Completed.

**Findings:** The UNOS Scientific Registry database was used to compare kidney allograft data from 248 combined liver and kidney transplants (LKT) with a control group comprised of 206 contralateral kidney alone transplants (KAT) from the same donor. The LKT and KAT groups were identical with respect to most baseline parameters except for a greater degree of HLA matching in the KAT group. The overall 3-year graft survival was higher in the KAT group compared to the LKT group, (80% versus 60%,  $p < 0.01$ ). When the data was censored to remove death as a cause of graft loss and to minimize the matching effect, the 3-year survival rates were not statistically different (78% for KAT and 81% for LKT). The authors concluded that the liver neither protects the kidney from rejection nor improves kidney allograft function or survival after LKT.

This study resulted in the following publication:

- (1) Katznelson, S. and J.M. Cecka. The Liver Neither Protects the Kidney from Rejection nor Improves Kidney Graft Survival after Combined Liver and Kidney Transplantation from the Same Donor. Submitted for publication to *Transplantation*.



- 13) **Title:** Survival Rates of Kidney Transplants from Spousal and Living Unrelated Donors.
- Investigators:** Terasaki, P.I., J.M. Cecka, D.W. Gjertson, and S. Takemoto, UNOS/UCLA Kidney Registry.
- Purpose:** This study was designed to determine factors that influence survival rates of spousal-donor kidneys.
- Status:** Completed.
- Findings:** Kidney transplant data from the UNOS Scientific Registry used to determine and compare graft survival rates of kidney grafts from 368 spouses, 129 living unrelated donors, 3368 parents, 1984 HLA-identical siblings, 1411 offspring, and 43341 cadavers. The 3-year survival rates were 85% for kidneys from 368 spouses, 81% for kidneys from 129 living unrelated donors who were not married to the recipients, 82% for kidneys from 3368 parents, and 70% for 43341 cadaveric kidneys. The 3-year survival rate for wife-to-husband grafts was 87%, which was the same as for husband-to-wife grafts if the wife had never been pregnant. If the wife had previously been pregnant, the 3-year graft survival rate was 76%. The 3-year graft survival rate among recipients of spousal grafts who did not receive transfusion preoperatively was 81%, as compared to 90% for recipients who received 1-10 transfusions preoperatively. The superior survival rate of grafts from unrelated donors could not be attributed to better HLA matching, white race, younger donor age, or shorter cold-ischemic times, but might be explained by damage due to shock before removal in 10% of the cadaveric kidneys.

This study resulted in the following publication:

- (1) Terasaki, P.I., J.M. Cecka, D.W. Gjertson and S. Takemoto. 1995. High Survival Rates of Kidney Transplants from Spousal and Living Unrelated Donors. *New England Journal of Medicine*, 333:333-336.

**SECTION 2 -- ONGOING UNOS RESEARCH STUDIES**

- 1) Title: Effects of Distance on Transplantation Outcomes.**
- Investigators:** Hudd, S., Yale University School of Medicine, New Haven, CT; L.G. Hunsicker, UNOS Scientific Advisory Committee; and E.B. Edwards and D.B. Davies, UNOS Staff.
- Purpose:** This study will utilize selected data from the 1991 Report of Center Specific Graft and Patient Survival Rates and merge with patient location relative to the transplant center where the patient was transplanted in order to determine the role that patient proximity to the transplant center has on outcomes.
- Status:** Ongoing.
- Findings:** This study is in progress. Survey instruments to assess quality of life after transplant as related to patient distance from the center have been developed and approved for use. Patients at selected centers will be surveyed using this instruments. Analysis datasets utilizing patient, donor and distance covariates have been completed and will be used to determine the effect of patient proximity to the center on post transplant survival. Effects of patient proximity to transplant center will be determined for heart, liver and kidney recipients using logistic regression techniques. The expected completion date is summer 1996.
- 2) Title: Liver Allocation Simulation Modelling.**
- Investigators:** UNOS Allocation Modelling Oversight Committee, UNOS Liver/Intestine, UNOS Scientific Advisory Committee, UNOS Staff and Pritsker Corporation Staff.
- Purpose:** This purpose of this project is to develop computer simulation modelling software that will permit the UNOS Liver Committee and the UNOS Board to determine the effectiveness of liver allocation policies. The modelling software will permit the simulation of the operation of various liver allocation policies and comparison of the results or outputs of these policies. Its successful completion will allow UNOS Committees to predict the effects of changes in organ allocation policies.
- Status:** Ongoing. The project started in 1994 with some preliminary development of a liver allocation modelling program by UNOS staff. In early 1995 UNOS and Pritsker Corporation staff began co-development of a software simulation system that was designed to permit UNOS to compare various policies on an equitable basis. As of September 15, 1995, the basic software system and enhancements have been completed and have been used to perform preliminary allocation policy comparisons by the UNOS Liver Committee.
- Findings:** The basic model utilizes both historic or characterized donor and wait listed patient data for inclusion in the model. An organ matching process, an organ offer and refusal process and status code transitions are also included in the model and were based on UNOS historical data. Outputs of the model include survival rates, transplant numbers by status code on the wait list, deaths both pre and post transplant, waiting times, distances organs will be transported, and percents of local, regional and national transplants. Additional details for each of these output categories are also included. Analysis efforts using the model have concentrated on examining different allocation

schemes based on permutations of the current local, regional and national system and the various priorities of status codes for waiting patients. In future efforts, UNOS will examine population density based distribution and allocation systems.

This study resulted in the following publication:

- (1) Pritsker, A.A.B., D.L. Martin, J. Reust, M.A. Wagner, J.R. Wilson, M.E. Kuhl, O.P. Daily, A.M. Harper, E.B. Edwards, L.E. Bennett, J.P. Roberts, M.D. Allen, J.F. Burdock. 1995. Organ Transplantation Policy Evaluation. *Proceedings of the Winter Simulation Conference*, in press.

**3) Title: Kidney Allocation Simulation Modelling.**

**Investigators:** UNOS Allocation Modelling Oversight Committee, UNOS Kidney/Pancreas Committee, UNOS Scientific Advisory Committee, UNOS Staff and Pritsker Corporation Staff.

**Purpose:** The purpose of this project is to develop computer simulation modelling software that will permit the UNOS Kidney/Pancreas Committee and the UNOS Board to determine the effectiveness of kidney allocation policies. The modelling software will permit the simulation of the operation of various kidney allocation policies and comparison of the results or outputs of these policies. Its successful completion will allow UNOS Committees to predict the effects of changes in organ allocation policies.

**Status:** Ongoing.

**Findings:** This project started in the summer of 1995. To date, conceptual development of the modelling software design is in progress. Detailed specifications for the kidney model will be developed in late 1995. Characterization of historical data for donor and wait list arrival streams are in progress.

**4) Title: OPO Productivity Study.**

**Investigators:** Joint UNOS/AOPO working group (W. Pfaff, Co-Chairman) and L.E. Bennett, UNOS Staff.

**Purpose:** This study will attempt to compare methods for assessing OPO productivity by comparing OPO performance using published mortality based estimates and population based estimates.

**Status:** Ongoing.

**Findings:** Preliminary data indicate that comparing OPO donor productivity by population basis (i.e. donors recovered per million population) is not substantially different than comparing OPO productivity based on the number of donors recovered by published mortality rates in the OPO service area. Because of disparities in OPO reporting methodology, the study will continue to concentrate on comparing OPO productivity using organs recovered and transplanted rather than just organs recovered for transplantation.

- 5) **Title:** **Effect of Followup Care on Mortality for Heart Transplant Recipients.**
- Investigators:** Hosenpud, J.D., UNOS Scientific Advisory Committee and L.E. Bennett, B.M. Keck and O.P.Daily, UNOS Staff.
- Purpose:** This study is designed to determine if short and long term care providers effect the survival of heart transplant recipients.
- Status:** Ongoing.
- Findings:** Preliminary multivariate analyses of heart transplant recipients transplanted in the 1991 to 1993 time frame indicate that short term survival rates (6 months or less) and long term survival rates (greater that 6 months post transplant) are not significantly different for patients that receive post transplant care at the heart transplant center where they were transplanted versus care at other transplant centers or nontransplant centers.
- 6) **Title:** **Comparison of Heart-Kidney Transplant Outcomes with Heart Transplant Outcomes.**
- Investigators:** Dec, G.W., UNOS Thoracic Committee and L.E. Bennett, UNOS Staff.
- Purpose:** This study is designed to assess the outcomes of simultaneous heart-kidney transplants.
- Status:** Ongoing.
- Findings:** Preliminary evaluations of 46 combined heart and kidney allograft recipients (HK) transplanted between 1988 and 1995 have been performed and compared to heart recipients alone (H). Actuarial survival for HK recipients at one year (79.6%) was comparable to heart recipients (80.7%) The incidence of cardiac rejection is comparable between the two groups.
- 7) **Title:** **Combined Liver-Kidney Transplantation in the U.S. from 1988-1994.**
- Investigators:** Gonwa, T.A., Baylor University Medical Center and T.J. Breen, UNOS Staff.
- Purpose:** This study was designed to determine the characteristics and survival rates of combined liver-kidney transplants performed in the United States from 1988 through 1994.
- Status:** Ongoing.
- Findings:** Preliminary results determined that 324 combined liver-kidney (LKTX) transplants were performed in the United States from 1988 through 1994. This represents 2.1% of all liver transplants performed in the U.S. during this time period. Combined liver-kidney transplant recipients were slightly older and sicker and more likely to have had a previous kidney transplant. Metabolic diseases were more prevalent in LKTX patients although there were significantly fewer cases of biliary atresia, cholestatic disease and malignancies. One and two year patient survival for LKTX was 72.7% and 67.5% were significantly lower than one (79.3%) and two year (75.5%) patient survival rates for liver transplant patients (LTX).

This study resulted in the following publication:

- (1) Gonwa, T.A. and T.J. Breen. 1995. Combined Liver-Kidney Transplantation (LKTx) in the U.S. from 1988-1994. Abstracts of the 14th Annual Meeting of the American Society of Transplant Physicians, 58:p. 88.

- 8) **Title:** Effect of Prolonged Waiting Time on Heart Transplant Outcomes in Stable Patients.
- Investigators:** Hosenpud, J.D., UNOS Scientific Advisory Committee and E.B. Edwards, UNOS Staff.
- Purpose:** This study is designed to assess the heart transplant outcomes for patients who were considered clinically stable during the pre-transplant period.
- Status:** Ongoing.
- Findings:** All patients undergoing orthotopic cardiac transplantation in the U.S. from 1990-1994 and in whom listing and transplant status codes were available and who had not been supported by a ventricular assist device and who had at least 1 month follow-up were included in the analysis (8454 patients). Patients were grouped first by waiting time in quartiles and by initial listing status and status code at the time of transplant. After adjusting for the majority of known donor and recipient factors in a multivariate logistic regression analysis, the adjusted risk of graft failure within 1 month of transplantation in 4 groups of patients: 1) listed status 1 - transplanted status 1; 2) listed status 1 - transplanted status 2; 3) listed status 2 - transplanted status 1; and 4) listed status 2 - transplanted status 2.
- Intermediate waiting time (79-217 days) had no effect on graft survival. Of patients waiting for prolonged periods prior to transplantation (greater than 217 days), only 2 groups had statistically significant increased risk of graft failure. Those listed and transplanted in status 2 had a 38% increased risk of graft failure 30 days post transplant. Those listed in status 1 but transplanted in status 2 had almost a 2.5 fold increase in risk of graft failure at one month post transplant.

## SECTION 3 -- RECENT PUBLICATIONS USING UNOS DATA

1995

1. Keck, B.M., Breen, T.J., Bennett, L.E., Bowen, G., Ellison, M.D., Daily, O.P. 1995. An Analysis of Offers of Cadaveric Kidneys during 1993. *Journal of Transplant Coordination*, 5:46-49.
2. Detre, K.M., Lombardero M., Belle, S.H., Beringer, K.C., Breen, T.J., Daily, O.P., Ascher, N. L. 1995. Influence of Donor Age on Graft Survival After Liver Transplantation--United Network for Organ Sharing Registry. *Liver Transplantation and Surgery*, 1:311-319.
3. Terasaki, P.I., Cecka, J.M., Gjertson, D.W. and Takemoto, S. 1995. High Survival Rates of Kidney Transplants from Spousal and Living Unrelated Donors. *New England Journal of Medicine*, 333:333-336.
4. Gonwa, T.A. and Breen, T.J. 1995. Combined Liver-Kidney Transplantation (LKTx) in the U.S. from 1988-1994. *Abstracts of the 14th Annual Meeting of the American Society of Transplant Physicians*, 58:p. 88.
5. Cecka, M.J. and Terasaki, P.I. 1995. The UNOS Scientific Renal Transplant Registry. In: Terasaki, P.I. Cecka, J.M., Eds. *Clinical Transplants 1994*. Los Angeles, UCLA Tissue Typing Laboratory, 1995; pp. 1-18.
6. Belle, S.H., Beringer, K.C., and Detre, K.M. 1995. Liver Transplantation in the United States: Results from the National Pitt-UNOS Liver Transplant Registry. In: Terasaki, P.I. Cecka, J.M., Eds. *Clinical Transplants 1994*. Los Angeles, UCLA Tissue Typing Laboratory, 1995; pp. 19-35.
7. Keck, B.M., White, R., Breen, T.J., Daily, O.P., and Hosenpud, J.D. 1995. Thoracic Transplants in the United States: A Report from the UNOS/ISHLT Scientific Registry for Organ Transplants. In: Terasaki, P.I. Cecka, J.M., Eds. *Clinical Transplants 1994*. Los Angeles, UCLA Tissue Typing Laboratory, 1995; pp. 37-46.
8. Gruessner, A. and Sutherland D.E.R. 1995. Pancreas Transplants Results in United Network for Organ Sharing (UNOS) United States of America (USA) Registry with A Comparison to Non-USA Data in the International Registry. In: Terasaki, P.I. Cecka, J.M., Eds. *Clinical Transplants 1994*. Los Angeles, UCLA Tissue Typing Laboratory, 1995; pp. 47-68.
9. Guo, T.J., Daily, O.P., and Davies, D.B., 1995. The UNOS OPTN Waiting List from 1988 to 1994. In: Terasaki, P.I. Cecka, J.M., Eds. *Clinical Transplants 1994*. Los Angeles, UCLA Tissue Typing Laboratory, 1995; pp. 69-86.
10. Edwards, E.B., 1995. Summary of 1994 Report of Center-Specific Graft and Patient Survival Rates. In: Terasaki, P.I. Cecka, J.M., Eds. *Clinical Transplants 1994*. Los Angeles, UCLA Tissue Typing Laboratory, 1995; pp. 541-554.
11. Keck, B.M., Breen, T.J., Daily, O.P., Hosenpud, J.D. 1995. A Multivariate Analysis of United States Heart Registry Data. *Journal of Transplant Coordination* 5:26-30.
12. Klein, D.H., Graham, W.K., Kauffman, H.M., Jr., Wolf, J.S., Daily, O.P., Stockdreher, D.D., Boyd, K., Hall, S., Aeder, M. 1995. Streamlining the Donor Organ Placement Process: Use of Portable Computers in the Field. *Abstracts of International Society for Organ Sharing*.
13. Pierce, G.A., Graham, W.K., Kauffman, H.M., Jr., 1995. United Network For Organ Sharing: 1984 To 1994. *Abstracts of International Society for Organ Sharing*.

14. Kauffman, H.M., Jr., Ellison, M.D., Breen, T.J., Daily, O.P., Pierce, G.A. 1995. Cadaveric Organ Donation in the United States: 1988 Through 1993. *Abstracts of International Society for Organ Sharing*.
15. Kauffman, H.M., Jr., Ellison, M.D., Pierce, G.A., Graham, W.K. and Daily, O.P., United Network for Organ Sharing, Richmond, VA USA 1995. Increasing Donor-Recipient Imbalance Justifies Xenograft Research. *Abstracts of International Society for Organ Sharing*.
16. Martindale, R.K., and Verostko, J.M. 1995. OPTN Organ Allocation Monitoring. *Journal of Transplant Coordination* 5:16-19.
17. Stockdreher, D., Creger, J., Stearns, J., and Lohrey, D. 1994. Placement of Pre- and Post-Recovery Livers by a Central Allocation Center. *Journal of Transplant Coordination* 5:20-25.
18. Cecka, J.M., Gjertson, D.W., Terasaki, P.I. 1995. In Sickness and In Health - High Success Rates in 405 Kidney Transplants Between Spouses. *Abstracts of the 14th Annual Meeting of the American Society of Transplant Physicians*, (73) 92.
19. Gjertson, D.W., Cecka, J.M., Terasaki, P.I. 1995. The Relative Effects of FK506 and Cyclosporine on Short - and Long-Term Kidney Graft Survival. *Abstracts of the 14th Annual Meeting of the American Society of Transplant Physicians*, (199) 123.
20. Takemoto, S., Gjertson, D.W., Cecka, J.M., Terasaki, P.I. 1995. HLA Matching for Local Pools Using Fewer HLA Factors. *Transplantation Proceedings* Vol. 27, No. 1 (February), 1995:pp. 675-677.
21. Cecka, J.M., Terasaki, P.I. 1995. Optimal Use for Older Donor Kidneys...Older Recipients. *Transplantation Proceedings* Vol. 27, No. 1 (February), 1995:pp. 801-802.
22. Gjertson, D.W., Takemoto, S., Cecka, J.M., and Terasaki, P.I. 1995. The Impact of Allocating Cadaveric Kidneys Solely to Centers of Excellence Versus by HLA Matching. *Transplantation Proceedings* Vol. 27, No. 1 (February), 1995:pp. 653-655.
23. Belle, S.H., Detre, K.M., and Beringer, K.C. 1995. The Relationship Between Outcome of Liver Transplantation and Experience in New Centers. *Liver Transplantation and Surgery*, 1(6):347-353.

#### 1994

24. Breen, T.J., Keck, B.M., Daily, O.P. and Hosenpud, J.D. 1994. The Use of Older Donors Results in a Major Increase in Early Mortality Following Orthotopic Cardiac Transplantation. *Journal of Heart and Lung Transplantation*, 14th Annual Meeting of the International Society for Heart and Lung Transplantation, 13:1, p. S51.
25. Hosenpud, J.D., Breen, T.J., Keck, B.M. and Daily, O.P. 1994. Demographics and Outcome of Patients Receiving Kidney Allografts Concurrent With or Subsequent To Orthotopic Cardiac Transplantation. *Journal of Heart and Lung Transplantation*, 14th Annual Meeting of the International Society for Heart and Lung Transplantation, 13:1, p. S57.
26. Norman, D.J., Ellison, M.D., Breen, T.J., Bennett, L.E. and Daily, O.P. 1994. Cadaveric Kidney Allocation in the U.S.: A UNOS Study of the Effect of Turn-Downs on Transplant Recipient Demographics. *Abstracts of the 13th Annual Meeting of the American Society of Transplant Physicians*, (55) 49.

27. Ellison, M.D., Bray, R.A., Rodey, G.E., Edwards, E.B., Bryan, C., McCalmon, R.T., Jr., Noreen, H., Thompson, J.S. and Daily, O.P. 1994. Is Monthly Panel Reactive Antibody Screening Essential? *Abstracts of the 13th Annual Meeting of the American Society of Transplant Physicians*, (56) 49.
28. Shield, C.F., Edwards, E.B., Daily, O.P. and Breen, T.J. 1994. Antilymphocytic Induction Therapy in Primary Cadaver Renal Transplantation: UNOS Experience. *Abstracts of the 13th Annual Meeting of the American Society of Transplant Physicians*, (P2-38) 95.
29. Breen, T.J., Keck, B.M., Daily, O.P. and Hosenpud, J.D. 1994. Using Older Donors Results in a Major Increase in Early Mortality Following Cardiac Transplantation. *Abstracts of the 13th Annual Meeting of the American Society of Transplant Physicians*, (71) 53.
30. Hunsicker, L.G., Bennett, L.E., Breen, T.J., Sutherland, D.E.R. and Daily, O.P. 1994. Impact of Center Volume on Graft Survival Following Pancreas Transplantation in the United States. 1994. *Abstracts of the 15th International Congress of the Transplantation Society*, no. 726.
31. Norman, D.J., Ellison, M.D., Breen, T.J., Davies, D.B. and Daily, O.P. 1994. Cadaveric Kidney Allocation in the U.S.: A Critical Analysis of the Point System. *Abstracts of the 15th International Congress of the Transplantation Society*, no. 380.
32. Edwards, E.B., Hunsicker, L.G., Guo, T., Breen, T.J. and Daily, O.P. 1994. Impact of Center Volume on Patient Mortality Following Liver Transplantation in the United States. 1994. *Abstracts of the 15th International Congress of the Transplantation Society*, no. 223.
33. Breen, T.J., Keck, B.M., Daily, O.P. and Hosenpud, J.D. 1994. The Use of Older Donors Results in a Major Increase in Early Mortality Following Orthotopic Cardiac Transplantation. 1994. *Abstracts of the 15th International Congress of the Transplantation Society*, no. 420.
34. Alexander, J.W., Bennett, L.E. and Breen, T.J. 1994. Effect of Donor Age on Outcome of Kidney Transplantation. *Transplantation*, 57:871-876.
35. Davies, D.B., Breen, T.J., Guo, T., Ellison, M.D., Daily, O.P. and Harmon, W.E. 1994. Waiting Times to Pediatric Transplantation: An Assessment of the August 1990 Change in Renal Allocation Policy. *Transplantation Proceedings*, 26:30-31.
36. Breen, T.J., Keck, B.M., Hosenpud, J.D., White, R.R. and Daily, O.P. 1994. Thoracic Organ Transplants in the United States from October 1987 through December 1992: A Report from the UNOS Scientific Registry for Organ Transplants. In: Terasaki, P.I., Cecka, J.M. Eds. *Clinical Transplants 1993*. Los Angeles, UCLA Tissue Typing Laboratory, 1994; pp. 37-45.
37. Edwards, E.B., Guo, T., Breen, T.J., Bowen, G.R. and Daily, O.P. 1994. The UNOS OPTN Waiting List from 1988 to 1993. In: Terasaki, P.I., Cecka, J.M. Eds. *Clinical Transplants 1993*. Los Angeles, UCLA Tissue Typing Laboratory, 1994; pp. 71-83.
38. Bennett, L.E., Glascock, R.F., Breen, T.J., Ellison, M.D. and Daily, O.P. 1994. Organ Donation in the United States: 1988 Through 1992. In: Terasaki, P.I., Cecka, J.M. Eds. *Clinical Transplants 1993*. Los Angeles, UCLA Tissue Typing Laboratory, 1994; pp. 85-93.
39. Sollinger, H.W. and Edwards, E.B. 1994. Living Unrelated Kidney Transplantation (LURD KTx): The U.S. Experience. *Abstracts of the 20th Annual Scientific Meeting of the American Society of Transplant Surgeons*, (34) I-4.



40. Bennett, L.E., First, M.R., McGaw, L.J., Breen, T.J. and Alexander, J.W. 1994. Preliminary Report of the UNOS Ad Hoc Donation Committee Retrospective Study of Expanded Donors. *Abstracts of the 13th Annual Meeting of the American Society of Transplant Physicians*, (99) P2.55.
41. Bennett, L.E., First, M.R., McGaw, L.J., Breen, T.J. and Alexander, J.W. 1994. A Retrospective Study of Expanded Donors. 1994. *Abstracts of the 15th International Congress of the Transplantation Society*, no. 379.
42. Hosenpud, J.D., Breen, T.J., Edwards, E.B., Daily, O.P. and Hunsicker, L.G. 1994. The Effect of Transplant Center Volume on Cardiac Transplant Outcome. *JAMA* 271:1844-1849.
43. Cecka, M.J. and Terasaki, P.I. 1994. The UNOS Scientific Renal Transplant. In: Terasaki, P.I., Cecka, J.M., Eds. *Clinical Transplants 1993*. Los Angeles, UCLA Tissue Typing Laboratory, 1994; pp. 1-18.
44. Belle, S.H., Beringer, K.C. and Detre, K.M. 1994. Trends in Liver Transplantation in the United States. In: Terasaki, P.I., Cecka, J.M. Eds. *Clinical Transplants 1993*. Los Angeles, UCLA Tissue Typing Laboratory, 1994; pp. 19-35.
45. Sutherland, E.R., Moudry-Munns, K. and Gruessner, A. 1994. Pancreas Transplant Results in United Network for Organ Sharing (UNOS) United States of America (USA) Registry with a Comparison to Non-USA Data in the International Registry. In: Terasaki, P.I., Cecka, J.M. Eds. *Clinical Transplants 1993*. Los Angeles, UCLA Tissue Typing Laboratory, 1994; pp. 47-69.
46. Gjertson, D.W. 1994. Center-Dependent Transplantation Factors: An Analysis of Renal Allografts Reported to the United Network for Organ Sharing Registry. In: Terasaki, P.I., Cecka, J.M. Eds. *Clinical Transplants 1993*. Los Angeles, UCLA Tissue Typing Laboratory, 1994; pp. 445-468.
47. Detre, K.M., Belle, S.H., Beringer, K.C. and Daily, O.P. 1994. Liver Transplantation for Fulminant Hepatic Failure in the United States: October 1987 through December 1991. *Clinical Transplantation*, 8:274-280.
48. Niemcryk, S.J., Aronoff, R., Marconi, K.M. and Bowen, G.S. 1994. Projections in Solid Organ Transplantation and Wait List Activity Through the Year 2000. *Journal of Transplant Coordination*, 4:23-30.
49. Belle, S.H. and Detre, K.M. 1994. Early Liver Retransplantation: Risk Factors and Outcome. *Abstracts of the XIVth International Congress of the Transplantation Society*, no. 648.
50. Belle, S.H. and Detre, K.M. 1994. Center Experience and Liver Transplantation. *Abstracts of the XIVth International Congress of the Transplantation Society*, no. 116.
51. Ellison, M.D., Bennett, L.E., Edwards, E.B., Breen, T.J., Daily, O.P., Hunsicker, L.G. 1994. Multivariate Analysis of Verified National Data To Assess the Impact of HLA Mismatch Level on Kidney Graft Survival. *Journal of the American Society of Nephrology*, vol 5:1003.
52. Ellison, M.D., Norman, D.J., Breen, T.J., Edwards, E.B., Davies, D.B. and Daily, O.P. 1994. No Effect of H-Y Minor Histocompatibility Antigen in Zero-Mismatched Living-Donor Renal Transplants. *Transplantation*, 58: 518-520.
53. Sutherland, D.E.R., Moudry-Munns, K.C., Gruessner, A. 1994. Pancreas Transplant Outcome With or Without Biological Anti-T Cell Therapy for Induction Immunosuppression with use of Cyclosporine. 1994. *Transplantation Proceedings* 26(5):2752-2755.

54. Leffell, M.S., Steinberg, A.G., Bias, W.B., Machan, C.H., Zachary, A.A. 1994. The Distribution of HLA Antigens and Phenotypes among Donors and Patients in the UNOS Registry. *Transplantation*, Vol. 58, 1119-1130, No. 10, November 27, 1994.
55. Hardy, B., Cicciarelli, J., Iwaki, Y., Shaul, D., Mendez, R., USC School of Medicine 1994. Parameters Governing Graft Survival in Pediatric Renal Transplant Recipients. *Abstracts of XVth International Transplant Society*.
56. Hosenpud, J.D., Novick, R.J., Breen, T.J., and Daily, O.P. 1994. The Registry of the International Society for Heart and Lung Transplantation: Eleventh Official Report - 1994\* *Journal Heart Lung Transplant* 1994;13: 561-570.
57. Cecka, J.M., Terasaki, P.I., UNOS Renal Transplant Registry, UCLA Tissue Typing Laboratory, Los Angeles, CA. 1994. High Graft Survival Rates for Black Recipients of HLA-Matched Renal Transplants. Abstract of the American Society for Histocompatibility and Immunogenetics 20th Annual Meeting. *Human Immunology*, Vol. 40, Suppl. 1, p. 3.
58. Takemoto, S., Cecka, J.M. and Terasaki, P.I., UNOS Scientific Renal Transplant Registry, UCLA, Los Angeles, CA. 1994. Permissible Class I Mismatches Identified From 7-Year Kidney Transplant Successes with 4 AB Mismatches. Abstract of the American Society for Histocompatibility and Immunogenetics 20th Annual Meeting. *Human Immunology*, Vol. 40, Suppl. 1, p. 17.

### 1993

59. Hunsicker, L.G., Edwards, E.B., Breen, T.J. and Daily, O.P. 1993. Effect of Center Size and Patient-Mix Covariates on Transplant Center Specific Patient and Graft Survival in the United States. Presented at the IVXth International Congress of the Transplantation Society Symposium: 274. *Transplantation Proceedings*, 25(1): 1318-1320.
60. Edwards, E.B., Breen, T.J., Guo, T., Ellison, M.D., Daily, O.P. 1993. The UNOS OPEN Waiting List: 1988 - 1992. In: Terasaki, P.I., Ed. *Clinical Transplants 1992*. Los Angeles, UCLA Tissue Typing Laboratory; 61-75.
61. Ellison, M.D., Breen, T.J., Glascock, R.F., McGaw, L.J. and Daily, O.P. 1993. Organ Donation in the United States: 1988 to 1991. In: Terasaki, P.I., Ed. *Clinical Transplants 1992*. Los Angeles, UCLA Tissue Typing Laboratory; 119-128.
62. Breen, T.J., Keck, B.M., O'Connell, J., Hosenpud, J.D. and Daily, O.P. 1993. Thoracic Organ Transplants in the U.S. from October 1, 1987 through December, 1991: A Report from the UNOS Scientific Registry for Organ Transplants. In: Terasaki, P.I., Ed. *Clinical Transplants 1992*. Los Angeles, UCLA Tissue Typing Laboratory; 33-43.
63. Cecka, J.M. and Terasaki, P.I. 1993. The UNOS Scientific Renal Transplant Registry. In: Terasaki, P.I., Ed. *Clinical Transplants 1992*. Los Angeles, UCLA Tissue Typing Laboratory; 1-16.
64. Belle, S.H., Beringer, K.C., Murphy, J.B. and Detre, K.M. 1993. The Pitt-UNOS Liver Transplant Registry. In: Terasaki, P.I., Ed. *Clinical Transplants 1992*. Los Angeles, UCLA Tissue Typing Laboratory; 17-32.
65. Sutherland, D.E.R., Gruessner, A. and Moudry-Munns, K. 1993. Analysis of UNOS USA Pancreas Transplant Registry Data According to Multiple Variables. In: Terasaki, P.I., Ed. *Clinical Transplants 1992*. Los Angeles, UCLA Tissue Typing Laboratory; 45-59.

66. Hunsicker, L.G., Edwards, E.B., Breen, T.J., Daily, O.P. and Hosenpud, J.D. 1993. Impact of Center Volume and HCFA Designation on Center Specific Cardiac Allograft and Patient Survival Rates. *Journal of Heart and Lung Transplantation*, 13th Annual Meeting of the International Society for Heart and Lung Transplantation, 12:1, p.S65.
67. Breen, T.J., Guo, T., Ellison, M.D., Daily, O.P. and Cunningham, P.R.G. 1993. Blacks and Whites on the UNOS Renal Waiting List: Waiting Times and Patient Demographics Compared. *Abstracts of the Third Annual Samuel L. Kountz Symposium on Renal Disease and Transplantation in Blacks*, p. 88.
68. Breen, T.J., Edwards, E.B., Cecka, J.M., Ellison, M.D., Hunsicker, L.G. and Daily, O.P. 1993. Outcome of Cadaveric Kidneys Accepted as "Paybacks" and Transplanted During 1990-1991. *Abstracts of the 12th Annual Meeting of the American Society of Transplant Physicians*, 128:179.
69. Ellison, M.D., Breen, T.J., Mahoney, R.J., Norman, D.J. and Daily, O.P. 1993. Shared HLA Matched Kidneys: How Many are Refused and Why? *Abstracts of the 12th Annual Meeting of the American Society of Transplant Physicians*, 34:85.
70. Hardy, B. and Cicciarelli, J. 1993. UNOS Registry Pediatric Renal Transplant Survival Rates. *Abstracts of the 12th Annual Meeting of the American Society of Transplant Physicians*, 93:144.
71. Pereira, B.J.G., Wright, T.L., Schmid, C., Kirkman, R.L., Bryan, C.F., Cheung, R.C., Cooper, E.S., Griffith, J.L., Hsu, H., Kelly, M.K., Light, J.A., Norman, D.J., Van Thiel, D., Werner, B.G., Wright, C.E. and Levey, A.S. 1993. Clinical Characteristics and Prevalence of HCV Infection in Cadaver Organ Donors -- A National Collaborative Study. *Abstracts of the 12th Annual Meeting of the American Society of Transplant Physicians*, 1:52.
72. Alexander, J.W., Bennett, L.E. and Breen, T.J. 1993. Effect of Donor Age on Outcome of Kidney Transplantation: A Two Year Analysis of Transplants Reported to the UNOS Registry. *Abstracts of the 19th Annual Meeting of the American Society of Transplant Surgeons*, G:179.
73. Davies, D.B., Breen, T.J., Guo, T. and Harmon, W. 1993. Waiting Times to Pediatric Renal Transplantation: An Assessment of the August 1990 Change in Allocation Policy. *Abstracts of the First International Congress on Pediatric Transplantation*, p.7:1B.3.
74. Ellison, M.D., Breen, T.J., Guo, T., Cunningham, P.R.G. and Daily, O.P. 1993. Blacks and Whites on the UNOS Renal Waiting List: Waiting Times and Patient Demographics Compared. *Transplantation Proceedings*, 25:2462-2466.
75. Hunsicker, L.G., Edwards, E.B., Breen, T.J., Daily, O.P. and Hosenpud, J.D. 1993. Impact of Center Volume and HCFA Designation on Center Specific Cardiac Allograft and Patient Survival Rates. *Journal of Heart and Lung Transplantation*, 13th Annual Meeting of the International Society for Heart and Lung Transplantation, 12:1, p.S65.
76. Breen, T.J., Edwards, E.B., Cecka, J.M., Ellison, M.D., Hunsicker, L.G. and Daily, O.P. 1993. Outcome of Cadaveric Kidneys Accepted as "Paybacks" and Transplanted During 1990-1991. *Abstracts of the 12th Annual Meeting of the American Society of Transplant Physicians*, (128) 179.
77. Ellison, M.D., Daily, O.P. and Breen, T.J. 1993. *1993 Annual Report of the U.S. Scientific Registry of Transplant Recipients and The Organ Procurement and Transplantation Network*. Published by UNOS, Richmond, VA.

1992

78. Cecka, J.M. and Terasaki, P.I. 1992. The UNOS Scientific Renal Transplant Registry - 1991. In: Terasaki, P.I., Ed. *Clinical Transplants 1991*. Los Angeles, UCLA Tissue Typing Laboratory; pp. 1-11.
79. Belle, S.H., Beringer, K.C., Murphy, J. B., Plummer, C.C., Breen, T.J., Edwards, E.B., Daily, O.P. and Detre, K.M. 1992. Liver Transplantation in the United States: 1988 to 1990. In: Terasaki, P.I., Ed. *Clinical Transplants 1991*. Los Angeles, UCLA Tissue Typing Laboratory; pp. 13-29.
80. Sutherland, D.E.R., Gruessner, A. and Moudry-Munns, K. 1992. Report on Results of Pancreas Transplantation in the United States October 1987 to October 1991 from the United Network for Organ Sharing Registry. In: Terasaki, P.I., Ed. *Clinical Transplants 1991*. Los Angeles, UCLA Tissue Typing Laboratory; pp. 31-38.
81. Evans, R.W., Dong, F.B. and Manninen, D.L. 1992. The Center Effect in Heart Transplantation (UNOS). In: Terasaki, P.I., Ed. *Clinical Transplants 1991*. Los Angeles, UCLA Tissue Typing Laboratory; pp. 45-59.
82. Cicciarelli, J. and Cho, Y. 1992. HLA Matching: Univariate and Multivariate Analyses of UNOS Registry Data. In: Terasaki, P.I., Ed. *Clinical Transplants 1991*. Los Angeles, UCLA Tissue Typing Laboratory; pp. 325-333.
83. Sanfilippo, F.P., Vaughn, W.K., Peters, T.G., Shield, C.F., III, Adams, P.L., Lorber, M.I. and Williams, G.M. 1992. Factors Affecting the Waiting Time of Cadaveric Kidney Transplant Candidates in the United States. *JAMA*, 267: 247-252.
84. McManus, R.P., O'Hair, D.P., Beitzinger, J., Schweiger, J., Siegel, R., Breen, T.J. and Olinger, G.N. 1992. Patients Who Die Awaiting Heart Transplantation. *The Journal of Heart and Lung Transplantation*, 11(1): 191.
85. Ellison, M.D., Breen, T.J., Davies, D.B. and Daily, O.P. 1992. Six-Antigen Matched Kidneys: Who Gets Them? Abstracts for the 22nd Annual Meeting of the National Kidney Foundation. *American Journal of Kidney Diseases*, 20: A3.
86. Daily, O.P., Ellison, M.D., Breen, T.J., Graham, W.K. and Hunsicker, L.G. 1992. *Annual Report of the U.S. Scientific Registry for Organ Transplantation and The Organ Procurement and Transplantation Network, 1990*. Published by UNOS, Richmond, VA.
87. Edwards, E.B., Breen, T.J., Hunsicker, L.G. and Daily, O.P. 1992. *1991 Report of Center-Specific Graft and Patient Survival Rates*. Published by U.S. Department of Health and Human Services, Health Resources and Services Administration, Rockville, MD.
88. Takemoto, S., Cecka, M.J., Gjertson, D.W. and Terasaki, P.I. 1992. An Analysis of the Causes of 6-Antigen Matched Transplant Failures. *Transplantation*, 55: 1005-1008.
89. Hunsicker, L.G., Edwards, E.B., Breen, T.J. and Daily, O.P. 1992. Effect of Center Size and Patient-Mix Covariates on Center Specific Patient and Graft Transplant Survival Outcomes in the U.S. for Kidney, Liver, Pancreas, Heart, Heart-Lung, and Lung. *Abstracts of the XIVth International Congress of the Transplantation Society*, no. 274.

1991

90. Alexander, J.W. and Vaughn, W.K. 1991. The Use of "Marginal" Donors for Organ Transplantation. *Transplantation*, 51: 135-141.
91. Norman, D.J., Daily, O.P., Breen, T.J. and Ellison, M.D. 1991. *The Feasibility of Allocating Organs on the Basis of a Single National List*. Published by UNOS, Richmond, VA.

Submitted Papers

Pritsker, A.A.B., Martin, D.L., Reust, J., Wagner, M.A., Wilson, J.R., Kuhl, M.E., Daily, O.P., Harper, A.M., Edwards, E.B., Bennett, L.E., Roberts, J.P., Allen, M.D., Burdick, J.F. 1995. Organ Transplantation Policy Evaluation. *Proceedings of the Winter Simulation Conference*, in press.

Pritsker, A.A.B. 1995. New Roles for Simulation in Industry. *Proceedings of the European Simulation Conference*, in press.

Keck, B.M., Breen, T.J., Daily, O.P. and Hosenpud, J.D. 1994. A Multivariate Analysis of United States (U.S.) Heart Registry Data. Submitted for publication in the *Journal of Transplant Coordination*.

Ellison, M.D., Breen, T.J., Davies, D.B., Edwards, E.B., Mahoney, R.J., Daily, O.P. and Norman, D.J. 1994. Transplantation of Six-Antigen Matched Kidneys: A Three-Year Analysis of Offers, Refusals, Paybacks and Outcomes. Submitted for publication to *JAMA*.

Norman, D.J., Ellison, M.D., Bennett, L.E., Breen, T.J. and Daily, O.P. 1994. Cadaveric Kidney Allocation in the U.S.: The Effect of Turn-Downs on Transplant Recipient Demographics. Submitted for publication to *Transplantation*.

Keck, B. M., Bennett, L.E., Daily, O.P. 1995. The Impact of UNOS Status Code on the Refusal of Cadaveric Hearts and Livers During 1994. Submitted for publication in the *Journal of Transplant Coordination*.

Keck, B. M., Bennett, L.E., Daily, O.P. 1995. A Comparison of Cadaveric Kidney, Liver and Heart Offers During 1994. Submitted for publication in the *Journal of Transplant Coordination*.

Shield, C.F., Edwards, E.B., Davies, D. and Daily, O.P. 1995. Antilympocytic Induction Therapy in Cadaver Renal Transplantation: A Retrospective Multicenter UNOS Study. Submitted for publication in *Transplantation*.

O'Connell, J.B., Breen, T.J., Hosenpud, J.D. Heart Transplantation in Dilated Heart Muscle Disease and Myocarditis. *European Heart Journal*, in press.

Katznelson, S. and Cecka, J.M. The Liver Neither Protects the Kidney from Rejection nor Improves Kidney Graft Survival after Combined Liver and Kidney Transplantation from the Same Donor. Submitted for publication to *Transplantation*.



**Appendix F**  
**Summary of UNOS Policies**





## **APPENDIX F**

### **Summary of UNOS Policies as of March 1995**

By-laws and policies have been adopted by the UNOS Board of Directors pursuant to its contract with the United States Department of Health and Human Services (DHHS) and after circulation and discussion among organ transplant professionals and patient representatives. They have been submitted to the Secretary of DHHS for review and are considered voluntary guidance to members of the Organ Procurement and Transplantation Network (OPTN) until approved as OPTN rules and requirements by the Secretary of DHHS. On September 8, 1994, DHHS published for public comment a "Notice of Proposed Rulemaking" for the OPTN in the Federal Register. Subject to consideration of the comments submitted, some UNOS policies will ultimately be promulgated as regulations by the DHHS for operation of the OPTN. Until that time, UNOS policies are considered voluntary guidance to OPTN members. UNOS is responsible for updating these by-laws and policies and for monitoring compliance by OPTN members. Intractable noncompliance with these by-laws and policies is reported to the Secretary of DHHS.

#### **MEMBER RIGHTS AND OBLIGATIONS**

Rights and obligations of the UNOS membership are set forth in the by-laws and policies which have been adopted by the UNOS Board of Directors. Permanent standing committees and ad hoc committees appointed by the UNOS President are responsible for developing the policies of UNOS in its various areas of operation and presenting these proposals for consideration and adoption by the Board of Directors. All members of UNOS are encouraged to participate in UNOS activities by serving on committees and providing information and advice to those who serve on committees and the Board of Directors. Eleven Regional Councilors, representing the 11 UNOS geographic regions, ensure nationwide representation on the Board.

#### **MINIMUM PROCUREMENT PRACTICES FOR AN ORGAN PROCUREMENT ORGANIZATION (OPO)**

The organ procurement organization (OPO) responding to an organ donor call from a hospital is the "Host OPO" for that particular donor. The host OPO is responsible for identifying, evaluating, and maintaining the donor, obtaining consent for organ removal and verifying pronouncement of death. Additionally, the host OPO is responsible for ensuring that tissue typing information about the donor is entered on the UNOS computer and that the UNOS allocation program is executed for each donor organ. The host OPO also is responsible for the organ procurement process which includes assuring that organs are appropriately preserved and packaged, and that adequate tissue typing material is obtained. Written documentation including donor evaluation, donor maintenance, consent for donation, death pronouncement, and organ procurement quality must be provided with each organ. Medical testing requirements also are specified for evaluating the suitability of each organ for transplantation.

#### **ORGAN DISTRIBUTION**

All potential recipients of organ transplants must be registered on the UNOS computer system waiting list. Information on all cadaveric organ donors must be entered on the UNOS computer as soon as possible before organ allocation, and for kidneys within 15 hours after organ retrieval. Information on each cadaveric organ donor must be entered on the UNOS computer before organ allocation. Transplant candidates are permitted to register at more than one transplant center; however, transplant centers may not list the same patient on more than one organ procurement organization's patient waiting list. When a transplant candidate receives an organ, that patient must be removed from all organ waiting lists. With approval of the applicable UNOS Regions, appropriate UNOS committees and

the Board of Directors, transplant centers and OPOs may develop inter- and intra-regional organ sharing arrangements. In addition, upon approval of the appropriate UNOS committees and the Board of Directors, a transplant center or an OPO may adopt alternative point assignments to the organ distribution criteria other than those points specified in the UNOS policies.

Allocation criteria applicable to each type of organ are as follows:

### Kidney Allocation

The sharing of six-antigen matched kidneys is mandatory with the exception of a simultaneous kidney-extrarenal organ transplant. Also, blood type O kidneys shall be transplanted only into blood type O patients. Kidneys shall be allocated locally first, then regionally, and then nationally to patients in descending point sequence as determined by the following criteria:

**Waiting Time.** A kidney transplant candidate's waiting time begins when the patient is registered on the UNOS patient waiting list. One point is assigned to the candidate waiting for the longest time with fractions of points assigned proportionately to all other patients who have waited a shorter time. For each full year of waiting time a patient accrues, an additional 1 point will be assigned to that patient.

**Quality of Match.** Points are assigned based on the number of mismatches between the transplant candidate's antigens and the donor's antigens. Quality of match points are assigned as follows:

- 7 points if there are no B or DR mismatches;
- 5 points if there is one B or DR mismatch;
- 2 points if there is a total of 2 mismatches at the B and DR loci.

**Panel Reactive Antibody.** Candidates who are incompatible with 80% or more of a randomly selected panel are considered highly sensitized. Highly sensitized kidney transplant candidates that have a preliminary negative crossmatch with a donor are assigned 4 points.

**Medical Urgency.** Points are not assigned for medical urgency to candidates on a regional or national waiting list. For locally-procured kidneys, the physician may use his/her medical judgement in assigning medical urgency points if there is only one kidney transplant center. When there is more than one local kidney transplant center, a cooperative medical decision is required prior to assignment of medical urgency points.

**Pediatric Patients.** Candidates who are less than 11 years old are assigned 4 additional points for kidney allocation. Candidates who are 11 years old or older but less than 18 years old will be assigned 3 additional points for kidney allocation.

**Payback of Shared Kidneys.** When a kidney is shared for a six-antigen match, a combined kidney-extrarenal organ transplant, or for a highly sensitized recipient, the OPO receiving the kidney shall offer through the UNOS Organ Center a kidney from the next suitable donor of the same blood type as the donor from whom the shared kidney was retrieved.

### Liver Allocation

Livers shall be allocated locally first, then regionally, and then nationally to liver transplant candidates based on the following criteria:

**Preliminary Stratification.** For every potential liver recipient, the acceptable donor size must be determined by the responsible surgeon. The UNOS Match System only will consider potential liver recipients who are an acceptable size for a particular donor liver.

**Blood Type Similarity Points.** Liver candidates with the same blood type as the donor receive 10 points. Candidates with compatible but not identical blood types receive 5 points, and those with incompatible types do not receive any points. Blood type O transplant candidates who will accept a liver from an A<sub>2</sub> blood type donor receive 5 points for incompatible matching. Blood type O livers shall not be transplanted to Status 3 candidates who are a blood type A or AB, and Status 4 candidates who are a blood type A, B, or AB.

**Waiting Time.** A candidate's waiting time begins at the time the candidate is registered on the UNOS patient waiting list. Ten points are assigned to the candidate waiting for the longest period and proportionately fewer points are assigned to patients who have waited a shorter time. For example, if there are 75 candidates on the liver waiting list, the patient waiting the longest would be assigned 10 points ( $75/75 \times 10$ ). A candidate whose rank order was 60 would be assigned 2 points ( $((75-60)/75 \times 10 = 2)$ ).

**Degree of Medical Urgency.** Points are awarded to a liver transplant candidate for the following categories of medical urgency:

- Life expectancy less than 7 days -- Status 1 = 24 points
- Continuous hospitalization necessary -- Status 2 = 18 points
- Continuous medical care necessary -- Status 3 = 12 points
- At home, functioning normally -- Status 4 = 6 points
- Temporarily inactive -- Status 7 = 0 points

**Pediatric Patients.** Pediatric candidates who are diagnosed with ornithine transcarbamylase deficiency shall be registered as a Status 2 regardless of the patient's location and may be upgraded to a Status 1 if the patient is hospitalized in an intensive care unit.

After preliminary stratification and point assignments based on blood type similarity, time waiting, and medical urgency, livers are offered to potential recipients in the following sequence:

- To local Status 1 patients first in descending point order, then to local Status 2 patients in descending point order; then to all other local patients in descending point order; then
- Status 1 patients in the Host OPO's region in descending point order, then to Status 2 patients in descending point order; then to all other regional patients in descending point order; then
- Status 1 patients in all other regions in descending point order, then to Status 2 patients

in descending point order; and finally to all other patients in all other regions in descending point order.

#### Allocation of Hearts, Lungs, and Heart-Lung Combinations

Thoracic organ allocation utilizes a hierarchical system rather than a point system for prioritizing transplant candidates. Candidates are prioritized based on the following criteria:

**Medical Urgency.** There are two urgency categories for heart allocation. The urgent Status 1 candidate is defined as a patient who requires cardiac and/or pulmonary assistance with one or more of the following devices in place: total artificial heart, left or right ventricular assistance system, intra-aortic balloon pump, or a ventilator. If the candidate does not have one of these devices in place, he/she still may qualify as Status 1 if the candidate is located in an intensive care unit and requires inotropic agents to maintain adequate cardiac output, or the candidate is less than 6 months old. The Status 2 category includes all other candidates who do not meet the Status 1 criteria. There are no medical urgency criteria for lung and heart-lung candidates.

**ABO Typing.** All blood type matches are considered equally and identical matches are not given priority over compatible matches. For organ allocation to Status 2 heart candidates and candidates awaiting a lung, or heart-lung combination, candidates with a blood type that is identical to the donor have priority over candidates with compatible blood types.

**Waiting Time.** Except for Status 1 heart candidates, calculation of the time a patient has been waiting for a thoracic organ transplant begins at the date and time the patient is first registered as active on the UNOS patient waiting list. When waiting time is used for organ allocation, a patient with more waiting time will receive a preference over other patients who have accumulated less time within the same status category. Waiting time for Status 1 heart candidates will begin from the moment a patient is registered as a Status 1 and only include the amount of time the patient is listed

as a Status 1.

Following these criteria, heart and heart-lung combinations are allocated as follows:

- For every thoracic organ donor allocated locally, the choice will be made by the transplant program whether to use the heart for an isolated heart (without lung) transplant for a Status 1 candidate, or for a combined heart-lung transplant. If the heart is used for an isolated heart transplant, the organ will be allocated first to Status 1 candidates according to length of time waiting. If the heart is not allocated to a Status 1 patient, then the organ will be allocated to other local candidates in the following sequence based on the candidate's length of time waiting:
- Heart-lung candidates with a blood type that is identical to the organ donor; then
- Heart-lung candidates with a blood type that is compatible to the organ donor; the
- Status 2 isolated heart candidates with a blood type that is identical to the organ donor; then
- Status 2 isolated heart candidates with a blood type that is compatible to the organ donor.

After local allocation, thoracic organs are allocated based upon the distance of the recipient hospital from the donor hospital. Three zones are defined by concentric circles of 500 and 1,000 mile radii with the donor hospital as the center. Zone A extends to 500 miles, Zone B is from 500 to 1,000 miles, and Zone C is beyond 1,000 miles. Thoracic organs are allocated within each zone in the following sequence based on the candidate's length of time waiting:

- Status 1, isolated heart candidates in Zone A;
- Identical blood type heart-lung candidates in Zone A;
- Compatible blood type heart-lung candidates in Zone A;

- Status 1, isolated heart candidates in Zone B;
- Identical blood type heart-lung candidates followed by compatible blood type heart-lung candidates in Zones B and C;
- Status 2, identical blood type isolated heart candidates in Zone A;
- Status 2, compatible blood type isolated heart candidates in Zone A;
- Status 2, identical blood type isolated heart candidates in Zone B;
- Status 2, compatible blood type isolated heart candidates in Zone B;
- Status 1, isolated heart candidates in Zone C;
- Status 2, identical blood type isolated heart candidates in Zone C;
- Status 2, compatible blood type isolated heart candidates in Zone C.

Lungs are allocated only after the heart has been allocated. If one lung is accepted for single lung transplantation, the remaining lung will be offered for other single lung candidates in descending order on the waiting list.

Lungs are allocated to local candidates first, followed by candidates in Zone A, then to candidates in Zone B, and finally to candidates in Zone C. In each zone, lungs will be allocated to candidates who have a blood type that is identical to the donor followed by candidates with compatible blood types. Recipient selection within each group will be based on length of time waiting.

**Lung Candidates with Idiopathic Pulmonary Fibrosis.** Lung transplant candidates diagnosed with idiopathic pulmonary fibrosis are assigned 90 days of additional waiting time when registered on the UNOS patient waiting list.

### Pancreas and Pancreatic Islet Allocation

Pancreata are allocated locally first, followed by regional and then national allocation. For local allocation, the transplant center may select recipients from candidates awaiting an isolated pancreas, kidney-pancreas combination, or a combined solid organ-islet transplant from the same donor. Within each patient waiting list, pancreata are allocated to patients according to blood type compatibility and the length of time waiting. For combined kidney-pancreas candidates, blood type O kidneys must be transplanted only into blood type O recipients.

If a pancreas is not allocated locally for an isolated or combined whole organ transplant, or a combined solid organ-islet transplant, the pancreas shall be allocated regionally and then nationally in the following sequence with recipient selection in each category based on blood type compatibility and length of time waiting:

- Isolated pancreas candidates with 0 A, B, DR antigen mismatches; then
- Isolated pancreas candidates with 1 A, B, DR antigen mismatches; then
- Isolated pancreas candidates with 2 A, B, DR antigen mismatches; then
- Combined kidney-pancreas candidates if the kidney is available. Blood type O kidneys must be transplanted into blood type O recipients and the kidney must be paid back; then
- Isolated pancreas candidates with 3 or more A, B, and DR antigen mismatches.

If a suitable recipient for a whole pancreas is not identified, then the Host OPO shall offer the pancreas locally for clinical islet transplantation. If the organ is not used locally, the Host OPO shall offer the pancreas regionally and then nationally for clinical islet transplantation.

At the regional and national levels, islet allocation is based on HLA matching, medical urgency, and time waiting. Three points are assigned to

candidates with 0 HLA mismatches. Candidates with 1 mismatch receive 2 points. Candidates with 2 mismatches receive 1 point and candidates with 3 or more mismatches receive 0 points.

The medical urgency criteria for islet allocation consist of two status categories. The higher priority Status 1 designation is limited to patients who have already received an islet transplant and does not exceed a three-week period following the initial procedure. These recipients are considered in urgent need because the typical islet recipient requires subsequent transplants involving multiple islets from additional donors within a short time in order for the procedure to be effective. Islet candidates awaiting their initial transplant are assigned to Status 2.

One point is assigned to the candidate with the longest waiting time with a fraction of a point assigned to candidates who have waited a shorter time. For example, if there are 75 candidates awaiting islet transplantation, the candidate waiting the longest will receive 1 point ( $75/75 \times 1 = 1$ ). The candidate with the 60th longest waiting time would be assigned 0.2 points ( $(75-60)/75 \times 1 = 0.2$ ).

### Intestinal Organ Allocation

Intestinal organ transplantation may include the stomach, small and/or large intestine, or any portion of the gastro-intestinal tract as determined by the medical needs of individual patients. Following a local-regional-national hierarchy of distribution, recipient selection for an intestinal organ at each level is based on medical urgency and waiting time. Intestinal organs are allocated first to transplant candidates who are size compatible and have a blood type that is identical to that of the organ donor. These patients are followed by candidates who have a blood type that is compatible to that of the organ donor. The medical urgency criteria consist of 2 status categories. The urgent Status 1 designation includes candidates whose liver function is abnormal and/or no longer have vascular access for intravenous feeding. Candidates who do not meet these criteria are assigned to Status 2. The sequence for allocation of intestinal organs is as follows:

- Local Status 1 patients; then
- Local Status 2 patients; then
- Status 1 patients in the Host OPO's region; then
- Status 2 patients in the Host OPO's region; then
- Status 1 patients in all other regions; then
- Status 2 patients in all other regions.

#### Organ Allocation to Candidates Awaiting a Multiple-Organ Transplant

Candidates for a multiple-organ transplant where one of the required organs is a heart or liver shall be placed on the individual UNOS waiting list for each organ. When the candidate is eligible to receive a heart or liver based upon the existing UNOS allocation policy for either organ type, or an approved variance to these policies, the second required organ shall be allocated to the multiple-organ candidate from the same donor if the donor is located within the same local organ distribution unit where the multiple-organ candidate is registered. If the multiple-organ candidate is on a waiting list outside the local organ distribution unit where the donor is located, voluntary sharing of the second organ is recommended. When the second organ is shared, the same organ of an identical blood type shall be paid back to the Host OPO from the next acceptable donor recovered by the recipient OPO.

#### **ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS) AND HUMAN PITUITARY DERIVED GROWTH HORMONE (HPDG) AND HUMAN T-LYMPHOTROPIC VIRUS TYPE (HTLV-I)**

All potential organ donors shall be tested by an FDA-licensed screening test for Anti-Human Immune Deficiency Virus (HIV) Antibody (Ab) and for Human T-Lymphotropic Virus Type I (HTLV-I) antibody (Ab). Organs from donors with a repeatedly reactive screening test are not suitable for transplantation unless confirmation testing indicates that the original test result was a false positive. There is an exception for cases in which the testing cannot be completed prior to transplant when, in the medical judgement of the staff, an extreme medical emergency warrants the transplantation of an organ from a donor who has not been tested. The transplant surgeon is obligated

to notify the recipient or next of kin in such cases. UNOS members shall not knowingly participate in the transplantation or sharing of organs from donors who are confirmed reactive for HIV-Ab or HTLV-I-Ab.

Potential organ donors who have received Human Pituitary Derived Growth Hormone (HPDG) shall be deferred as organ donors with possible exceptions in cases involving non-renal organs when a medical emergency warrants the transplantation of an organ from a donor who has received HPDG. The transplant surgeon is required to notify the recipient or next of kin in such cases.

Testing for HIV-Ab shall be a condition of candidacy for whole organ transplantation, except in cases where such testing would violate applicable state or Federal laws and regulations. Candidates confirmed as positive should undergo appropriate counseling. A potential transplant candidate who tests HIV-Ab sera-positive, but is in an asymptomatic carrier state, should not necessarily be excluded from candidacy for organ transplantation. Health care personnel caring for patients who test positive should be informed; however, treatment of patients who test positive for the AIDS antibody should not be optional or discretionary for health care personnel.

When a transplant program director is informed that an organ recipient is confirmed positive for HIV, or has died from HIV-related causes, the director shall notify the procuring OPO and the UNOS Organ Center by telecopying a completed UNOS Transplant HIV/Hepatitis B Form. The procuring OPO shall provide notification of the positive HIV test results to any tissue bank and other transplant program that received tissue or organs from the donor who is the subject of the investigation, manage the investigation to determine whether the donor was infected with HIV, and submit a written report on the results of the investigation to UNOS within 45 days.

Member institutions are urged to comply with state and Federal statutes applicable to the disclosure of personalized data on actual or potential organ donors or recipients.

## STANDARDIZED PACKAGING OF HUMAN ORGANS AND TISSUE TYPING MATERIALS

The standard package for transporting organs and tissue typing materials must conform with certain specifications. Each container of tissue must be labeled with the type of tissue it contains, the date of sample, and the UNOS donor identification number. A separately packaged "red top" tube of blood must be sent to the recipient transplant center, together with other tissue, for confirmation of blood type and anti-HIV test results. Donor organs must be protected by a triple sterile barrier enclosed in a rigid container. A label must clearly reflect the UNOS donor identification number and the contents of the container. The UNOS member that is sending the organ is responsible for transporting the organ to the primary destination designated by the recipient member.

## TRANSPLANTATION OF FOREIGN NATIONALS

Organ allocation for transplantation to non-resident aliens shall be in accordance with the same policies for equitable allocation that apply to U.S. citizens and residents. Transplant centers that accept non-resident aliens on their waiting lists shall charge the same fees for service as are charged to domestic patients. UNOS members shall not enter into contractual arrangements with foreign agencies or governments for the transplantation of non-resident aliens. Patient referrals shall be on a case by case and physician to physician basis. UNOS member centers which accept non-resident aliens on their waiting lists should establish a mechanism for community participation and review. The UNOS Foreign Relations Committee will review the activities of any member transplant center whose proportion of non-resident alien recipients of each organ type exceeds 5% of the total transplants of each organ type performed at that center during the calendar year.

## EXPORTATION AND IMPORTATION OF ORGANS

Exportation of organs from the United States is prohibited unless a well-documented and verifiable effort, coordinated through the UNOS Organ Center, has failed to find a suitable recipient for that organ on the UNOS waiting list.

UNOS members may enter into a formal organ exchange arrangement with a foreign transplant program after prior approval of the arrangement by UNOS. A protocol describing the basis for such an arrangement, the expected benefits to both participants, the credentials of the foreign source, the number and type of organs anticipated to be involved, and a plan for allocation procedures and reporting of results must be submitted to UNOS. All organ exchanges under an approved protocol must be promptly reported to the UNOS Organ Center. All imported organs shall be allocated in accordance with UNOS policies. Organ importation from a foreign source for human transplantation in the United States is appropriate only if the foreign source is a UNOS-recognized source.

Except as provided for in approved international exchange protocols, all offers of organs for human transplantation from foreign sources should be made through the UNOS Organ Center. No more than six exchanges by any UNOS member with a foreign program will be allowed on an ad hoc basis. Organs accepted for importation must be from non-living donors and have been voluntarily donated. Organs from live donors or organs for which compensation has been given are not acceptable for exchange by UNOS or its members.

## DATA SUBMISSION REQUIREMENTS

All UNOS members must submit data on all donor referrals, recovered donors, potential transplant recipients, and actual transplant recipients. The Transplant Candidate Registration Form must be filed within 30 days after a patient is listed on the waiting list. The Potential Recipient Refusal Codes also must be submitted within 30 days after donor organs are procured.

## RELEASE OF INFORMATION TO THE PUBLIC

UNOS may release to the public mailing lists containing the names and addresses and/or telephone numbers of UNOS members or Program Directors only if the executive director deems the request to be for a legitimate, non-commercial purpose furthering the objectives of the OPTN, and UNOS receives an executed agreement restricting the use of the information for the permitted purpose. UNOS also may release any composite demographic national, regional, or state data currently provided to HRSA through the OPTN contract such as the following:

- The number of patients transplanted and the number of patients on the UNOS waiting list by organ, race, blood type, sex, and age;
- The number and disposition of organs retrieved;
- Statistics on organs allocated through the UNOS Organ Center;
- Names of institutions participating in inter-regional or intra-regional organ-sharing arrangements; and
- Listings of OPTN member institutions (excluding names of personnel).

Without obtaining permission from each member center, UNOS may release updated center-validated transplant volumes by center in addition to the names of centers that have performed pediatric transplants. UNOS also may release updated OPO-validated donor procurement volumes (i.e., organ specific consent, procurement and utilization volumes) by OPO without permission from each member OPO.

## ACCESS TO SCIENTIFIC DATA

Only UNOS administrative staff or individuals engaged by or adjunct to UNOS staff who are bound by contracts which prohibit competing interests and breaches of confidentiality will be permitted to program the UNOS computer or have

direct access to data within the UNOS computer or maintained in any other form. UNOS members requesting access to data regarding their own patients will be provided access to that information when practicable as determined by the Scientific Registry Contract Project Director. Neither individuals nor UNOS members will be given access to individual patient or member-specific information other than that from their own organization, without prior written approval from those patients or members identified.

Other than requests by UNOS members for data regarding their own patients and requests pursuant to UNOS Federal Government contracts, all requests for raw data from the Scientific Registry and the associated UNOS data information system must be approved by the Scientific Advisory Committee and are subject to approval by the Board of Directors. Such data will be provided with the deletion of all patient specific and center specific identifying information. Such data will be provided on a cost reimbursement basis with the understanding that public use of such information would require prior written approval by the UNOS Scientific Advisory Committee and Board of Directors. Use of such data will require written acknowledgement of the source as being from "Data Information System, United Network for Organ Sharing." As contractually required, UNOS may release verified, transplant center-specific, raw and appropriately stratified data collected after June 20, 1989, to the United States Department of Health and Human Services under the terms of its OPTN and Scientific Registry contracts.

Scientific analyses performed by UNOS utilizing the Scientific Registry data or the data information system must adhere to the following specific requirements regarding approval, content, confidentiality, and authorship:

- The scientific and analytical content of abstracts or manuscripts using Levels I and II data must be approved by the Scientific Advisory Committee. The submission for publication of an abstract or manuscript must be approved by the Scientific Advisory Committee.



- Abstracts and manuscripts prepared using Level III data do not require approval by the Scientific Advisory Committee, but must contain the following statement: "a portion of the data obtained for this study was acquired through contract with the United Network for Organ Sharing." A copy of all abstracts, manuscripts, news releases or contacts with the media involving Level III studies must be submitted to the Scientific Advisory Committee for informational purposes.
- As part of the Center Specific Data Report, the identification of center-specific activity and results will be given on a stratified basis. Each center will have the opportunity to comment on its own results, which will be incorporated into an accompanying narrative that will also present the qualifications for interpreting these results. Following review and approval of this narrative by the Scientific Advisory Committee, the report with center-specific results and the accompanying narrative will be made available to non-UNOS members upon request.
- All publications involving analyses of Levels I and II<sup>1</sup> data from the Scientific Registry or the UNOS Data Information System will list as co-author(s) those members of the work group who wrote the manuscript and performed the analyses of the data. UNOS will be identified as the primary institutional affiliation for such publications. The co-author(s) shall include the statistical consultant as well as any individuals approved by the Scientific Advisory Committee to specifically work on the manuscript. In the case of a presentation to be made by one individual for UNOS, the listing on the program or abstract will be given as the name of that individual and other members of the project work group with the primary institutional identification being the United Network for Organ Sharing.
- Each publication shall include an acknowledgement of the input of individual centers and UNOS staff.

#### COMPUTER REGISTRATION FEE

The Computer Registration Fee for listing of potential recipients on the UNOS computer system is \$315 effective January 1, 1995.

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<sup>1</sup> See page E-2 and E-3 for definition of Level I, II, and III studies.



**Appendix G**  
**The UNOS Data Collection System**



## APPENDIX G

### The UNOS Data Collection System

#### INTRODUCTION

In its role as the contractor for the National Organ Procurement and Transplantation Network (OPTN) and the U.S. Scientific Registry of Transplant Recipients, UNOS is responsible for collecting, processing, and validating pre- and post-transplant data. UNOS member data coordinators working in transplant centers, organ procurement organizations (OPOs), and histocompatibility laboratories provide the information that is stored in the UNOS database. Donor and recipient data files can be linked, allowing the most complete data analysis possible for each transplant performed. OPTN and Scientific Registry data are transmitted monthly to the Health Resources and Services Administration (HRSA) and the Health Care Financing Administration (HCFA). In compliance with the Privacy Act (P.L. 93-579), UNOS also provides data to its members, to other members of the scientific and medical community, and to the public.

Data utilized in preparation of this report was collected on UNOS data collection forms found at the end of this appendix. The current UNOS forms were implemented on April 1, 1994 and were designed in conjunction with the UNOS Scientific Advisory Committee and organ or donor specific work groups. UNOS is currently developing electronic data collection systems based on the present forms. Tiedi or Transplant Information Electronic Data Interchange utilizes Lotus Notes to enable centers to electronically enter and mail information directly to UNOS. Implementation of these systems is currently scheduled for 1996. The Tiedi system will also provide a nationwide computer network of transplant centers enabling electronic communication between centers and implementation of special data collection projects with specific centers.

#### DATA FLOW

##### Cadaver Donor Transplants

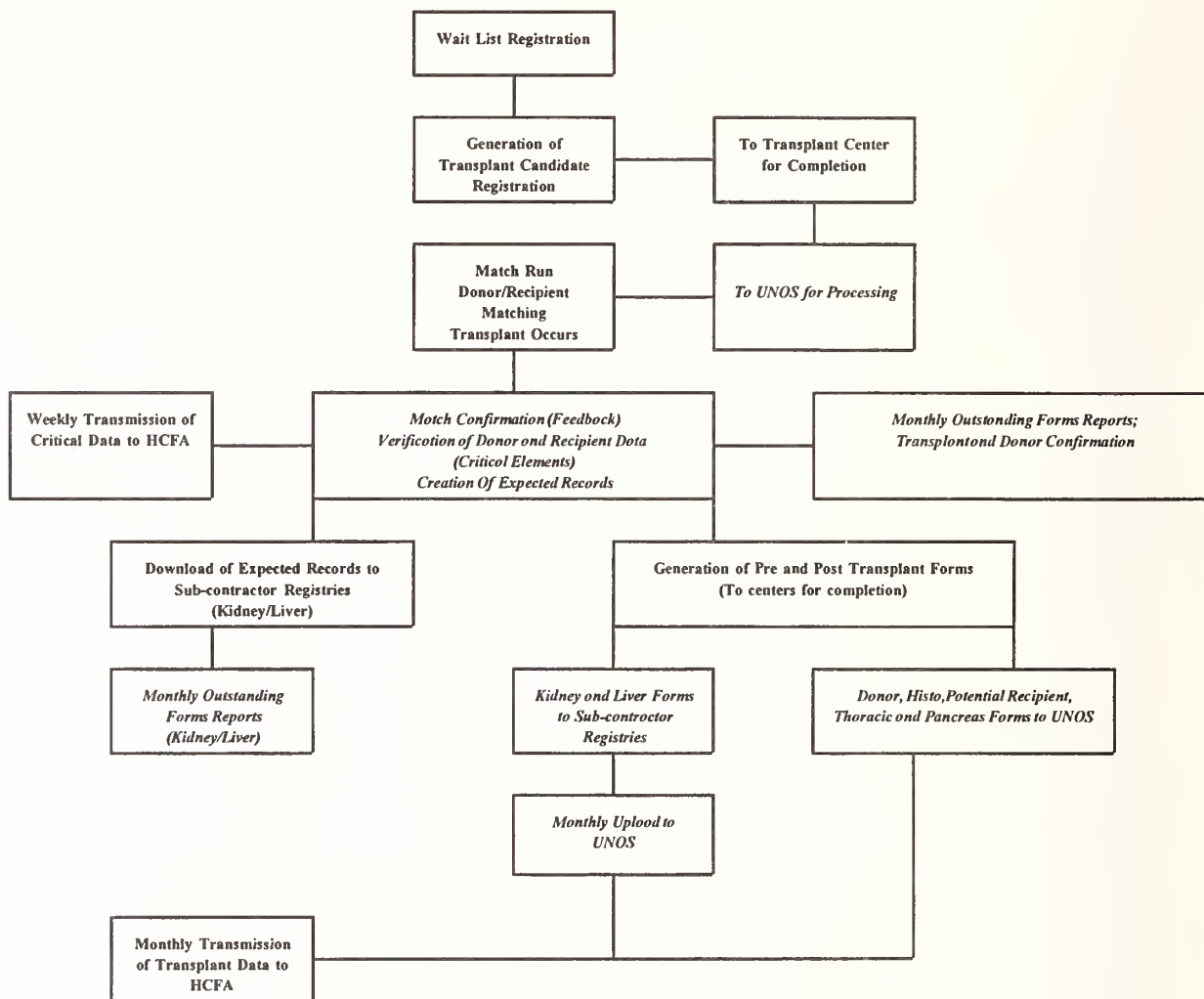
Data flow within the UNOS database begins with the initial wait list registration. UNOS members can add potential transplant recipients to the waiting list through a variety of means described in the UNOS Computer User's Manual. Following wait list registration, the Transplant Candidate Registration (TCR) form is generated. Information on this form is utilized to create the initial record for each potential recipient. Demographic information supplied by members on the TCR will provide the basis for creation of all subsequent transplant records and donor-recipient links.

When a donor organ becomes available, the match process begins. Matching utilizes donor information entered by UNOS members at the time of the match and existing potential recipient data from the UNOS waiting list. Utilizing an allocation algorithm, the matching process generates a listing of potential recipients for each available organ. The match run is utilized to allocate the donor organs and document refusal reasons for each potential recipient on the match list above the actual recipient.

Electronic feedback records are created utilizing data from each match run. UNOS members provide match confirmation through on-line verification of each match and notification of intended and actual recipients for each available donor organ. The match confirmation feedback process enables UNOS to produce the necessary data collection forms for each transplant event. When all actual recipients are verified, the feedback records are closed and the donor and recipient forms are generated for mailing to the appropriate UNOS member. Instructions for on-line completion of feedback records are found in the Computer User's Manual.

The Cadaver Donor Registration and Potential Recipient, Donor and Recipient Histocompatibility forms are completed by the OPO recovering the

**Figure G-1**  
**UNOS Data Flow**



*\*Italic Text Indicates points of Quality Assurance Activities*

donor organs and the labs typing the donor and recipient. These forms are returned to UNOS for processing.

The organ-specific Transplant Recipient Registration and Discharge Follow-up forms are completed by the center performing the transplant. Recipient forms are sent to the appropriate organ-specific registry for processing. Following entry of kidney (UCLA), and liver (University of Pittsburgh) forms

at the UNOS sub-contractor registries, the data is electronically transmitted to UNOS on a monthly basis for upload into the UNOS database. Thoracic and pancreas forms are sent directly to UNOS for processing.

Transplant Recipient Follow-up forms for each organ are generated at six month, one year, and annual intervals until death or graft failure is reported. Follow-up forms will be generated by

UNOS based on the transplant date. The follow-up forms will be mailed to the center currently following the transplant recipient. Follow-up data utilizes the same flow as registration data through the organ-specific registries.

### Living Donor Transplants

Living donor transplants are reported to UNOS via the Living Donor Feedback Fax Sheet completed by the transplant center performing the living donor transplant. When the fax sheet information is received by UNOS, it is entered into the computer system as a feedback record. Following entry, the necessary forms are generated as described for cadaveric transplants.

## UNOS DATABASE

### Pre-Transplant Data

The OPTN portion of the UNOS database contains pre-transplant information pertaining to transplant candidates on the OPTN Waiting List, donor/recipient matching, cadaveric and living donors, histocompatibility, and potential recipients. Much of the data are collected on the forms described above and include the Transplant Candidate Form, Cadaver Donor Registration Form, Living Donor Registration Form, Donor Histocompatibility Form, Recipient Histocompatibility Form, Potential Recipient Form, and the Liver Status 3 and 4 Form. Other data are derived from the computer Patient Waiting List, Feedback Records, and Match Run programs (see below).

**Waiting List.** The OPTN Patient Waiting List contains information used by the computer system to match potential organ recipients with available organ donors. Waiting List data can be entered on-line into the Waiting List database by the UNOS Organ Center staff or by OPTN members. Renal candidate data elements include name, gender, race, age, ABO blood group, peak and current panel reactive antibody (PRA) levels, and patient human leukocyte antigens (HLAs). Information regarding non-renal candidates includes patient status codes (reflecting degree of medical urgency) for heart and liver, ABO blood group, patient age, gender, number of previous transplants, and acceptable

donor characteristics. Each time a new patient is added to the Waiting List, a Transplant Candidate Registration Form is generated and mailed to the member. When returned to UNOS, this form adds additional clinical data about the potential transplant recipient.

**Match Run.** Each time a cadaveric organ becomes available, a computer program compares donor information with transplant candidate characteristics stored on the OPTN Waiting List. The computerized comparison process is known as a match run. For each donor organ, computerized matching algorithms are used to produce rank ordered lists of potential recipients. The matching algorithms used are based on UNOS/OPTN organ allocation policies, transplant center acceptance criteria, and local variances (UNOS/OPTN-approved variations of UNOS/OPTN allocation policies).

**Donors.** OPTN members submit donor information on Cadaveric Donor Registration and Living Donor Registration Forms. Cadaveric donor data include information about the donor OPO, donor demographics, consent for donation, organ recovery and preservation, donor serology, and intended organ recipients.

Data pertinent to living donor transplants are sent in reports faxed to UNOS at the time of transplant. After the basic information provided in the report is entered at UNOS, appropriate data collection forms are generated and mailed to the transplant program. Living donor data collected include information regarding donor demographics, organ recovery, donor serology, and basic data about the recipient.

**Histocompatibility.** Histocompatibility laboratories submit data to UNOS on the Donor Histocompatibility Form and the Transplant Recipient Histocompatibility Form. Donor data include OPO information and donor HLA typing. If the donor is living, information is provided regarding the relationship of donor to recipient and degree of haplotype match. Recipient data include transplant center information, recipient HLA typing, recipient PRA level, crossmatch data, and information about non-local donor HLA retyping.

**Potential Recipients.** After each cadaveric organ is allocated, the donor OPO initiates completion of a Potential Recipient Form. Included on the form is a

partial rank ordered listing of potential organ recipients indicated by the Match Run print out. For each individual on the list with higher priority than the actual recipient, a refusal code is entered indicating the reason the organ was not accepted for transplant.

**Feedback Record.** Initial confirmation that a transplant has been performed occurs during the feedback process. The Feedback Record is an on-line electronic data file created after the Match Run. During the feedback process, the OPO or its representative enters information regarding the donor and the organs recovered for transplantation. For each organ, the recipient transplant center or its representative enters data pertaining to the actual organ recipient. Once these data are entered, UNOS uses them to generate forms for collection of additional data about the transplants. Data collection forms, generated as a result of the feedback process, are mailed to the appropriate OPTN members; OPOs are sent forms pertaining to donors, and transplant centers are sent forms pertaining to recipients.

#### Post-Transplant Data

The Scientific Registry portion of the UNOS database stores post-transplant information pertaining to organ recipients. Data are collected on organ-specific Transplant Recipient Registration Forms and Transplant Recipient Follow-Up Forms. After a transplant has been performed and the feedback process is complete, the organ-specific Transplant Recipient Registration Form and hospital discharge Transplant Recipient Follow-Up Forms are generated. Additional follow-up data are collected at six months and 1 year post-transplant and annually thereafter.

Post-transplant information about kidney and liver recipients is collected and processed by UNOS sub-contractors, who transmit all processed data to the UNOS database through monthly computer uploads. The UNOS kidney and liver subcontractor registries are operated by the University of California at Los Angeles (UCLA) and the University of Pittsburgh. To ensure linking of OPTN and Scientific Registry data, UNOS transmits OPTN and feedback information to the UNOS sub-contractor registries via computer download on a regular basis. Thoracic

and pancreas recipient data are collected and processed by staff at UNOS.

**Kidney.** Kidney data collected on the Transplant Recipient Registration Form include transplant date, patient description (at time of transplant), primary renal diagnosis, pre-transplant serology, ischemic time, and surgical information. Additional data collected as part of the Transplant Recipient Follow-Up Form include patient description (at time of follow-up), immunosuppressive medication, graft status, cause of graft loss, patient status, and cause of death. Monthly, the Kidney Transplant Registry at UCLA sends each transplant center a report confirming and validating forms received. It also lists outstanding forms.

**Liver.** Liver data collected at the time of recipient registration include transplant date, patient medical condition (at time of transplant), recipient's primary liver disease, pre-transplant serology, ischemic time, and pre-transplant lab work pertaining to liver function. Follow-up data include patient status, cause of death, patient medical condition (since last follow-up), most recent lab information, immunosuppressive medication, graft status, and cause of graft failure.

The Liver Transplant Registry at the University of Pittsburgh ensures the validity of liver data by sending transplant centers weekly error reports highlighting possible data errors reported on recently submitted forms. Every quarter, transplant centers receive reports regarding cumulative missing data and outstanding errors. Outstanding forms reports are sent to the transplant centers monthly.

**Pancreas.** Pancreas transplant registration information includes transplant date, information about the patient's diabetes, patient pre-transplant status, pre-transplant lab data, pre-transplant serology, ischemic time, and information about the surgical procedure. Follow-up data include post-transplant patient status, most recent lab data, information about organ rejection, complications related to the pancreas transplant, information about the kidney transplant (whether a kidney transplant accompanied or preceded the pancreas transplant), immunosuppressive medication, data regarding graft status, cause of graft failure, and status of patient's diabetes.



**Heart and Lung.** Data collected at the time of recipient registration include transplant center information, recipient demographics, organ type transplanted (heart, lung, or heart-lung combination), patient description, pre-transplant serology, and factors that increase the patient's risk for a poor transplant outcome.

On a monthly basis, UNOS sends thoracic and pancreas transplant centers lists of outstanding forms and requests for confirmation of thoracic and pancreas transplants performed. Such confirmation requests serve as an additional means of verifying transplant procedure number. Thoracic and Pancreas Registry personnel regularly contact transplant coordinators to clarify data submitted and obtain missing data.

## QUALITY ASSURANCE ACTIVITIES

### Outstanding Forms

UNOS Policy 7.0 outlines data submission requirements for each form type and is summarized in Table G-1. To assist members in compliance with this policy, UNOS and the sub-contractor registries notify each OPO, transplant program and histocompatibility lab of overdue forms via a monthly outstanding forms report. The report consists of a list of forms by form type that were expected but not received and the number of days overdue for each form. Members can request reprints for each form overdue.

### Data Processing

Prior to data entry, each form returned to UNOS or subcontractor registries is reviewed for missing information and illogical errors. If any data fields (e.g., patient age, patient gender, Health Insurance Claim [HIC] number, patient status) have been left blank or if illogical data errors are detected, forms are returned to members. Forms without missing or obviously erroneous data are entered into a computer database by two different individuals. If the computer detects any discrepancies in data entered by the two individuals, a signal alerts data entry personnel to review the form and the data entered. The computer also examines interdependent fields (e.g., patient gender and number of previous pregnancies) for inconsistencies.

**Table G-1**  
**Data Submission Requirements Summary**

Form	Submission Requirement
Transplant Candidate Registration Cadaver Donor Registration Living Donor Registration Donor Histocompatibility Recipient Histocompatibility Liver Recipient Registration Thoracic, Liver, Kidney and Pancreas Recipient Follow-up	30 days from generation date
Donor/Recipient Feedback Living Donor Feedback Fax Sheet	3 working days of transplant event
Potential Recipient Form	30 days from match run date
Kidney Recipient Registration Thoracic Recipient Registration Pancreas Recipient Registration	60 days from generation date
Recipient Follow-up Death or Graft Failure	14 days from graft failure or death
Liver Recipient Follow-up Hospital Discharge	14 days of hospital discharge

If a form fails an edit during the dual data entry process, the form is forwarded to quality assurance staff for resolution of the error, either by analysis or by contacting the member who filled out the form. An average of one week is required for error resolution if member assistance is required. If the problem can be resolved by UNOS or registry staff alone, an average of one hour is required per form.

On a monthly basis, all data collected and processed by the UNOS subcontractor registries are transmitted to UNOS on magnetic tape. Each data element is edited at UNOS during the upload process. If key data elements such as HIC Number, OPTN-assigned Donor Identification Number, and Provider Number do not match OPTN data for the same transplant, the entire record is rejected. Rejected records are returned to the subcontractor registry for correction and resubmission to UNOS central. All data elements that are blank or out-of-

range are also reported to the subcontractor registry for correction and resubmission to UNOS central.

### Data Validation

On a monthly basis, living donor confirmation mailings are conducted in order to verify and validate data received and processed during the previous month. The mailings are helpful in identifying transplant recipients and donors not previously reported (e.g., donors and recipients of living donor grafts, for which match runs are not performed).

Annual confirmation of cadaver donors, living donors, and transplant recipients by organ type are conducted to ensure an accurate accounting of each donor and recipient prior to reporting final numbers of donors and transplant events. During the first quarter of each year, lists of donors and recipients for the previous calendar year are sent to member OPOs and transplant centers for verification of donor and recipient events. Personnel at each center review, validate, and certify the information contained in the report. Reports are signed by the data coordinator and program director at each center or OPO and returned to UNOS.

During the third and fourth quarters of each year, selected data elements provided on forms from the previous year are sent to OPOs and transplant centers for validation. Data coordinators check the data contained in the UNOS system against information in source documents (e.g., medical records, OPO files). Reports are signed by the data coordinator and program director at each center or OPO and returned to UNOS.

Also, the UNOS Compliance Audit Group performs periodic on-site data audits at transplant centers, OPOs, and histocompatibility labs. During these visits, auditors compare data in member files with data the member reported on UNOS forms.

### **USES OF UNOS DATA**

Because of a broad-based need, the UNOS Scientific Advisory Committee (SAC) has developed mechanisms through which the government, the scientific community, and the public can obtain access to OPTN and Scientific Registry Transplant data. For the study of scientific

and policy-related issues, UNOS makes the data available through procedures developed by the SAC and approved by the UNOS Board of Directors.

### Government Access

Federal, state, and local governments need access to OPTN/Scientific Registry data in order to address a number of issues which include the following:

**Reimbursement Policy.** OPTN and Scientific Registry Transplant data can be used to determine the need for reimbursement for various organ transplants. Specifically, the data can be used to help determine which primary diagnostic categories are suitable for reimbursement and how many cases in each primary diagnostic category occur during a given time period. The data also can show the graft and patient survival rates for the primary diagnostic categories and the number of transplant centers that would be affected by various reimbursement policies.

**Performance Standards.** OPTN and Scientific Registry Transplant data also can be used to assess and set performance standards for transplant centers and OPOs. The data can be used to evaluate the number of transplants performed by individual transplant centers and the graft and patient survival rates at those centers. The data can show the impact of patient mix on patient and graft survival as well as the effects of race, blood type, and other variables on pre-transplant waiting time.

**Legislative and Regulatory Policy.** OPTN and Scientific Registry Transplant data are important to the Federal Government for setting policies and passing laws relative to transplantation. For example, OPTN data can be used to determine the impact of federal OPO regulations that require demonstrated ability of each OPO to meet a minimum procurement rate. Data can also be used to determine the effects of cold ischemia time (time without blood supply to the organ) on graft survival. Such information can be used to develop optimal geographic organ sharing policies.

**Quality Control.** The data can be used to examine such issues as accuracy in histocompatibility testing and graft survival for specific transplant procedures.

### Public and Scientific Community Access

The scientific community and the public must have access to certain OPTN and Scientific Registry data for a number of reasons. Among these are:

**Scientific Research.** The research community requires data access in order to study specific scientific hypotheses. Current studies of interest to the scientific community include the impact of HLA matching on outcome, factors affecting patient waiting time, disease progression during the waiting period, and risk factors for graft failure (e.g., certain medical diagnoses).

**Data for Policy Analysis.** UNOS committees, the Federal Government, the scientific community, and the public require data access in order to monitor transplantation medicine and the impact of specific OPTN policies. Policy-related issues that can be studied using OPTN/Scientific Registry data include the impact of joint pancreas/liver recovery on liver transplant outcome, the effects of mandatory sharing of six-antigen matched kidneys, and the impact of transplanting blood group O kidneys only into group O recipients.

**Evaluating Organ Allocation.** Data from the OPTN currently are used to monitor the efficacy of the organ allocation process. Data recorded on the potential recipient form are especially useful for this purpose. These data, combined with Waiting List information, can be used to determine retrospectively the Waiting List patient with highest priority to receive each cadaveric organ. When such patients did not receive the organs, the actual recipients can be identified. As transplants occur that are not consistent with the organ allocation policy, UNOS contacts the appropriate members to determine reasons for deviation from OPTN policies. UNOS works with its members to ensure that they follow allocation policies and provide appropriate documentation when deviating from established policies.

### **UNOS-FUNDED RESEARCH PROJECTS**

When contract funds have been available, UNOS has provided financial support for certain research projects approved by the HRSA Project Officer. Prior to reviewing research proposals, the UNOS Scientific Advisory Committee (SAC) has identified

and published a list of preferred issues for funded study. After the SAC has ranked proposals received, UNOS has made funding available, according to their proposal priority. UNOS-funded research projects are described in Appendix E, together with a brief progress report for each.

### **UNOS DATA REQUESTS**

The UNOS Research Department receives requests for OPTN/Scientific Registry data from a wide variety of sources, including the Federal Government, UNOS committees, UNOS members, UNOS staff, the media, and private industry. An analysis of the number and types of data requests is shown in Appendix E, Table E-1.

UNOS attempts to provide data to any individual or organization that requests it. If the data requested are readily available, they are provided immediately. If it is necessary to create a custom dataset or conduct a special analysis, the request is forwarded to the SAC for approval and priority ranking. UNOS may assess a fee for custom data collection or analysis. Government research requests receive the highest priority for completion.

In conjunction with HRSA, UNOS currently is developing Public Use Data Tapes that store validated transplant center-specific data, including graft and patient survival information. These tapes are available to the public, with all patient and transplant center identifiers encrypted to ensure privacy. To obtain a public use data tape, contact the UNOS Research Department.



UNOS DATA COLLECTION FORMS



# CADAVER DONOR REGISTRATION/REFERRAL FORM

(Please print or type all information)

## UNOS/PHS/HCFA

Page 1 of 3

FORM APPROVED  
O.M.B. NO 0915-0157  
Expiration Date: 08 31 96

To be completed for all potential and actual vascular organ donors. If live donor use living donor form.

### Cadaver Donor Type

- Referral only (no written consent) (Complete page 1 only)
- Consented (written) but not recovered (Complete all three pages)
- Recovered (Complete all three pages)

### Provider Information

OPD Provider #: \_\_\_\_\_ OPD Center Code: \_\_\_\_\_  
 OPD Name: \_\_\_\_\_  
 Donor Hospital Provider #: \_\_\_\_\_  
 Donor Hospital Name: \_\_\_\_\_

Date of Referral call: \_\_\_\_\_  
Mon Day Year

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
 Donor Name: \_\_\_\_\_  
Last First  
 Date of Birth if known: \_\_\_\_\_ If unknown, give Age: \_\_\_\_\_  
Mon Day Year  
 Male  Female  
 Home City: \_\_\_\_\_ State: \_\_\_\_\_  
 Home ZIP Code: \_\_\_\_\_

Was Death Reported to Medical Examiner/Coroner?  Yes  No

If yes, did Medical Examiner/Coroner give consent for organ donation?  Yes  No

Was organ donation discussed with next of kin?  Yes  No

Did next of kin give written consent for organ donation?  Yes  No

Next of kin approached for organ donation by:

(Check one primary requestor)

- Family Initiated
- Physician
- Nurse
- Clergy
- OPO Coordinator
- Social Worker
- Other: \_\_\_\_\_  
(Specify)

### Citizenship

(Check one)  
 U.S. Born  
 Not U.S. Born  
 Unknown  
 Years lived in U.S.: \_\_\_\_\_  
 U.S. Citizen?  
 Yes  No  Unknown

### Cause of Death

(Check one)  
 Anoxia  
 Cerebrovascular/Stroke  
 Head Trauma  
 CNS Tumor  
 Other: \_\_\_\_\_  
(Specify)

### Race

(Check one)  
 White  
 Black  
 American Indian or Alaskan Native  
 Asian  
 Pacific Islander  
 Mid-East Arabian  
 Indian Sub-Continent  
 Unknown (referrals only)

### Mechanism of Death

(Check one)  
 Drowning  
 Seizure  
 Drug Intoxication  
 Asphyxiation  
 Cardiovascular  
 Electrical  
 Gunshot Wound  
 Stab  
 Blunt Injury  
 Sudden Infant Death  
 Intracranial Hemorrhage /Stroke  
 None of the above

Was donor suitable for procurement of organs?  Yes  No

If No, check one primary reason:

- HIV+
- HCV+
- Hepatitis B+
- Brain death criteria not met
- Medical History
- Social History
- Cancer
- Age
- Other: \_\_\_\_\_  
(Specify)

### Ethnicity

(Check one)  
 Hispanic: Mexican  
 Hispanic: Other  
 Non-Hispanic

### Circumstances of Death

(Check one)  
 Motor Vehicle Accident  
 Alleged Suicide  
 Alleged Homicide  
 Alleged Child Abuse  
 Non-Motor Vehicle Accident  
 None of the above

Was tissue removed for purposes of transplantation?

- Yes
- No
- Unknown

Person completing form: \_\_\_\_\_ Date Completed: \_\_\_\_\_  
Mon Day Year

CONTINUE TO COMPLETE THIS FORM ONLY FOR CONSENTED AND RECOVERED ORGAN DONORS

Mail directly to UNOS OPTN Registry, P.O. Box 13770, Richmond, Virginia 23225-8770

# CADAVER DONOR REGISTRATION / REFERRAL FORM

(Please print or type all information)

Donor ID #: \_\_\_\_\_ Donor Name: \_\_\_\_\_

## Consent Information

Organ	Consent Requested?	If Not requested, write reason:	Consent Obtained?	If No, give reason code: (Specify Other)
Kidney	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
Liver	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
Intestine	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
Pancreas	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
Heart	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
Lung	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
Tissue	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____

## Clinical Information

Blood Type: \_\_\_\_\_ Rh \_\_\_\_\_  
 Donor Height: \_\_\_\_\_ Feet \_\_\_\_\_ Inches or \_\_\_\_\_ Cm  
 Donor Weight: \_\_\_\_\_ Pounds or \_\_\_\_\_ kg

### Terminal Lab Data (U=Unknown ND=Not Done)

Creatinine \_\_\_\_\_ mg/dl  
 BUN \_\_\_\_\_ mg/dl  
 Creatinine Clearance \_\_\_\_\_ ml/min  
 Total Bilirubin \_\_\_\_\_ mg/dl  
 SGOT/AST \_\_\_\_\_ u/ml  
 SGPT/ALT \_\_\_\_\_ u/ml

### History of Diabetes

Yes  No  Unknown

If Yes, duration:

- 0-5 years
- 6-10 years
- >10 years
- Unknown

Insulin Dependent?

Yes  No

If Yes, how long?

- 0-5 years
- 6-10 years
- >10 years
- Unknown

### Chemical Use (Check Yes, No or Unknown for each)

	Yes	No	Unk
History of Cigarette Use (> 20 Pack Years)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continued Cigarette Use (> 20 pack years during last 6 Months)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
History of Alcohol Dependency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continued Alcohol Dependency (Last 6 Months)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
History of IV Drug Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continued IV Drug Use (Last 6 Months)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
History of other Drug Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continued other Drug Use (Last 6 Months)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Medications Given to Donor

24 Hours prior to cross clamp

	Yes	No	Un-known
Antiarrhythmics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anticonvulsants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antihypertensives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antibiotics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vasodilators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vasopressors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dopamine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dobutamine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Serology

P= Positive N= Negative  
 U=Unknown C=Cannot Disclose  
 ND=Not Done I=Indeterminate

Circle appropriate letter code for each test

Anti-HIV I	P	N	U	C	ND	I
Anti-HIV II	P	N	U	C	ND	I
Anti-HTLV I	P	N	U	C	ND	I
Anti-HTLV II	P	N	U	C	ND	I
RPR-VDRL	P	N	U	C	ND	I
Anti-CMV	P	N	U	C	ND	I
HBsAg	P	N	U	C	ND	I
Anti-HBC	P	N	U	C	ND	I
Anti-HCV	P	N	U	C	ND	I

### History of Cancer

Yes  No  Unknown

If Yes, cancer free interval: \_\_\_\_\_ years

If Yes, primary site: (Check one)

- Skin
- Colo-rectal
- Genito-urinary
- Leukemia/Lymphoma
- Breast
- Other: \_\_\_\_\_

(Specify)

### Cancer at time of procurement:

	Yes	No	Unknown
Intracranial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extracranial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### History of Hypertension

Yes  No  Unknown

If Yes, duration:

- 0-5 years
- 6-10 years
- >10 years
- Unknown

If Yes, method of control:

(Check Yes, No or Unknown for each)

	Yes	No	Unk
Diet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diuretics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Hypertensive Medication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Infection

Clinical Infection?  Yes  No  Unk

(If Yes, complete the following:)

Source	Confirmed by culture
<input type="checkbox"/> Blood	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Pulmonary	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Urine	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No

(Specify)

### Donor Pretreatment

Did donor receive pretreatment medication?  Yes  No  Unknown

(If Yes, Check Yes, No or Unknown for each of the following:)

	Yes	No	Unknown
Steroids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diuretics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thyroxine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heparin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CONTINUE TO COMPLETE THIS FORM ONLY FOR CONSENTED AND RECOVERED ORGAN DONORS



Donor ID #:

Donor Name:

Organ Recovery Information

Recovery Date (donor to OR):      /      /       
 Mon Day Year

Non-Heart Beating Organ Donor?  Yes  No  
 If Yes, Controlled?  Yes  No  Unknown  
 If Yes, Core Cooling used?  Yes  No  Unkn  
 If Yes, Estimated Warm Ischemic time:      minutes

Clamp Date:      /      /       
 Mon Day Year

Clamp Time:      :       
 (Military time)

Time Zone (Check one)  
 Eastern  Pacific  
 Central  Alaska  
 Mountain  Hawaii

Organ Recovered for transplantation	Kidney		Liver	Intestine	Pancreas	Heart	Lung	
	Left	Right					Left	Right
If not recovered for transplantation, give reason code	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N
Recovery Team Provider Number								

Organ	Flush Solution (use code)	Storage Solution (use code)	Pump Y=Yes N=No (Kidney Only)	Placed By: 1=Local 2=UNOS Organ Center	Type Share 1=6 Ag Match 2=Payback 3=All other shares	Disposition (use code)	Reason for Organ Discard (use code)	Recipient Name Last, First	For UNOS use only Registration ID	Recipient Center Provider Number
Left Kidney										
Right Kidney										
Liver										
Intestine										
Pancreas										
Heart										
Left Lung										
Right Lung										

Person Completing Form:

Date of completion:

Mon / Day / Year

Mail directly to UNOS OPTN Registry, P.O. Box 13770, Richmond, VA 23225-8770

# DONOR HISTOCOMPATIBILITY FORM

(Please print or type all information)

## UNOS/PHS/HCFA

FDRM APPROVED:  
Q.M.B. No. D915-D157  
Expiration Date: 08/31/96

To be completed by cadaveric or living donor typing laboratory.  
Do not complete for imports

### Donor Information

UNOS Donor ID # \_\_\_\_\_

Last Name: \_\_\_\_\_ First: \_\_\_\_\_

Donor Type:  Cadaveric  Living

### Histocompatibility Laboratory

Provider #: \_\_\_\_\_

Center Code: \_\_\_\_\_

Name: \_\_\_\_\_

### Organ Procurement Organization (For Cadaveric Donors Only)

OPO Provider Number: \_\_\_\_\_

Center Code: \_\_\_\_\_

Name: \_\_\_\_\_

### Donor Center Histocompatibility Typing

Was HLA typing performed on this donor?  Yes  No  Unknown

If donor HLA typed, complete the remainder of this section. If donor was not HLA typed or typing status is Unknown, sign and return the form.

Target Cell Source: (Check one)

Date Typed: \_\_\_/\_\_\_/\_\_\_  
Mon Day Year

Peripheral Blood Lymphocytes  Lymph Nodes  Spleen  Multiple

### Donor Typing Data (See Forms Instruction Manual for Splits)

DONOR	HLA A	A	B	B	Bw4	Bw6	Cw	Cw
	DR	DR	DR51	DR52	DR53	DQ	DQ	DPw

### Transplant Center Information (Living Donors Only)

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_

Transplant Center Name: \_\_\_\_\_

### Haplotype Match Information (Living Donors Only)

Haplotype Match (Check one):  0  0.5  1  1.5  2  Unknown

Living Recipient Name: \_\_\_\_\_ Organ: \_\_\_\_\_ SSN: \_\_\_\_\_ Regid: \_\_\_\_\_

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_/\_\_\_/\_\_\_  
(Please Print or Type) Month Day Year

Mail directly to UNOS OPTN Registry, P.O. Box 13770, Richmond, VA 23225-8770

# INTESTINE TRANSPLANT RECIPIENT FOLLOW-UP FORM

(Please print or type all information)

## UNOS/PHS/HCFA

FORM APPROVED:  
D.M.B. NO. D915-D157  
Expiration Date: 08/31/96

UNOS Use Only

this form pertain only to this follow-up period

### Provider Information

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
Transplant Center Name: \_\_\_\_\_  
Follow-up Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
Follow-up Center Name: \_\_\_\_\_  
Transplant Physician Name: \_\_\_\_\_  
Transplant Physician UPIN #: \_\_\_\_\_

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
(For this graft only)  
Donor Name: \_\_\_\_\_  
Donor Type:  Cadaveric  
 Living

### Recipient Information

Transplant Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Name: \_\_\_\_\_  
HIC #: \_\_\_\_\_ SS #: \_\_\_\_\_  
Weight: \_\_\_\_\_ or \_\_\_\_\_  
Height: \_\_\_\_\_ or \_\_\_\_\_  
(Only if 18yrs or younger) Feet Inches Cm

Follow-up  
 6-Month  
 Year  
 Graft Failure  
 Death

### Patient Status at Time of Follow-up

(Check one)  
 Living: Date of Hospital discharge or patient last seen: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Dead: Date of Death: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Cause of Death: (Use code) \_\_\_\_\_  
 Retransplanted Due to Graft Failure:  
Date of Retransplant: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Lost to Follow-up: Date last seen: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

### Serology at Time of Follow-up

Circle appropriate letter code for each test.

Test	Results	
HIV	Screening	P N U ND I C
	Confirmation	P N U ND I C
CMV		P N U ND I C
Hepatitis B Core Antibody		P N U ND I C
	Surface Antigen	P N U ND I C
Hepatitis C Std Antibody Scrn		P N U ND I C
	RIBA Test	P N U ND I C

P=Positive  
N=Negative  
U=Unknown  
ND=Not Done  
I=Indeterminate  
C=Cannot Disclose

Patient transferred to new provider?  Yes  No  
If Yes, New Provider #: \_\_\_\_\_  
New Provider Name: \_\_\_\_\_

### Employment Status at Time of Follow-up

(Check one)  
 Working Full Time  
 Working Part Time By Choice  
 Working Part Time Due to Disease  
 Working Part Time, Reason Unknown  
 Not Working By Choice  
 Not Working Due to Disease  
 Not Working, Unable to Find Employment  
 Not Working, Reason Unknown  
 Retired  
 Employment Status Unknown  
(Working = Employed, Home, School)

### Hospitalization Since Last Follow-up

Transplant related Hospitalization since last Follow-up?  
 Yes  No  Unknown  
If Yes,  
Was Patient in Intensive Care?  Yes  No  Unknown

### Functional Status at Time of Follow-up

(Check one)  
 1. No Activity Limitations  
 2. Performs activities of daily living with assistance  
 3. Unable to perform activities of daily living without total assistance  
 4. Unknown  
 5. Patient Hospitalized at time of follow-up

### Immunosuppression

(Indicate Maintenance, Anti-Rejection or None Given for each Medication)

	Maint	Anti-Rejtn	None
Cyclosporine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Azathioprine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prednisone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OKT3/Monoclonal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methylprednisolone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FK506	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Graft Status

Graft Functioning: Yes No Unknown  
    
If yes: TPN Dependent:    
IV Dependent:    
Oral feeding:    
Tube Feeding:    
If no: Date of graft failure: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Cause of Graft Failure:  
 Recurrent tumor  Acute rejection  
 Chronic rejection  Technical problems  
 Infection  Lymphoproliferative Disease  
 Other, specify: \_\_\_\_\_

### Most Recent Lab Information

Lab Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ (U=Unknown, ND=Not Done)  
Total Bilirubin \_\_\_\_\_ mg/dl  
SGOT/AST \_\_\_\_\_ U/ml  
Alkaline Phosphatase: \_\_\_\_\_ U/L  
Serum Creatinine: \_\_\_\_\_ mg/dl  
Serum Albumin: \_\_\_\_\_ g/dl

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

# INTESTINE TRANSPLANT RECIPIENT REGISTRATION FORM

(Please print or type all information)

For UNOS Use Only

## UNOS/PHS/HCFA

Page 1 of 2

FORM APPROVED:  
D.M.B. NO. D915-0157  
Expiration Date: 08/31/96

### Provider Information

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_

Center Name: \_\_\_\_\_

Transplant Surgeon Name: \_\_\_\_\_

Transplant Surgeon UPIN #: \_\_\_\_\_

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
(For this graft only)

Donor Name: \_\_\_\_\_

Donor Type:  Cadaveric  
 Living

### Recipient Information

### Source of Payment

Transplant Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

Name: \_\_\_\_\_  
Last First

HIC #: \_\_\_\_\_ SS #: \_\_\_\_\_

Male  Female Date of Birth: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

Primary Intestine Diagnosis at time of transplant: \_\_\_\_\_  
(Use code)

Secondary Intestine Diagnosis at time of transplant: \_\_\_\_\_  
(Use code)

Height: \_\_\_\_\_ or \_\_\_\_\_ Weight: \_\_\_\_\_ or \_\_\_\_\_  
Feet Inches Cm Pounds Kg

(Check Yes, No or Unknown for each Secondary Source of Payment)

#### Primary

(Check one)

- |                          |                   |                          |                          |                          |
|--------------------------|-------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | Medicare          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Medicaid          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Other Government  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Private Insurance | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Self              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Donation          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Free Care         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Other: _____      | <input type="checkbox"/> |                          |                          |

#### Secondary

Yes No Unknown

### Patient Status

(Check one)

- Living: Date of Discharge/Report: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year
- Dead: Date of Death: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year
- Cause of Death: (Use code) \_\_\_\_\_
- Retransplant due to graft failure:  
Date of Retransplant: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

### Functional Status at Time of Transplant

Complete for Patients not hospitalized prior to Transplant.

(Check one)

1. No Activity Limitations.
2. Performs activities of daily living with assistance.
3. Unable to perform activities of daily living without total assistance.

### Medical Condition at Time of Transplant

(Check one)

1. Patient in Intensive Care Unit
2. Hospitalized but not in Intensive Care Unit
3. Not Hospitalized

### Multiple Organ Recipient

Did patient receive any other organ transplant at this time?  Yes  No

If Yes, check all organs that apply:

- Kidney  Pancreas  Pancreas Islets
- Heart  Lung  Bone Marrow
- Liver
- Other: \_\_\_\_\_

Patient on Life Support?  Yes  No

### Employment Status at Time of Transplant

(Check one)

- Working Full Time
- Working Part Time By Choice
- Working Part Time Due to Disease
- Working Part Time, Reason Unknown
- Not Working By Choice
- Not Working Due to Disease
- Not Working, Unable to Find Employment
- Not Working, Reason Unknown
- Retired
- Employment Status Unknown

(Working = Employed, Home, School)

### Most Recent Pre-Transplant Serum Lab Data

Total Bilirubin: \_\_\_\_\_ mg/dl

SGOT/AST: \_\_\_\_\_ U/ml

Alkaline Phosphate: \_\_\_\_\_ units/L

Serum Creatinine: \_\_\_\_\_ mg/dl

Serum Albumin: \_\_\_\_\_ g/dl

# INTESTINE TRANSPLANT RECIPIENT REGISTRATION FORM

(Please print or type all Information)

UNOS Use Only

## UNOS/PHS/HCFA

Page 2 of 2

Recipient Name: \_\_\_\_\_ SS #: \_\_\_\_\_ Donor ID #: \_\_\_\_\_

### Pretransplant Serology

P=Positive, N=Negative, U=Unknown,  
 ND=Not Done, I=Indeterminate, C=Cannot Disclose  
 (Circle appropriate letter code for each test)

TEST	RESULT
HIV - Screening	P N U ND I C
- Confirmation	P N U ND I C
CMV	P N U ND I C
Hepatitis B - Core Antibody	P N U ND I C
- Surface Antigen	P N U ND I C
Hepatitis C - Std Antibody Screen	P N U ND I C
- RIBA Test	P N U ND I C

### Preservation Information

Total Ischemic Time: \_\_\_\_\_ hours

### Graft Status

	Yes	No	Unknown
Graft Functioning:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Yes: TPN Dependent:	<input type="checkbox"/>	<input type="checkbox"/>	
IV Dependent:	<input type="checkbox"/>	<input type="checkbox"/>	
Oral feeding:	<input type="checkbox"/>	<input type="checkbox"/>	
Tube feeding:	<input type="checkbox"/>	<input type="checkbox"/>	
If No: Date of graft failure:	_____ / _____ / _____ <small>Month Day Year</small>		
If No: Cause of graft failure: (Check one)	<input type="checkbox"/> Recurrent Tumor <input type="checkbox"/> Acute Rejection <input type="checkbox"/> Chronic Rejection <input type="checkbox"/> Technical Problems <input type="checkbox"/> Infection <input type="checkbox"/> Lymphoproliferative Disease <input type="checkbox"/> Other, specify: _____		

### Organ Type

Check all that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> Stomach  | <input type="checkbox"/> Duodenum        |
| <input type="checkbox"/> Small Intestine  | <input type="checkbox"/> Large Intestine |
| Intestine only Venous Drainage: <input type="checkbox"/> Portal <input type="checkbox"/> Systemic |  |
| Native Viscera Venous Drainage: <input type="checkbox"/> Portal <input type="checkbox"/> Systemic |  |

### Immunosuppression

Check all that apply)

	Induct	Maint	Anti-Rejtn	None
Cyclosporine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Azathioprine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prednisone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OKT3/Monoclonal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methylprednisolone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FK506	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Risk Factors at Time of Transplant

(Check Yes, No or Unknown for each Risk Factor)

	Yes	No	Unknown
Recent Septicemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exhausted Vascular Access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liver Dysfunction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Previous Abdominal Surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Yes, Number previous surgeries: _____			
Dilated/Non-Functional Bowel Segments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marked Wasting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Previous Primary Non-function Post-TX	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, specify: _____			

on Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
(Please Print or Type) Month Day Year

# KIDNEY TRANSPLANT RECIPIENT FOLLOW-UP FORM

(Please print or type all information)

For UNOS Use Only

FORM APPROVED:  
D.M.B. NO. D915-D157  
Expiration Date: 08/31/96

## UNOS/PHS/HCFA

Data on this form pertain only to this period

### Provider Information

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
 Transplant Center Name: \_\_\_\_\_  
 Follow-up Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
 Follow-up Center Name: \_\_\_\_\_  
 Transplant Physician Name: \_\_\_\_\_  
 Transplant Physician UPIN #: \_\_\_\_\_

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
(For this graft only)  
 Donor Name: \_\_\_\_\_  
 Donor Type:  Cadaveric  
 Living

### Recipient Information

Transplant Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Last Name: \_\_\_\_\_ First \_\_\_\_\_  
 HIC #: \_\_\_\_\_ SS #: \_\_\_\_\_  
 Weight: \_\_\_\_\_ or \_\_\_\_\_  
Pounds Kg  
 Height: \_\_\_\_\_ or \_\_\_\_\_  
Feet Inches Cm  
(Only if 18yrs or younger)  
 Male  Female Date of Birth: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

### Follow-up

6-Month  
 Year \_\_\_\_\_  
Number  
 Graft Failure  
 Death

### Patient Status

(Check one)  
 Living: Date Patient Last Seen / Known Alive: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Dead: Date of Death: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Cause of Death: (Use code) \_\_\_\_\_  
 Patient died with functioning Kidney graft?  
 Yes  No  Unknown  
 Lost to Follow-up: Date last seen: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Retransplanted since last Follow-up:  
 Date of Retransplant: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Patient transferred to new provider?  Yes  No  
 If Yes, New Provider #: \_\_\_\_\_  
 New Provider Name: \_\_\_\_\_

### Functional Status at Time of Follow-up

(Check one)  
 1. No activity limitations  
 2. Performs activities of daily living with assistance  
 3. Unable to perform activities of daily living without total assistance  
 4. Unknown  
 5. Hospitalized at time of follow-up

### Serology at Time of Follow-up

(Circle appropriate letter code for each test.)

Test	Results							
HIV	Screening	P	N	U	ND	I	C	P=Positive,
	Confirmation	P	N	U	ND	I	C	N=Negative,
CMV		P	N	U	ND	I		U=Unknown,
Hepatitis B	Core Antibody	P	N	U	ND	I		ND=Not Done,
	Surface Antigen	P	N	U	ND	I		I=Indeterminate
Hepatitis C	Antibody Screen	P	N	U	ND	I		C=Cannot Disclose,
	RIBA Test	P	N	U	ND	I		

### Hospitalization since Last Follow-up

Transplant related hospitalization since last Follow-up?  
 Yes  No  Unknown  
 If Yes, was patient in Intensive Care?  
 Yes  No  Unknown

### Employment Status at Time of Follow-up

(Check one)  
 Working Full Time  
 Working Part Time By Choice  
 Working Part Time Due to Disease  
 Working Part Time, Reason Unknown  
 Not Working By Choice  
 Not Working Due to Disease  
 Not Working, Unable to find Employment  
 Not Working, Reason Unknown  
 Retired  
 Employment Status Unknown  
(Working = Employed, Home, School)

### Graft Status

Graft Failure?  Yes  No  Unknown  
 If Yes, Graft Failure Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 If Yes, has patient received a retransplant since time of graft failure?  Yes  No  Unknown  
 If No, most recent Serum Creatinine: \_\_\_\_\_ mg/dl  
 Were there episodes of Clinical Rejection during this follow-up Period?  Yes  No  Unknown  
 Any Dialysis since last follow-up?  Yes  No  Unknown  
 Resumed maintenance dialysis?  Yes  No  Unknown  
 If Yes, Date resumed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Dialysis Center Name: \_\_\_\_\_  
 Dialysis Center Provider #: \_\_\_\_\_

### Immunosuppression

(Indicate Maintenance, Anti-Rejection or None Given for each Medication)

	Maint	Anti-Rejectn	None Given
Cyclosporine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Azathioprine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prednisone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALS/ALG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OKT3/Monoclonal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methylprednisolone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FK506	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Cause of Graft Failure:

Primary	Contributory		
(Check one)	Yes	No	Unk
<input type="checkbox"/> Acute Rejection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (Check Yes,
<input type="checkbox"/> Chronic Rejection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> No or
<input type="checkbox"/> Primary Failure			<input type="checkbox"/> Unknown for
<input type="checkbox"/> Graft Thrombosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> each
<input type="checkbox"/> Infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Contributory
<input type="checkbox"/> Urological Complications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Cause of Graf
<input type="checkbox"/> Recurrent Disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Failure)
<input type="checkbox"/> Non-compliance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

# KIDNEY TRANSPLANT RECIPIENT REGISTRATION FORM

(Please print or type all information)

## UNOS/PHS/HCFA

Page 1 of 2

FORM APPROVED:  
O.M.B. NO. 0915-0157  
Expiration Date: 08/31/96

For UNOS Use Only

### Provider Information

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
 Center Name: \_\_\_\_\_  
 Transplant Surgeon Name: \_\_\_\_\_  
 Transplant Surgeon UPIN #: \_\_\_\_\_

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
 (For this graft only)  
 Donor Name: \_\_\_\_\_  
 Donor Type:  Cadaveric  
 Living

### Recipient Information

Transplant Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year  
 Name: \_\_\_\_\_  
Last First  
 HIC #: \_\_\_\_\_  
 SS #: \_\_\_\_\_  
 Male  Female Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year  
 Primary Diagnosis at time of transplant: \_\_\_\_\_  
(Use code)

### Source of Payment

(Check Yes, No or Unknown for each Secondary Source of Payment)

Primary	Secondary		
(Check one)	Yes	No	Unknown
<input type="checkbox"/> Medicare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Medicaid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other Government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Private Insurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Self	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Donation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Free Care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other: _____	<input type="checkbox"/>		
			<small>(Specify)</small>

### Patient Status

(Check one)  
 Living: Date of Hospital Discharge/Report: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year  
 Dead: Date of Death: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year  
 Cause of Death: (Use code) \_\_\_\_\_  
 Patient died with functioning Kidney graft?  
 Yes  No  Unknown  
 Re-transplanted prior to hospital discharge:  
 Date of Re-transplant: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year

### Medical Condition at Time of Transplant

(Check one)  
 1. Patient in Intensive Care Unit  
 2. Hospitalized but not in Intensive Care Unit  
 3. Not Hospitalized  
 Patient on Life Support?  Yes  No

### Functional Status at Time of Transplant

Complete for patients not hospitalized prior to transplant  
 (Check one)  
 1. No activity limitations  
 2. Performs activities of daily living with assistance  
 3. Unable to perform activities of daily living without total assistance  
 4. Unknown

### Employment Status at Time of Transplant

(Check one)  
 Working Full Time  
 Working Part Time By Choice  
 Working Part Time Due to Disease  
 Working Part Time, Reason Unknown  
 Not Working By Choice  
 Not Working Due to Disease  
 Not Working, Unable to Find Employment  
 Not Working, Reason Unknown  
 Retired  
 Employment Status Unknown  
(Working = Employed, Home, School)

### Multiple Organ Recipient

Did patient receive any other organ transplant at this time?  Yes  No

If Yes, check all organs that apply:

Liver  Pancreas  Pancreas Islets  
 Heart  Lung  Bone Marrow  
 Intestine

### Pretransplant Serology

P=Positive, N=Negative, U=Unknown,  
 ND=Not Done, I=Indeterminate C=Cannot Disclose.

Circle appropriate letter code for each test

	Test	Results
HIV	- Screening	P N U N D I C
	- Confirmation	P N U N D I C
CMV		P N U N D I
Hepatitis B	- Core Antibody	P N U N D I
	- Surface Antigen	P N U N D I
Hepatitis C	- Antibody Screen	P N U N D I
	- RIBA Test	P N U N D I

### Preservation Information

Total Cold Ischemic time: \_\_\_\_ hours  
 Warm Ischemic time: \_\_\_\_ minutes

(Complete at Time of Discharge or Six Weeks after Transplant; Whichever is First)

# KIDNEY TRANSPLANT RECIPIENT REGISTRATION FORM

(Please print or type all information)

## UNOS/PHS/HCFA

Page 2 of 2

For UNOS Use Only

Recipient Name: \_\_\_\_\_ SS #: \_\_\_\_\_ UNOS Donor ID #: \_\_\_\_\_

### Pretransplant Information

Patient on dialysis Pretransplant?  Yes  No  
 If Yes, Date first Dialyzed: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Month Year  
 Type of Dialysis:  Hemodialysis  
 Peritoneal Dialysis  
 If No, Serum Creatinine at time of Transplant \_\_\_\_\_ mg/dl  
 Number of Previous Pregnancies:  
 0  1  2  3  4  5  >5  Unknown  
 Number of Pretransplant Blood Transfusions:  
 0  1-5  6-10  >10  Unknown  
 Date of Last Transfusion: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Month Day Year  
 Any Donor Specific Transfusions?  Yes  No  Unknown  
 Number of Blood Transfusions at Time of Transplantation: \_\_\_\_\_

### Clinical Information at Time of Discharge

Height: \_\_\_\_\_ or \_\_\_\_\_  
Feet Inches Cm  
 Weight: \_\_\_\_\_ or \_\_\_\_\_  
Pounds Kg  
 Most recent Serum Creatinine prior to discharge \_\_\_\_\_ mg/dl  
 Did kidney produce urine within 24 hours?  Yes  No  
 Did patient need dialysis within first week?  Yes  No  
 If No, did creatinine decline within first week?  Yes  No

### Graft Status at Discharge

Graft Failure?  Yes  No  
 If Yes, Date of Graft Failure: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Month Day Year  
 Resumed maintenance dialysis?  Yes  No  
 If Yes, Date resumed: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Month Day Year  
 Dialysis Center Provider #: \_\_\_\_\_  
 Dialysis Center Name: \_\_\_\_\_  
 If Yes, Cause of Graft Failure: (Check Yes, No or Unknown for each Contributory Cause of Graft Failure)

Primary (Check one)	Contributory		
	Yes	No	Unknown

- Hyperacute Rejection
- Acute Rejection
- Primary Failure
- Graft Thrombosis
- Infection
- Surgical Complications
- Urological Complications
- Recurrent Disease
- Other: \_\_\_\_\_

### Previous Kidney Transplants

Has patient received previous kidney transplants?  
 Yes  No  Unknown  
 Number of previous kidney transplants: \_\_\_\_\_

If Yes, list dates of transplant and graft failure beginning with most recent:

	Transplant Date		Graft Failure Date	
	Month	Year	Month	Year
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____

### Immunosuppression

(Indicate Induction, Anti-Rejection, Maintenance or None Given for each Immunosuppression drug listed below)

	#		Anti-	None
	Induct	days	Rejtn	Given
		Maint		
Cyclosporine	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Azathioprine	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Prednisone	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Methylprednisolone	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
FK506	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
ALG/ATG/ATS	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
OKT3/Monoclonal	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>

### Rejection Information

Patient treated for rejection?  Yes  No  
 If Yes, Biopsy done?  Yes  No  
 If Yes, Rejection Confirmed?  Yes  No

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
(Please Print or Type) Month Day Year



For UNOS use only  
 To be completed for all living organ donors.

# LIVING DONOR REGISTRATION FORM

(Please print or type all information)

## UNOS/PHS/HCFA

Form Approved:  
 O.M.B. No. 0915-0157  
 Expiration Date: 08/31/96

### Provider Information

Transplant Center Provider #: \_\_\_\_\_  
 Center Name: \_\_\_\_\_  
 UNOS Center Code: \_\_\_\_\_

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
 Name: \_\_\_\_\_  
Last First  
 SS #: \_\_\_\_\_  
 Home City: \_\_\_\_\_ State: \_\_\_\_\_  
 Home ZIP Code: \_\_\_\_\_  
 Male  Female Date of Birth: \_\_\_\_\_  
Month Day Year  
 Blood Type: \_\_\_\_\_ Rh \_\_\_\_\_

### Donor Serology

(Circle appropriate letter code for each test)

TEST	RESULT
HIV - Screening	P N U C ND I
- Confirmation	P N U C ND I
CMV	P N U C ND I
Hepatitis B - Core Anitbody	P N U C ND I
- Surface Antigen	P N U C ND I
Hepatitis C - Antibody Screen	P N U C ND I
- RIBA Test	P N U C ND I

P=Positive,  
 N=Negative,  
 U=Unknown,  
 C=Cannot Disclose,  
 ND=Not Done,  
 I=Indeterminate

### Living Donor Type

(Indicate the relationship of the donor to the recipient by checking one donor type and one subtype)

- Living, Biologically Related
- Parent
  - Child
  - Identical Twin
  - Full Sibling (Not Identical Twin)
  - Half Sibling
  - Other Relative
- Living, Biologically Unrelated
- Spouse
  - Other

### Donor Ethnicity

(Check one)

- Hispanic: Mexican
- Hispanic: Other
- Non-Hispanic

### Donor Citizenship

(Check one)

- U.S. Citizen
  - Resident Alien
  - Non-Resident Alien
- If Yes, Indicate Country: \_\_\_\_\_

### Donor Race

(Check one)

- White
- Black
- American Indian or Alaskan Native
- Asian
- Pacific Islander
- Mid-East Arabian
- Indian Sub-continent

### Recipient Information

Organ Recovery Date: \_\_\_\_\_  
Month Day Year

For UNOS Use only

Organ(s) Recovered (Specify right or left for Kidney and Lung Recipients)	Recipient Name (Last Name, First Name)	Recipient HIC #	Transplant Center Provider #	Recipient Registration ID
R/L				

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_  
(Please Print or Type) Month Day Year

# LIVER TRANSPLANT RECIPIENT FOLLOW-UP FORM

For UNOS Use Only

(Please print or type all information)

## UNOS/PHS/HCFA

FDRM APPROVED:  
O.M.B. NO. 0915-0157  
Expiration Date: 08/31/96

Data on this form pertain only to this follow-up period

### Provider Information

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
 Transplant Center Name: \_\_\_\_\_  
 Follow-up Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
 Follow-up Center Name: \_\_\_\_\_  
 Follow-up Physician Name: \_\_\_\_\_  
 Follow-up Physician UPIN #: \_\_\_\_\_

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
(for this graft only)  
 Donor Name: \_\_\_\_\_

### Recipient Information

Transplant Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Name: \_\_\_\_\_  
Last First  
 HIC #: \_\_\_\_\_ SS #: \_\_\_\_\_  
 Male  Female Date of Birth: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

Weight: \_\_\_\_\_ or \_\_\_\_\_  
Pounds kg

Height: \_\_\_\_\_ or \_\_\_\_\_  
Feet Inches Cm  
(Only if 18yrs or younger)

Hospital Discharge

Graft Failure  
 Death

### Patient Status at Time of Follow-up

(Check one)  
 Living: Date of Hospital discharge: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Dead: Date of Death: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Cause of Death: (Use code) \_\_\_\_\_  
 Retransplanted Due to Graft Failure:  
 Date of Retransplant: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Lost to Follow-up: Date last seen: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

### Serology at Time of Follow-up

Circle appropriate letter code for each test.

Test	Results
HIV Screening	P N U ND I C
HIV Confirmation	P N U ND I C
CMV	P N U ND I
Hepatitis B Core Antibody	P N U ND I
Hepatitis B Surface Antigen	P N U ND I
Hepatitis C Antibody Screen	P N U ND I
RIBA Test	P N U ND I

P=Positive  
 N=Negative  
 U=Unknown  
 ND=Not Done  
 I=Indeterminate  
 C=Cannot Disclose

Patient transferred to new provider?  Yes  No

If Yes, New Provider #: \_\_\_\_\_  
 New Provider Name: \_\_\_\_\_

### Hospitalization since last Follow-up

(Not Required for Hospital Discharge Follow-up)

### Employment Status at Time of Follow-up

(Check one)  
 Working Full Time  
 Working Part Time By Choice  
 Working Part Time Due to Disease  
 Working Part Time, Reason Unknown  
 Not Working By Choice  
 Not Working Due to Disease  
 Not Working, Unable to Find Employment  
 Not Working, Reason Unknown  
 Retired  
 Employment Status Unknown  
 (Working = Employed, Home, School)

### Immunosuppression

(Indicate Induction, Maintenance, None Given for each Medication)

	Induct	Maint	Anti-Rejtn	None Given
Cyclosporine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Azathioprine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prednisone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OKT3/Monoclonal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methylprednisolone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FK506	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Functional Status at Time of Follow-up

(Check one)  
 1. No activity limitations  
 2. Performs activities of daily living with assistance  
 3. Unable to perform activities of daily living without total assistance

### Graft Status

Functioning  Failed  Unknown  
 Pathology confirmed Liver Diagnosis at time of Hospital Discharge (use code): \_\_\_\_\_

(Check Yes, No or Unknown for each Cause of Graft Failure)

Cause of Graft Failure:	Yes	No	Unknown
Primary Graft Failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vascular Thrombosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biliary Tract Complication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hepatitis: De Novo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recurrent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recurrent Disease (non-Hepatitis)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rejection: Acute	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chronic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Most Recent Lab Information at time of Follow-up

Lab Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Total Bilirubin: \_\_\_\_\_ mg/dl  
 SGOT/AST: \_\_\_\_\_ IU/L  
 SGPT/ALT: \_\_\_\_\_ IU/L  
 Alkaline Phosphatase: \_\_\_\_\_ U/L  
 Serum Creatinine: \_\_\_\_\_ mg/dl

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

# LIVER TRANSPLANT RECIPIENT FOLLOW-UP FORM

(Please print or type all information)

## UNOS/PHS/HCFA

FDRM APPROVED:  
D.M.B. ND. D915-D157  
Expiration Date: 08/31/96

### Provider Information

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
 Transplant Center Name: \_\_\_\_\_  
 Follow-up Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
 Follow-up Center Name: \_\_\_\_\_  
 Follow-up Physician Name: \_\_\_\_\_  
 Follow-up Physician UPIN #: \_\_\_\_\_

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
(For this graft only)  
 Donor Name: \_\_\_\_\_

Donor Type:  Cadaveric  
 Living  
**Follow-up**

### Recipient Information

Transplant Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Name: \_\_\_\_\_  
Last First  
 HIC #: \_\_\_\_\_ SS #: \_\_\_\_\_  
 Male  Female Date of Birth: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Weight: \_\_\_\_\_ or \_\_\_\_\_  
Pounds Kg  
 Height: \_\_\_\_\_ or \_\_\_\_\_  
Feet Inches Cm  
(Only if 18yrs or younger)

6-Month  
 Year \_\_\_\_\_  
Number  
 Graft Failure  
 Death

### Patient Status at Time of Follow-up

(Check one)  
 Living: Date patient last seen: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Dead: Date of Death: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Cause of Death: (Use code) \_\_\_\_\_  
 Retransplanted Due to Graft Failure:  
 Date of Retransplant: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Lost to Follow-up: Date last seen: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

### Serology at Time of Follow-up

Circle appropriate letter code for each test.

Test	Results	
HIV	Screening	P N U N D I C
	Confirmation	P N U N D I C
CMV		P N U N D I
Hepatitis B Core Antibody		P N U N D I
	Surface Antigen	P N U N D I
Hepatitis C Antibody Screen		P N U N D I
RIBA Test		P N U N D I

P=Positive  
 N=Negative  
 U=Unknown  
 ND=Not Done  
 I=Indeterminate  
 C=Cannot Disclose

Patient transferred to new provider?  Yes  No  
 If Yes, New Provider #: \_\_\_\_\_  
 New Provider Name: \_\_\_\_\_

### Employment Status at Time of Follow-up

(Check one)  
 Working Full Time  
 Working Part Time By Choice  
 Working Part Time Due to Disease  
 Working Part Time, Reason Unknown  
 Not Working By Choice  
 Not Working Due to Disease  
 Not Working, Unable to Find Employment  
 Not Working, Reason Unknown  
 Retired  
 Employment Status Unknown  
 (Working = Employed, Home, School)

### Hospitalization since last Follow-up

Transplant related hospitalization since last follow-up?  
 Yes  No  Unknown  
 If Yes,  
 Was patient in Intensive Care?  Yes  No  Unknown

### Functional Status at Time of Follow-up

(Check one)  
 1. No activity limitations  
 2. Performs activities of daily living with assistance  
 3. Unable to perform activities of daily living without total assistance  
 4. Unknown  
 5. Patient Hospitalized at time of follow-up

### Immunosuppression

(Indicate Maintenance, Anti-Rejection or None Given for each Medication)

	Maint	Anti-Rejtn	None Given
Cyclosporine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Azathioprine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prednisone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OKT3/Monoclonal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methylprednisolone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FK506	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Graft Status

Functioning  Failed  Unknown

### Most Recent Lab Information at time of Follow-up

Lab Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
 Total Bilirubin: \_\_\_\_\_ mg/dl  
 SGOT/AST: \_\_\_\_\_ IU/L  
 SGPT/ALT: \_\_\_\_\_ IU/L  
 Alkaline Phosphatase: \_\_\_\_\_ U/L  
 Serum Creatinine: \_\_\_\_\_ mg/dl

(Check Yes, No or Unknown for each Cause of Graft Failure)

Cause of Graft Failure:	Yes	No	Unknown
Primary Graft Failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vascular Thrombosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biliary Tract Complication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hepatitis: De Novo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recurrent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recurrent Disease (non-Hepatitis)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rejection: Acute	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chronic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

# LIVER TRANSPLANT RECIPIENT REGISTRATION FORM

(Please print or type all information)

For UNOS Use Only

## UNOS/PHS/HCFA

Page 1 of 2

FORM APPROVED:  
O.M.B. NO. 0915-0157  
Expiration Date: 08/31/96

### Provider Information

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
Center Name: \_\_\_\_\_  
Transplant Surgeon Name: \_\_\_\_\_  
Transplant Surgeon UPIN#: \_\_\_\_\_

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
(For this graft only)  
Donor Name: \_\_\_\_\_  
Donor Type:  Cadaveric  
 Living

### Recipient Information

Transplant Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
Name: \_\_\_\_\_  
Last First  
HIC #: \_\_\_\_\_ SS #: \_\_\_\_\_  
 Male  Female Date of Birth: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year  
Primary Liver Diagnosis at time of transplant: \_\_\_\_\_  
(Use code)  
Height: \_\_\_\_\_ or \_\_\_\_\_ Weight: \_\_\_\_\_ or \_\_\_\_\_  
Feet Inches Cm Pounds Kg

### Source of Payment

(Check Yes, No or Unknown for each Secondary Source of Payment)

Primary (Check one)	Secondary		
	Yes	No	Unknown
<input type="checkbox"/> Medicare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Medicaid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other Government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Private Insurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Self	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Donation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Free Care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other: _____ (Specify)	<input type="checkbox"/>		

### Medical Condition at Time of Transplant

(Check one)

1. Patient in Intensive Care Unit  
 2. Hospitalized but not in Intensive Care Unit  
 3. Not Hospitalized

### Functional Status at Time of Transplant

Complete for Patients not hospitalized prior to Transplant.

(Check one)

1. No activity limitations.  
 2. Performs activities of daily living with assistance.  
 3. Unable to perform activities of daily living without total assistance.

Patient on Life Support?  Yes  No

### Employment Status at Time of Transplant

(Check one)

Working Full Time  
 Working Part Time By Choice  
 Working Part Time Due to Disease  
 Working Part Time, Reason Unknown  
 Not Working By Choice  
 Not Working Due to Disease  
 Not Working, Unable to Find Employment  
 Not Working, Reason Unknown  
 Retired  
 Employment Status Unknown

(Working = Employed, Home, School)

### Multiple Organ Recipient

Did patient receive any other organ transplant at this time?  Yes  No

If Yes, check all organs that apply:

Kidney  Pancreas  Pancreas Islets  
 Heart  Lung  Bone Marrow  
 Small Intestine  Large Intestine  
 Other: \_\_\_\_\_

### Most Recent Pre-Transplant Serum Lab Data

Total Bilirubin: \_\_\_\_\_ mg/dl  
Prothrombin Time/Control: \_\_\_\_\_ / \_\_\_\_\_ seconds  
Albumin: \_\_\_\_\_ g/dl  
Serum Creatinine: \_\_\_\_\_ mg/dl

# LIVER TRANSPLANT RECIPIENT REGISTRATION FORM

(Please print or type all information)

For UNOS Use Only

## UNOS/PHS/HCFA

Page 2 of 2

Recipient Name: \_\_\_\_\_ SS #: \_\_\_\_\_ Donor ID #: \_\_\_\_\_

### Pretransplant Serology

P=Positive, N=Negative, U=Unknown,  
ND=Not Done, I=Indeterminate, C=Cannot Disclose

(Circle appropriate letter code for each test)

TEST	RESULT
HIV - Screening	P N U ND I C
- Confirmation	P N U ND I C
CMV	P N U ND I
Hepatitis B - Core Antibody	P N U ND I
- Surface Antigen	P N U ND I
- Surface Antibody	P N U ND I
- e Antigen	P N U ND I
- e Antibody	P N U ND I
Hepatitis C - Std Antibody Screen	P N U ND I
- RIBA Test	P N U ND I
Hepatitis D	P N U ND I

### Preservation Information

Removed from Cold Storage:

Date: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_ Time: \_\_\_\_\_:\_\_\_\_\_  AM  PM  
Month Day Year

Reperused with Warm Blood:

Date: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_ Time: \_\_\_\_\_:\_\_\_\_\_  AM  PM  
Month Day Year

OR

Total Warm Ischemic Time: \_\_\_\_\_ minutes

Total Cold Ischemic Time: \_\_\_\_\_ hours

### Procedure Type

### Organ Type

### Risk Factors at Time of Transplant

(Check one)

- Orthotopic  
 Heterotopic

Cluster?

Yes  No

(If Yes, check one)

- Cluster with Intestines  
 Cluster with Pancreas  
 Cluster with Intestines and Pancreas

(Check one type/subtype)

- Whole Organ  
 Reduced Liver  
 Right  
 Left  
 Lateral Segment  
 Split Liver  
 Right  
 Lateral Segment

(Check Yes, No or Unknown for each Risk Factor)

	Yes	No	Unknown
Grade III or IV Encephalopathy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creatinine $\geq$ 2.0 mg/dl	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uncontrollable Variceal Bleeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marked Wasting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ascites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On Ventilator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incidental Tumor found at time of Transplant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Previous Upper Abdominal Surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spontaneous Bacterial Peritonitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inotropes for Blood Pressure Support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prothrombin Time $\geq$ 25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dialysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Previous Primary Non-function Post-transplant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
(Please Print or Type) Month Day Year

Mail directly to Liver Transplant Registry, 127 Parran Hall 130 DeSoto Street, Pittsburgh, PA 15261.

# PANCREAS TRANSPLANT RECIPIENT FOLLOW-UP FORM

For UNOS Use Only

(Please print or type all information)

UNOS/PHS/HCFA

FORM APPROVED:  
O.M.B. NO. 0915-0157  
Expiration Date: 08/17/94

Data on this form pertain only to this period

Page 1 of 2

## Provider Information

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_

Transplant Center Name: \_\_\_\_\_

Follow-up Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_

Follow-up Center Name: \_\_\_\_\_

Transplant Physician Name: \_\_\_\_\_

Transplant Physician UPIN #: \_\_\_\_\_

## Recipient Information

Transplant Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year

Name: \_\_\_\_\_  
Last First

HIC #: \_\_\_\_\_

SSN #: \_\_\_\_\_

Male  Female Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year

## Patient Status

(Check one)

Living:

Date Patient last seen: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year

Dead:

Date of Death: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year

Cause of Death: (Use code) \_\_\_\_\_

Patient died with Functioning Pancreas Graft

Yes  No  Unknown

Lost to Follow-up:

Date last seen: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year

Patient transferred to new provider?  Yes  No

If Yes, New Provider Number: \_\_\_\_\_

New Provider Name: \_\_\_\_\_

## Most Recent Serology since Last Follow-up

P=Positive, N=Negative, U=Unknown,  
ND=Not Done, I=Indeterminate, C=Cannot Disclose  
(Circle appropriate letter code for each test)

TEST	RESULTS
HIV - Screening	P N U ND I C
- Confirmation	P N U ND I C
CMV	P N U ND I
Hepatitis B - Core Antibody	P N U ND I
- Surface Antigen	P N U ND I
Hepatitis C - Antibody Screen	P N U ND I
- RIBA Test	P N U ND I

## Donor Information

UNOS Donor ID #: \_\_\_\_\_  
(For this graft only)

Donor Name: \_\_\_\_\_

Donor Type:  Cadaveric  Living

## Follow-up

6-Month  Graft Failure

Year \_\_\_\_\_  Death  
Number

## Clinical Information at Time of Follow-up

Height: \_\_\_\_ or \_\_\_\_ (Only if 18yrs or Younger)  
Feet Inches Cm

Weight: \_\_\_\_ or \_\_\_\_  
Pounds Kg

Urinary Amylase: \_\_\_\_ u/L \_\_\_\_ u/H

Serum Creatinine: \_\_\_\_ mg/dl

Glycosylated Hemoglobin: A1 \_\_\_\_ %, A1C \_\_\_\_ %

## Employment Status at Time of Follow-up

(Check one)

- Working Full Time
- Working Part Time By Choice
- Working Part Time Due to Disease
- Working Part Time, Reason Unknown
- Not Working By Choice
- Not Working Due to Disease
- Not Working, Unable to Find Employment
- Not Working, Reason Unknown
- Retired
- Employment Status Unknown

(Working = Employed, Home, School)

## Hospitalization Since Last Follow-up

Transplant related hospitalization since last Follow-up?

Yes  No  Unknown

If Yes, Was Patient in Intensive care?

Yes  No  Unknown

## Functional Status at Time of Follow-up

(Check one)

- 1. No activity limitations
- 2. Performs activities of daily living with assistance
- 3. Unable to perform activities of daily living without total assistance
- 4. Unknown
- 5. Hospitalized at time of follow-up

# PANCREAS TRANSPLANT RECIPIENT FOLLOW-UP FORM

(Please print or type all information)

## UNOS/PHS/HCFA

Page 2 of 2

For UNOS Use Only

Information on this form pertain only to this period.

Recipient Name: \_\_\_\_\_ SS #: \_\_\_\_\_ Donor ID#: \_\_\_\_\_

### Immunosuppression

(Indicate Maintenance, Anti-Rejection or None Given for each Medication)

	Maint	Anti-Rejectn	None Givn
Cyclosporine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Azathioprine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corticosteroids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FK506	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALG/ATG/ATS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OKT3/Monoclonal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Rejection Information

Patient treated for rejection?  Yes  No  Unknown

If Yes, # of episodes: Kidney \_\_\_\_\_

Pancreas \_\_\_\_\_

### Pancreas Transplant Complications Since Last Follow-up

(Not leading to Graft Failure)

(Check Yes, No or Unknown for each Complication)

	Yes	No	Unknown
Pancreatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anastomotic Leak	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Abscess or Local Infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Kidney Transplant Information

Simultaneous Kidney Transplant?  Yes  No

If Yes, Kidney Transplant functioning?

Yes  No  Unknown

If No, Date of Kidney Graft Failure: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mon Day Year

Kidney Transplant after Pancreas Transplant?

Yes  No  Unknown

If Yes, Transplant Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mon Day Year

Donor Type:  CAD

Living Related

Living Unrelated

UNOS Donor ID #: \_\_\_\_\_

### Pancreas Graft Status

(Check one)

Pancreas Full Function (Insulin Independent)

Pancreas Partial Function

Date Insulin Resumed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mon Day Year

Average Daily insulin used \_\_\_\_\_ units

Pancreas Non-Functional:

Date of total Failure: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mon Day Year

Average Daily insulin used \_\_\_\_\_ units

Pancreas graft removed:  Yes  No  Unknown

If Yes, Date removed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mon Day Year

Graft Status Unknown

### Cause of Pancreas Graft Failure

(Check Yes, No or Unknown for each Contributory cause of Graft Failure)

Primary

(Check one)

Graft/Vascular Thrombosis

Infection

Bleeding

Anastomotic Leak

Primary Non-function

Acute Rejection

Chronic Rejection

Biopsy Proven Isletitis

Pancreatitis

Other: \_\_\_\_\_

Contributory

Yes No Unknown

Was Conversion from Bladder to Enteric Drainage Performed?  Yes  No  Unknown

If Yes, Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mon Day Year

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mon Day Year

Phone Number: (\_\_\_\_) \_\_\_\_\_

Fax Number: (\_\_\_\_) \_\_\_\_\_

Mail directly to:

UNOS Pancreas Transplant Registry,

P.O. Box 13770

Richmond, Virginia 23225-8770





# PANCREAS TRANSPLANT RECIPIENT REGISTRATION FORM

(Please print or type all information)

UNOS/PHS/HCFA

Page 2 of 3

For UNOS Use Only

Recipient Name: \_\_\_\_\_ SS #: \_\_\_\_\_ Donor ID #: \_\_\_\_\_

## Pretransplant Clinical Information

Height: \_\_\_\_\_ or \_\_\_\_\_ Weight: \_\_\_\_\_ or \_\_\_\_\_  
Feet Inches Cm Pounds Kg

Patient on dialysis Pre-Transplant?  Yes  No

If Yes, Type of Dialysis:  Hemodialysis  
 Peritoneal Dialysis

If No, Serum Creatinine at time of transplant: \_\_\_\_\_ mg/dl

Patient received previous Kidney transplant?  Yes  No

Patient received previous Pancreas transplant?  Yes  No

## Surgical Information

Graft Placement: (Check one)

- Intra-Peritoneal
- Retro-Peritoneal
- Partial Intra/Retro-Peritoneal

Operative Technique: (Check one)

- Segmental
- Whole Pancreas with Duodenum
- Whole Pancreas with Duodenal Patch

Duct Management: (Check one)

- Enteric with Roux-en-y
- Enteric without Roux-en-y
- Cystostomy
- Duct Injection:
  - Immediate
  - Delayed
- Other: \_\_\_\_\_  
(Specify)

Venous Vascular Management: (Check one)

- Systemic System (Iliac, Cava)
- Portal System (Portal or tributaries)

Arterial Reconstruction: (Check one)

- Celiac Axis with Pancreas
- Y-Graft to SpA & SMA
- SpA to SMA Direct
- SpA to SMA with Interposition
- Other: \_\_\_\_\_  
(Specify)

Venous Extention Graft?  Yes  No

## Preservation Information

Total Pancreas Preservation Time:  
 \_\_\_\_\_ hours

## Pancreas Transplant Complications (not leading to graft failure)

(Check Yes, No or Unknown for each Complication)

	Yes	No	Unknown
Pancreatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anastomotic Leak	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Abscess or Local Infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>		

## Immunosuppression

(Indicate Induction, Anti-Rejection, Maintenance or None Given for each Medication)

	Induct	# Days	Maint	Anti-Rejtn	None Given
Cyclosporine	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Azathioprine	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corticosteroids	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FK506	<input type="checkbox"/>	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALG/ATG/ATS	<input type="checkbox"/>	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OKT3/Monoclonal	<input type="checkbox"/>	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	—	<input type="checkbox"/>	<input type="checkbox"/>	
_____	<input type="checkbox"/>	—	<input type="checkbox"/>	<input type="checkbox"/>	

## Rejection Information

Patient treated for rejection?  Yes  No

If Yes, number of episodes:

Kidney \_\_\_\_\_  
 Pancreas \_\_\_\_\_



# RECIPIENT HISTOCOMPATIBILITY FORM

(Please print or type all information)

## UNOS/PHS/HCFA

FDRM APPROVED:  
D.M.B. No. 0915-0157  
Expiration Date: 08/31/96

Organ Type: Kidney Pancreas Heart Lung Liver Intestine

### Provider Information

### Donor Information

Lab Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_

UNOS Donor ID: \_\_\_\_\_

Lab Name: \_\_\_\_\_

Donor Name: \_\_\_\_\_

### Recipient Information

### Transplant Center Information

Name: \_\_\_\_\_  
Last First

Provider #: \_\_\_\_\_

HIC #: \_\_\_\_\_ Date of Birth: \_\_\_\_\_  
Month Day Year

Center Code: \_\_\_\_\_

SS #: \_\_\_\_\_

Center Name: \_\_\_\_\_

### Test Information

### Form Codes

(Use in Completing Sections I - IV)

- Was HLA typing done? Yes No  
If Yes, complete Section I.
- Was PRA testing done? Yes No  
If Yes, complete Section II.
- Was Crossmatch done? Yes No  
If Yes, complete Section III.
- Was Donor Retyped at your center? Yes No  
If Yes, complete Section IV.

Cell Type	Target Cell Source	Techniques	Crossmatch Results
1=T-Cells	1=Peripheral Blood	1=NIH/extended	P=Positive
2=B-Cells	Lymphocytes	2=Wash	N=Negative
3=Unseparated	2=Lymph Nodes	3=Anti-Glob	W=Weak Positive
4=Other, Specify	3=Spleen	4=Flow	I=Indeterminate
	4=Multiple	5=DNA	
		6=Other, Specify	

### Section I - Recipient HLA Typing

Date typed: \_\_\_\_\_  
Month Day Year

A	A	B	B	Bw4	Bw6	Cw	Cw
DR	DR	DR51	DR52	DR53	DQ	DQ	DPw

### Section II - Panel Reactive Antibody (%PRA) (Use Form Codes to Complete Boxes)

Most Recent Serum Date: \_\_\_\_\_  
Month Day Year

Peak Serum Date: \_\_\_\_\_  
Month Day Year

Cell Type	Target Cell Source	Technique	PRA(%)

Cell Type	Target Cell Source	Technique	PRA(%)

### Section III - Crossmatch (Use Form Codes to Complete Boxes)

#### A. Most Recent

Serum Date: \_\_\_\_\_  
Month Day Year

Cell Type	Target Cell Source	Technique	Result

- Was auto crossmatch positive? Yes No Not Done
- Was IgM removed/inactivated to obtain negative crossmatch? Yes No Unknown

#### B. Was there a Positive Crossmatch with any other sera by any method? Yes No If Yes, give most recent positive Serum Date: \_\_\_\_\_

Month Day Year

Cell Type	Target Cell Source	Technique	Result

- Was auto crossmatch positive? Yes No Not Done
- Was IgM removed/inactivated to obtain negative crossmatch? Yes No Unknown

### Section IV - Donor Retyping

Date of Donor retyping: \_\_\_\_\_

Month Day Year

A	A	B	B	Bw4	Bw6	Cw	Cw
DR	DR	DR51	DR52	DR53	DQ	DQ	DPw

Target Cell Source (Use code)

Person Completing Form: \_\_\_\_\_

(Please Print or Type)

Date Completed: \_\_\_\_\_

Month Day Year

Mail directly to UNOS OPTN Registry, P.O. Box 13770, Richmond, VA 23225-8770

# TRANSPLANT CANDIDATE REGISTRATION FORM

(Please print or type all information)

## UNOS/PHS/HCFA

FORM APPROVED:  
O.M.B. NO. 0915-0157  
Expiration Date: 08/31/96

For UNOS Use Only

Submitting this paper form does not add your patient to the waiting list.

Page 1 of 2

### Provider Information

Transplant Center Provider #: \_\_\_\_\_

Center Name: \_\_\_\_\_

UNOS Center Code: \_\_\_\_\_

### Organ Information

- |  |                                   |
|--|-----------------------------------|
| <input type="checkbox"/> Kidney          | <input type="checkbox"/> Liver    |
| <input type="checkbox"/> Intestine       | <input type="checkbox"/> Pancreas |
| <input type="checkbox"/> Pancreas Islets |                                   |
| <input type="checkbox"/> Heart           | <input type="checkbox"/> Lung     |

### Candidate Information

Date Patient Placed on List: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

Name: \_\_\_\_\_  
Last First MI Previous Surname (if known)

HIC #: \_\_\_\_\_ SS #: \_\_\_\_\_

Date of Birth: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ State of Residency: \_\_\_\_\_ ZIP Code of permanent residence: \_\_\_\_\_  
Month Day Year

Gender:  Male  Female

### Clinical Information

Weight: \_\_\_\_\_ or \_\_\_\_\_  
Pounds Kg

Height: \_\_\_\_\_ or \_\_\_\_\_  
Feet Inches Cm

ABO Blood Group: \_\_\_\_\_ Rh \_\_\_\_\_

Primary Diagnosis/Indication at time  
of Listing: (Use codes)  
(For Kidney/Pancreas candidates  
provide codes for each)

Kidney: \_\_\_\_\_ Heart: \_\_\_\_\_

Pancreas: \_\_\_\_\_ Lung: \_\_\_\_\_

Liver: \_\_\_\_\_ Heart-Lung: \_\_\_\_\_

(primary)

Intestine: \_\_\_\_\_

(secondary)

(secondary)

If other, specify: \_\_\_\_\_

### Previous Transplants

Has the patient had a previous transplant?  
 Yes  No

If Yes,  
give number of Previous Transplants for  
each organ type and latest Transplant  
Date if known:

	Number	Month	Year
Kidney	_____	____/____	____
Liver	_____	____/____	____
Pancreas (whole)	_____	____/____	____
Pancreas (islet cells)	_____	____/____	____
Heart	_____	____/____	____
Lung	_____	____/____	____
Intestine	_____	____/____	____
Bone Marrow	_____	____/____	____

### Citizenship

- (Check one)
- U.S. Citizen
  - Resident Alien
  - Non-Resident Alien
- If Non-Resident Alien, indicate  
candidate's home country: \_\_\_\_\_

### Ethnicity

- (Check one)
- Hispanic: Mexican
  - Hispanic: Other
  - Non-Hispanic

### Highest Education Level

- (Check one)
- None
  - Grade School (0-8)
  - High School (9-12)
  - Attended College/Technical  
School
  - Associate/Bachelor Degree
  - Post-College Graduate Degree
  - Unknown

### Medical Condition at Time of Listing

- (Check one)
- 1. Patient in Intensive Care Unit
  - 2. Hospitalized but not in Intensive Care Unit
  - 3. Not hospitalized

Patient on Life Support (Provide for all patients regardless of medical status)  Yes  No  
(If Yes, check all that apply)

- |  |                                     |                              |                               |                              |                               |
|--|-------------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| <input type="checkbox"/> IV Inotropes              | <input type="checkbox"/> Ventilator | <input type="checkbox"/> VAD | <input type="checkbox"/> IABP | <input type="checkbox"/> PGE | <input type="checkbox"/> ECMO |
| <input type="checkbox"/> Other: _____<br>(Specify) |                                     |                              |                               |                              |                               |

### Race

- (Check one)
- White
  - Black
  - American Indian/Alaskan Native
  - Asian
  - Pacific Islander
  - Mid-East/Arabian
  - Indian Sub-Continent

### Projected Source of Payment

(Check Yes, No or Unknown for each  
Secondary Source of Payment)

Primary (Check one)	Secondary		
	Yes	No	Unk.
<input type="checkbox"/> Medicare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Medicaid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other Government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Private Insurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Self	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Donation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Free Care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# TRANSPLANT CANDIDATE REGISTRATION FORM

(Please print or type all information)

## UNOS/PHS/HCFA

Page 2 of 2

Patient Name: \_\_\_\_\_

UNOS Use Only

### Functional Status at Time of Listing

Complete for patients not hospitalized at time of listing:  
(Check one)

- 1. No activity limitations
- 2. Performs activities of daily living with assistance
- 3. Unable to perform activities of daily living without total assistance
- 4. Unknown

### Employment Status at Time of Listing

(Check one)

- Working Full Time
- Working Part Time By Choice
- Working Part Time Due to Disease
- Working Part Time, Reason Unknown
- Not Working By Choice
- Not Working Due to Disease
- Not Working, Unable to Find Employment
- Not Working, Reason Unknown
- Retired
- Employment Status Unknown  
(Working = Employed, Home, School)

### General Medical Factors

Check Yes, No or Unknown for each Medical Factor)

Factor	Yes	No	Unk
1. Diabetes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Yes, Insulin dependent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Angina/Coronary Artery Disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Yes, Unstable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Drug Treated Systemic Hypertension	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Symptomatic Cerebrovascular Disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Symptomatic Peripheral Vascular Disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Drug Treated COPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Peptic Ulcer Disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Yes, presently drug treated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Dialysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If yes, type of dialysis:			
Hemodialysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Peritoneal dialysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Most recent creatinine > 2.0 mg/dl	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0. Pulmonary Embolism (Within last 6 months)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Any Previous Transfusions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Any Previous Malignancy (Exclude non-melanoma skin cancer)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. PRA > 10% (With DTT or DTE Testing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Cachexia (marked wasting)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Organ Specific Risk Factors

Kidney and/or Pancreas: (Complete only for candidates listed for Kidney alone, Pancreas alone or Kidney/Pancreas combination)

Age of Diabetes onset: \_\_\_\_\_

Liver: (Complete only for Liver candidates)

- |  | Yes                      | No                       | Unknown                  |
|--|--------------------------|--------------------------|--------------------------|
| 1. Encephalopathy                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Variceal Bleeding within last two weeks | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Ascites                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Previous upper Abdominal surgery        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Spontaneous Bacterial Peritonitis       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Heart: (Complete only for Heart or Heart/Lung candidates)

- |                              | Yes                      | No                       | Unknown                  |
|------------------------------|--------------------------|--------------------------|--------------------------|
| 1. Sudden Death              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Antiarrhythmics           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Amiodarone                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Implantable Defibrillator | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Heart and Lung:

Complete for all Thoracic candidates: Heart only, Lung only or Heart/Lung)

Most recent Hemodynamics:

	Baseline	Best
PA(sys)	_____ mm/Hg	_____ mm/Hg
PA(dia)	_____ mm/Hg	_____ mm/Hg
PA(mean)	_____ mm/Hg	_____ mm/Hg
PCW(mean)	_____ mm/Hg	_____ mm/Hg
CO	_____ L/min	_____ L/min

- |   | Yes                      | No                       | Unk                      |
|---|--------------------------|--------------------------|--------------------------|
| 1. History of cigarette use > 20 Pack Years           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Any continued cigarette use (Within last 6 months) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Lung: (Complete only for Lung or Heart/Lung candidates)

1. Pulmonary Status (give most recent value)
  - FVC \_\_\_\_\_ %
  - FeV1 \_\_\_\_\_ %
  - pCO2 \_\_\_\_\_ mm/Hg
2. O<sub>2</sub> requirement at rest: \_\_\_\_\_ L/min
3. IV Treated Pulmonary Sepsis Episodes ≥ 2 in last 12 months
 

	Yes	No	Unk
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Corticosteroid Dependency ≥ 5mg/day
 

	Yes	No	Unk
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Six minute walk distance < 150 ft.
 

	Yes	No	Unk
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Pan-Resistant Bacterial Infection
 

	Yes	No	Unk
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Intestine: (Complete only for Intestinal candidates)

- |                              | Yes                      | No                       | Unknown                  |
|------------------------------|--------------------------|--------------------------|--------------------------|
| 1. Exhausted Vascular Access | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Liver Dysfunction         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Neoplasm                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
(Please Print or Type) Month Day Year

# THORACIC ORGAN RECIPIENT FOLLOW-UP FORM

(Please print or type all information)

## UNOS/PHS/HCFA

FORM APPROVED:  
O.M.B. NO. D915-D157  
Expiration Date: 08/31/94

Data on this form pertain only to this period

### Provider Information

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
 Transplant Center Name: \_\_\_\_\_  
 Follow-up Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
 Follow-up Center Name: \_\_\_\_\_  
 Transplant Physician Name: \_\_\_\_\_  
 Transplant Physician UPIN #: \_\_\_\_\_

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
 (For this graft only)  
 Donor Name: \_\_\_\_\_  
 Donor Type:  Cadaveric  
 Living

### Recipient Information

Transplant Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Date of Birth: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Retransplant:  Yes  
 Name: \_\_\_\_\_ Last \_\_\_\_\_ First \_\_\_\_\_  No  
 HIC #: \_\_\_\_\_ SS #: \_\_\_\_\_  Male  Female

### Follow-up

Year: \_\_\_\_\_ (Number)  
 Graft Failure  
 Death

### Patient Status at Time of Follow-up

(Check one)  
 Living: Date Patient last seen: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Dead: Date of death: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Cause of death: (Use code) \_\_\_\_\_  
 Lost to Follow-up: Date last seen: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Retransplanted due to graft failure:  
 Date of Retransplant: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Patient transferred to new provider?  Yes  No  
 If Yes, New Provider Number: \_\_\_\_\_  
 New Provider Name: \_\_\_\_\_

### Serology at Time of Follow-up

Test	Results	(Circle appropriate letter code for each test)
HIV Screening	P N U N D I C	P=Positive, N=Negative, U=Unknown, ND=Not Done, I=Indeterminate C=Cannot Disclose
HIV Confirmation	P N U N D I C	
CMV	P N U N D I	
Hepatitis B Core Antibody	P N U N D I	
Hepatitis B Surface Antigen	P N U N D I	
Hepatitis C Antibody Screen	P N U N D I	
RIBA Test	P N U N D I	

### Functional Status at Time of Follow-up

(Check one)  
 1. No activity limitations  
 2. Performs activities of daily living with assistance  
 3. Unable to perform activities of daily living without total assistance  
 4. Unknown  
 5. Patient Hospitalized at time of follow-up

### Hospitalization Since Last Follow-up

Transplant related hospitalization since last Follow-up?  
 Yes  No  Unknown  
 If Yes, Was Patient in Intensive Care?  Yes  No  Unk.

### Immunosuppression

(Indicate Maintenance, Anti-Rejection or None Given for each Medication)

	Maint.	Anti-Rejtn	None Given
Cyclosporine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Azathioprine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prednisone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OKT3/Monoclonal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methylprednisolone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FK506	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Employment Status at Time of Follow-up

(Check one)  
 Working Full time  
 Working Part Time By Choice  
 Working Part Time Due to Disease  
 Working Part Time, Reason Unknown  
 Not Working By Choice  
 Not Working Due to Disease  
 Not Working, Unable to Find Employment  
 Not Working, Reason Unknown  
 Retired  
 Employment Status Unknown  
 (Working = Employed, Home, School)

### Clinical Information at Time of Follow-up

Weight: \_\_\_\_\_ or \_\_\_\_\_  
 Pounds Kilograms  
 Height (Patients under 18 years only): \_\_\_\_\_ OF \_\_\_\_\_  
 Feet Inches Cm  
 Graft Function: (Complete Both sections for Heart-Lung Recipients)  
 Heart: Ejection Fraction: \_\_\_\_\_ %  
 Pacemaker?  Yes  No  Unknown  
 Coronary Artery Disease?  Yes  No  Unk  
 If Yes, Clinically significant events?  Yes  No  
 Lung: FeV: \_\_\_\_\_ %  Unknown  
 O<sub>2</sub> Requirement at rest: \_\_\_\_\_ L/min  
 Bronchiolitis Obliterans?  Yes  No  Unknown  
 Bronchial Stricture?  Yes  No  Unknown  
 If Yes, Stent?  Yes  No  Unknown

### Post-Transplant Events Since Last Follow-up

(Check Yes, No or Unknown for each Post-Transplant Event)

	Yes	No	Unk
Hospitalized for Rejection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hospitalized for Infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drug Treated Hypertension	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bone Disease (Symptomatic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chronic Liver Disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cataracts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diabetes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Yes, Insulin Dependent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Renal Dysfunction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Yes, Creatinine > 2.5 mg/dl	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chronic Dialysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Renal Transplant since Thoracic Transplant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Malignancy:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Yes, Lymphoproliferative or Lymphoma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stroke (Specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drug Treated Hyperlipidemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Month Day Year

# THORACIC ORGAN RECIPIENT REGISTRATION FORM

(Please print or type all information)

## UNOS/PHS/HCFA

Page 1 of 2

FORM APPROVED:  
D.M.B. NO. D915-D157  
Expiration Date: 08/31/96

For UNOS Use Only

### Provider Information

Transplant Center Provider #: \_\_\_\_\_ Center Code: \_\_\_\_\_  
 Transplant Center Name: \_\_\_\_\_  
 Transplant Surgeon Name: \_\_\_\_\_  
 Transplant Surgeon UPIN#: \_\_\_\_\_  
 Transplant Physician Name: \_\_\_\_\_  
 Transplant Physician UPIN#: \_\_\_\_\_

### Donor Information

UNOS Donor ID #: \_\_\_\_\_  
 (For this graft only)  
 Donor Name: \_\_\_\_\_  
 Donor Type:  Cadaveric  
 Living

### Recipient Information

Transplant Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year  
 Name: \_\_\_\_\_  
Last First  
 HIC #: \_\_\_\_\_ SS #: \_\_\_\_\_  
 Male  Female Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year  
 Primary Thoracic Diagnosis at time of transplant: \_\_\_\_\_  
(Use code)

### Source of Payment

Projected Source of Payment:  
 Primary: \_\_\_\_\_  
 Secondary: \_\_\_\_\_

Has Projected Source of Payment changed since time of listing?  Yes  No  Unknown  
 If Yes, indicate changes below:

(Check Yes, No or Unknown for each Secondary Source of Payment)

### Patient Status

Living: Date of Hospital Discharge/Report: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year  
 Dead: Date of Death: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year  
 Cause of Death: (Use Code) \_\_\_\_\_  
 Retransplanted due to Graft Failure:  
 Date of Retransplant: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Month Day Year  
 Cause:  Hyperacute Rejection  Acute Rejection  Other

#### Primary

(Check one)

- Medicare
- Medicaid
- Other Government
- Private Insurance
- Self
- Donation
- Free Care
- Other: \_\_\_\_\_

(Specify)

#### Secondary

Yes No Unk

- |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

### Medical Condition at Time of Transplant

(Check one)

- 1. Patient in Intensive Care Unit
- 2. Hospitalized but not in Intensive Care Unit
- 3. Not hospitalized

### Multiple Organ Recipient

Did patient receive any other organ transplant at this time?  Yes  No

If Yes, check all organs that apply:

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Liver     | <input type="checkbox"/> Pancreas        |
| <input type="checkbox"/> Kidney    | <input type="checkbox"/> Pancreas Islets |
| <input type="checkbox"/> Intestine | <input type="checkbox"/> Bone Marrow     |

### Functional Status at Time of Transplant

Complete for patients not hospitalized prior to transplant.

(Check one)

- 1. No activity limitations.
- 2. Performs activities of daily living with assistance.
- 3. Unable to perform activities of daily living without total assistance.
- 4. Unknown

### Pre-Transplant Serology

P=Positive, N=Negative, U=Unknown, ND=Not Done, I=Indeterminate, C=Cannot Disclose

Circle appropriate letter code for each test

	TEST	RESULTS
HIV	- Screening	P N U ND I C
	- Confirmation	P N U ND I C
CMV		P N U ND I
Hepatitis B	- Core Antibody	P N U ND I
	- Surface Antigen	P N U ND I
Hepatitis C	- Antibody Screen	P N U ND I
	- RIBA Test	P N U ND I

### Employment Status at Time of Transplant

(Check one)

- Working Full Time
- Working Part Time By Choice
- Working Part Time Due to Disease
- Working Part Time, Reason Unknown
- Not Working By Choice
- Not Working Due to Disease
- Not Working, Unable to Find Employment
- Not Working, Reason Unknown
- Retired
- Employment Status Unknown

(Working = Employed, Home, School)

(Complete at time of discharge or six weeks after transplant; whichever is first)

# THORACIC ORGAN RECIPIENT REGISTRATION FORM

For UNOS Use Only

(Please print or type all information)

## UNOS/PHS/HCFA

Page 2 of 2

Recipient Name \_\_\_\_\_ SS #: \_\_\_\_\_ Donor ID: \_\_\_\_\_

### Events Occurring Between Listing and Transplant

(Check Yes, No or Unknown for each Event)

	Yes	No	Unknown
Transfusions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pneumothorax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pulmonary Embolism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Infection requiring IV Drug therapy			
within two weeks prior to transplant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cerebrovascular Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dialysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Immediate Pre-Transplant Clinical Information

Weight (at time of transplant): \_\_\_\_\_ or \_\_\_\_\_  
Pounds Kg

Height (at time of transplant): \_\_\_\_\_ or \_\_\_\_\_  
Feet Inches Cm

Most recent Serum Creatinine: \_\_\_\_\_ mg/dl

Most recent Serum Total Bilirubin: \_\_\_\_\_ mg/dl

Prior Thoracic Surgery?  Yes  No  Unknown  
 If Yes, prior Sternotomy?  Yes  No  Unknown  
 If Yes, Number: \_\_\_\_\_  
 If Yes, prior Ipsilateral Thoracotomy?  Yes  No  Unknown  
 If Yes, Number: \_\_\_\_\_

Oxygen requirement at rest: \_\_\_\_\_ L/min  
(Lung and Heart-Lung only)

Chronic Steroid Use?  Yes  No  Unknown

Most recent Hemodynamics

	Baseline		Best
PA(sys)	_____ mm/Hg	_____ mm/Hg	_____ mm/Hg
PA(dia)	_____ mm/Hg	_____ mm/Hg	_____ mm/Hg
PA(mean)	_____ mm/Hg	_____ mm/Hg	_____ mm/Hg
PCW(mean)	_____ mm/Hg	_____ mm/Hg	_____ mm/Hg
CO	_____ L/min	_____ L/min	_____ L/min

Pulmonary Status (Complete for Lung recipients only)

FVC \_\_\_\_\_ %  
 FeV1 \_\_\_\_\_ %  
 pCO2 \_\_\_\_\_ mm/Hg

Number previous pregnancies (Check One):  
 0  1  2  3  4  5  >5  Unknown

### Procedure Information

(Check one type and subtype)

- |   |  |
|---|--|
| <input type="checkbox"/> Heart<br><input type="checkbox"/> Orthotopic<br><input type="checkbox"/> Heterotopic<br><input type="checkbox"/> Heart-Lung<br><input type="checkbox"/> Lung<br><input type="checkbox"/> Single Left<br><input type="checkbox"/> Single Right<br><input type="checkbox"/> Bilateral Sequential<br><input type="checkbox"/> En-Bloc Double<br><input type="checkbox"/> Lobe: _____<br><small style="margin-left: 100px;">(Specify Lobe)</small> | Was this a<br>Retransplant<br>due to failure<br>of a previous<br>Thoracic graft?<br><input type="checkbox"/> Yes <input type="checkbox"/> No |
|---|--|

Total Organ Ischemic Time:

Heart, Heart-Lung \_\_\_\_\_ minutes  
 Lung \_\_\_\_\_ minutes  
 Second Lung \_\_\_\_\_ minutes

### Induction/Maintenance Immunosuppression

(Indicate Induction/Maintenance, Anti-Rejection or None Given for each Medication)

	Induct	Maint	Anti-Rejectn	Non Give
Cyclosporine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Azathioprine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prednisone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OKT3/Monoclonal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methylprednisolone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FK-506	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Post-Transplant Hospital Events

(Check Yes, No or Unknown for each Hospital Event)

	Yes	No	Unknown
Any Drug Treated Rejection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any Drug Treated Infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stroke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dialysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cardiac Re-Operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Surgical Procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prolonged Graft Dysfunction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Permanent Pacemaker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bronchopleural Fistula	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airway Dehiscence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Person Completing Form: \_\_\_\_\_ Date Completed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
(Please Print or Type) Month Day Year



**Appendix H**  
**UNOS Data Quality**



## APPENDIX H

### UNOS Data Quality

Since 1991, UNOS Compliance Auditors have performed on-site reviews of member organ procurement organizations, transplant centers, and histocompatibility laboratories to review the validity, accuracy, and completeness of the OPTN and Scientific Registry databases. The Compliance Auditors compare a sample of validated data forms to patient medical records to ensure the validity of data submitted by the member. Form type includes transplant candidate registration, donor and recipient histocompatibility, cadaver donor registration, transplant recipient registration, and transplant recipient follow-up.

The selection criteria of data respondents includes a judgemental selection of member institutions with a high volume of organ allocation and transplantation activity, members noncompliant with UNOS data submission policies, and members who submit inaccurate data. Noncompliance includes delinquent submission of data forms and the submission of incomplete forms. UNOS Compliance Auditors use random sampling in the selection of forms for verification of data accuracy and completeness.

UNOS Compliance Auditors follow uniform audit procedures during each member visit. The auditors compare all relevant data fields for each form to the available patient medical record. Differences are recorded and resolved with member personnel and, where indicated, corrected in the UNOS database.

The auditors review data forms that have been completed and validated by the members. As a result of the implementation of the new UNOS data system effective April 1, 1994, the review findings have been separated into distinct tables. Table H-1 provides a summary of the onsite review of forms created prior to April 1994. Table H-2 provides a summary of the onsite review of forms created after March 1994. Table H-3 lists a total for each form type reviewed, as well as the number of fields with errors for that form type, for forms created after March 1994.

These on-site reviews assist in the assessment of the accuracy of data maintained by UNOS. For the forms created prior to April 1, 1994, 3,520 data forms with a total of 170,656 data fields were reviewed. Of the total fields, .5% (774 fields) were the result of submission of inaccurate data by the member. For the forms created after March 1994, 375 data forms with a total of 45,210 data fields were reviewed. Of the total fields, .4% (161 fields) were confirmed by the member as errors resulting in inaccurate data submission. Based on the forms reviewed, the low error rate results from (1) members submitting accurate data, and (2) the data validation efforts implemented by the Clinical Data Systems and Research Departments, which have been instrumental in maintaining the validity, accuracy, and completeness of the OPTN and Scientific Registry Databases.

**Table H-1**  
**Summary of Data Verification Activities by Center -- 1991 to 1995\***

Center	Form Type	Date of Audit	Total Forms Reviewed	Total Fields Per Form	Total Fields Reviewed	Fields with Errors	
						#	%
A	TCR Ki	July 1992	14	31	403	0	0.0
	TRR Li		9	25	225	0	0.0
	TRH Li		14	22	220	0	0.0
	TRH Ki		8	22	176	0	0.0
	TRFU Ki		8	25	200	0	0.0
B	TCR	July 1992	8	31	248	0	0.0
C	DR	July 1992	30	118	3,540	5	0.1
	DH		14	19	266	1	0.0
D	TCR Li	June 1993	6	31	163	0	0.0
	TRR Li		6	25	150	0	0.0
	TRFU Li		8	30	90	0	0.0
	TCR Ki		14	31	310	0	0.0
	TRR Ki		9	28	252	0	0.0
	TRFU Ki		14	25	275	0	0.0
	TCR Pa		6	31	163	0	0.0
	TRR Pa		4	41	164	0	0.0
	TRFU Pa		8	30	102	0	0.0
	TCR Lu		8	30	240	0	0.0
	TRH Lu		8	22	176	0	0.0
	TRR Lu		8	24	192	0	0.0
	TRFU Lu		12	30	360	0	0.0
	TCR Hr		7	30	210	0	0.0
	TRH Hr		7	22	150	0	0.0
	TRR Hr		7	24	168	0	0.0
TRFU Hr	14	30	390	0	0.0		
E	DR	June 1993	24	118	2,832	20	0.7
	DH		15	19	285	0	0.0

**Table H-1**  
**Summary of Data Verification Activities by Center -- 1991 to 1995\***

Center	Form Type	Date of Audit	Total Forms Reviewed	Total Fields Per Form	Total Fields Reviewed	Fields with Errors	
						#	%
F	TCR Hr	June 1993	8	30	240	0	0.0
	TRR Hr		8	24	192	0	0.0
	TRFU Hr		9	30	270	0	0.0
	TCR Lu		15	30	450	0	0.0
	TRH Lu		10	22	330	0	0.0
	TRR Lu		10	22	360	0	0.0
	TRFU Lu		29	30	270	0	0.0
	TCR Li		8	31	248	0	0.0
	TRH Li		8	22	176	0	0.0
	TRR Li		4	25	240	0	0.0
	TRFU Li		10	30	420	0	0.0
	TCR Ki		7	31	217	0	0.0
	TRH Ki		12	22	264	0	0.0
	TRR Ki		4	22	112	0	0.0
	TRFU Ki		7	25	175	0	0.0
	G		DR	March 1993	62	118	7,316
DH		61	30		1,159	0	0.0
H	TRR Ki	May 1991	4	28	112	0	0.0
	TRR Li		4	25	100	0	0.0
	TRR Hr		1	24	24	0	0.0
	TCR		10	31	310	0	0.0
	TRH		3	22	66	0	0.0
I	DR	May 1991	29	118	2,950	0	0.0
	DH		10	19	176	1	0.0
J	DR	Feb 1992	70	118	8,260	29	0.0
	DH		28	19	532	0	0.0
K	DR	Sept 1991	26	118	3,068	1	0.0
L	TRH Ki	Sept 1991	3	22	198	0	0.0
	TRR Ki		13	22	364	0	0.0
M	TRR Li	Sept 1991	8	25	200	1	0.5
	TRFU Li		3	30	90	0	0.0

**Table H-1**  
**Summary of Data Verification Activities by Center -- 1991 to 1995\***

Center	Form Type	Date of Audit	Total Forms Reviewed	Total Fields Per Form	Total Fields Reviewed	Fields with Errors	
						#	%
R	TCR Ki	Dec 1991	8	31	248	2	0.8
O	DR	Dec 1991	22	118	2,596	3	0.1
	DH		2	19	38	0	0.0
P	TCR Li	Dec 1991	9	31	279	2	0.7
	TCR Ki		7	31	217	0	0.0
	TRR Li		9	28	225	2	0.9
	TRR Ki		3	28	84	0	0.0
	TRH		5	22	110	0	0.0
	TRFU Li		5	34	164	0	0.0
	TRFU Ki		3	25	75	1	1.3
	TCR Hr		19	34	390	0	0.0
Q	TRR Ki	Aug 1993	20	28	560	**	0.0
	TRFU Ki		31	25	775	**	0.0
	TRH Ki		17	22	374	**	0.0
	TRR Pa		9	41	164	**	0.0
	TRFU Pa		5	34	170	**	0.0
	TRR Li		6	25	164	**	0.0
	TRFU Pa		12	34	408	**	0.0
	TRH Pa		5	22	110	**	0.0
R	DH	Aug 1993	13	19	247	**	0.0
S	TRR Ki	Aug 1993	14	28	392	**	0.0
	TRFU Ki		11	25	275	**	0.0
T	TRR Ki	Aug 1993	19	28	532	**	0.0
	TRFU Ki		20	25	725	**	0.0
	TRH Ki		13	22	286	**	0.0
	TRR Pa		1	41	41	**	0.0
	TRFU Pa		1	34	34	**	0.0
U	DR	Aug 1993	72	118	8,496	52**	0.6

**Table H-1**  
**Summary of Data Verification Activities by Center -- 1991 to 1995\***

Center	Form Type	Date of Audit	Total Forms Reviewed	Total Fields Per Form	Total Fields Reviewed	Fields with Errors	
						#	%
V	DR	Apr 1994	30	118	3,540	4	0.1
	DH		22	19	418	0	0.0
W	TCR Hr	May 1994	5	30	150	0	0.0
	TRR Hr		5	24	120	0	0.0
	TRH Hr		5	22	110	0	0.0
	TRFU Hr		6	30	180	1	0.6
	TCR Ki		13	31	403	0	0.0
	TRR Ki		13	28	364	0	0.0
	TRH Ki		13	22	286	0	0.0
	TRFU Ki		24	25	600	5	0.8
	TCR Li		15	31	465	0	0.0
	TRR Li		14	22	308	0	0.0
	TRH Li		10	25	250	0	0.0
	TRFU Li		22	30	660	1	0.2
	TCR Lu		4	30	120	0	0.0
	TRR Lu		3	22	66	0	0.0
	TRH Lu		0	24	0	0	??
	TRFU Lu		3	30	90	0	0.0
	TCR Pa		5	31	155	4	2.6
	TRR Pa		5	41	205	0	0.0
TRH Pa	3	22	66	0	0.0		
TRFU Pa	8	34	272	3	1.1		
X	CDR	June 1994	161	118	18,998	40	0.2
	DH		158	19	3,002	0	0.0
Y	CDR	June 1994	96	118	11,328	12	0.1
	DH		95	19	1,805	1	0.1

**Table H-1**  
**Summary of Data Verification Activities by Center -- 1991 to 1995\***

Center	Form Type	Date of Audit	Total Forms Reviewed	Total Fields Per Form	Total Fields Reviewed	Fields with Errors	
						#	%
Z	TCR Hr	June 1994	4	30	120	0	0.0
	TRR Hr		4	24	96	0	0.0
	TRH Hr		2	22	0	0	??
	TRFU Hr		4	30	120	0	0.0
	TCR Ki		29	31	899	0	0.0
	TRR Ki		29	28	812	2	0.3
	TRH Ki		20	22	638	0	0.0
	TRFU Ki		42	25	1,050	0	0.0
	TCR Li		20	31	899	2	0.2
	TRR Li		20	22	638	2	0.0
	TRH Li		20	25	525	0	0.0
	TRFU Li		42	30	1,260	0	0.0
	TCR Pa		2	31	62	0	0.0
	TRR Pa		2	31	82	0	0.0
	TRH Pa		2	22	96	0	0.0
	TRFU Pa		3	34	102	0	1.0
AA	CDR	June 1994	143	118	16,874	77	0.5
	DH		138	19	2,622	0	0.0
BB	TCR Hr	June 1994	19	30	570	0	0.7
	TRR Hr		20	28	440	2	0.0
	TRH Hr		20	22	440	0	0.0
	TRFU Hr		36	30	1,080	0	0.4
	TCR Ki		39	31	1,260	0	0.7
	TRR Ki		30	28	1,008	10	1.0
	TRH Ki		36	22	792	0	0.0
	TRFU Ki		30	25	750	0	0.0
	TCR Li		36	31	1,116	0	0.0
	TRR Li		30	22	748	5	0.7
	TRH Li		24	25	600	0	0.0
	TRFU Li		57	30	1,710	1	0.1
	TCR Lu		4	30	120	0	0.0
	TRR Lu		2	22	44	0	0.0



**Table H-1**  
**Summary of Data Verification Activities by Center -- 1991 to 1995\***

Center	Form Type	Date of Audit	Total Forms Reviewed	Total Fields Per Form	Total Fields Reviewed	Fields with Errors	
						#	%
	TRH Lu		2	24	44	0	0.0
	TRFU Lu		4	30	95	0	1.1
	TCR Pa		1	41	31	0	0.0
	TRR Pa		1	41	41	0	0.0
	TRH Pa		1	22	22	0	0.0
	TRFU Pa		1	34	44	0	0.0
EE	CDR	Aug 1994	92	118	10,856	76	0.7
	DM		29	19	551	0	0.0
DD	TCR HR	Aug 1994	4	31	124	1	0.8
	TRR HR		4	24	96	0	0.0
	TRFU HR		5	30	150	0	5.3
	TCR KI		48	31	1,333	0	0.0
	TRR KI		40	28	1,120	0	0.5
	TRFU KI		48	28	1,200	1	0.1
EE	DH	August 1994	36	19	684	0	0.0
	RH		48	22	1,056	1	0.1
FF	DH	Aug 1994	43	19	646	3**	0.0
	RH		115	22	2,530	21**	0.0
GG	DH	Aug 1994	5	19	95	0	0.0
	RH		23	22	506	0	0.0
HH	CDR	Dec 1994	6	118	708	1	0.0
	DH		5	19	95	0	0.0
II	TCR HR	Dec 1994	4	34	261	0	0.0
	TCR KI		4	31	124	0	0.0
	TRH KI		2	22	44	0	0.0
	TCR PA		1	31	31	0	3.2
	TRH PA		1	22	22	0	0.0
	TCR LI		5	31	155	2	1.3
JJ	CDR	Jan 1995	16	118	1,888	27	1.4
	DH		37	19	703	0	0.0

**Table H-1**  
**Summary of Data Verification Activities by Center -- 1991 to 1995\***

Center	Form Type	Date of Audit	Total Forms Reviewed	Total Fields Per Form	Total Fields Reviewed	Fields with Errors	
						#	%
KK	TCR HR	Jan 1995	4	31	124	0	0.0
	TCR KI		18	31	558	0	0.5
	TCR PA		1	31	31	0	0.0
	TCR LU		2	31	62	0	0.0
	TCR LI		4	31	124	0	0.0
	TRR LI		2	25	50	0	0.0
	TRH LI		2	22	31	0	0.0
LL	CDR	Mar 1995	18	118	2,242	23	1.0
	DH		5	19	95	0	0.0
MM	TCR IN	Mar 1995	1	31	31	0	0.0
	TCR KI		13	31	310	0	0.0
	TRR KI		1	28	28	0	14.3
	TRH KI		4	22	88	0	0.0
	TCR PA		1	31	31	0	0.0
	TRR PA		1	41	60	0	0.0
	TCR LI		5	31	248	6**	2.4
	TRR LI		2	25	50	0	0.0
	TCH LI		5	22	110	0	0.0
	TRFU LI		2	30	60	1**	1.7
<b>TOTAL</b>			<b>3,520</b>	<b>----</b>	<b>170,656</b>	<b>774</b>	<b>0.5</b>

\* Using forms created prior to April 1, 1994.

\*\* Pending further review and/or awaiting confirmation by member.

**Table H-2**  
**Summary of Data Verification Activities by Center -- 1994 to 1995\***

Center	Form Type	Date of Audit	Total Forms Reviewed	Total Fields per Form	Total Fields Reviewed	Fields with Errors	
						#	%
A	CDR	Dec 1994	21	241	5,061	14	0.3
	DH		12	30	303	0	0.0
B	TCR HR	Dec 1994	3	87	261	0	0.0
	TRR HR		1	124	124	0	0.0
	TRH HR		4	79	316	0	0.0
	TCR KI		4	87	696	2	0.3
	TRR KI		21	115	2,415	24	1.0
	TRH KI		4	79	303	0	0.0
	TCR K/P		5	87	435	0	0.0
	TRR PA		7	126	882	1	0.1
	TCR LI		2	87	174	2	1.2
	TRR LI		10	77	770	1	0.1
	TRH LI		5	79	395	0	0.0
	TRFU LI		10	30	900	0	0.0
C	CDR	Jan 1995	33	241	7,953	6	0.1
	DH		4	30	120	0	0.0
D	TRR HR	Jan 1995	3	124	496	0	0.0
	TRH HR		2	79	158	0	0.0
	TCR IN		1	87	87	3	3.5
	TRR IN		1	116	116	0	0.0
	TRR KI		25	115	2,875	24	0.8
	TRH KI		9	79	711	0	0.0
	TRFU KI		4	79	711	0	0.0
	TCR PA		1	87	87	0	0.0
	TRR PA		2	126	252	0	0.0
	TRR LU		2	124	248	0	0.0
	TRH LU		2	79	158	0	0.0
	TCR LI		2	87	174	0	0.0
	TRR LI		4	87	308	0	0.0
	TRH LI		3	79	237	0	0.0
E	CDR	March 1995	34	241	8,194	46	0.6
	DH		34	30	1,020	0	0.0

**Table H-2**  
**Summary of Data Verification Activities by Center -- 1994 to 1995\***

Center	Form Type	Date of Audit	Total Forms Reviewed	Total Fields per Form	Total Fields Reviewed	Fields with Errors	
						#	%
F	TCR HR	March 1995	2	87	174	0	0.0
	TRR HR		2	124	248	0	0.0
	TRH HR		2	79	158	0	0.0
	TRR IN		1	116	116	3	2.6
	TRH IN		1	79	79	0	0.0
	TCR KI		6	87	783	0	0.0
	TRR KI		15	115	1,725	21**	1.2
	TRH KI		6	79	474	0	0.0
	TRFU KI		3	79	237	0	0.0
	TRR PA		2	126	252	1**	0.0
	TCR LI		7	87	609	5**	0.0
	TRR LI		12	87	924	6**	0.7
	TRH LI		6	79	711	0**	0.0
TRFU LI	19	90	1,710	2**	0.1		
<b>TOTAL</b>			<b>375</b>	<b>—</b>	<b>45,210</b>	<b>161</b>	<b>0.4</b>

\* Using forms created on or after April 1, 1994.

\*\* Pending further review and/or awaiting confirmation by member.

**Table H-3**  
**Summary of Data Verification Activities by Form Type -- 1994 to 1995\***

Form Type	Total Forms Reviewed	Total Fields Per Form	Total Fields Reviewed	Fields With Errors	
				#	%
CDR	88	241	21,208	66	0.3
DH	50	30	1,500	0	0.0
HR TCR	5	87	435	0	0.0
HR TRR	7	124	868	0	0.0
HR RH	8	79	632	0	0.0
IN TCR	1	87	87	3	3.4
IN REG	2	116	232	3	1.2
IN RH	1	79	79	0	0.0
KI TCR	17	87	1479	2	0.1
KI TRR	61	115	7015	69	0.9
KI RH	19	79	1501	0	0.0
KI FU	12	79	948	0	0.0
K/P TCR	5	87	435	0	0.0
LI TCR	11	87	957	7	0.7
LI TRR	26	77	2002	7	0.3
LI RH	17	79	1343	0	0.0
LI FU	29	90	2610	2	0.0
LU TRR	2	124	248	0	0.0
LU RH	2	79	158	0	0.0
PA TCR	1	87	87	0	0.0
PA TRR	11	87	1386	2	0.1
<b>TOTAL</b>	<b>375</b>	<b>-----</b>	<b>45,210</b>	<b>161</b>	<b>0.4</b>

\* Using forms created on or after April 1, 1994.



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January 1996

Dear Colleagues:

The United Network for Organ Sharing (UNOS) is pleased to send you a complimentary copy of the *1995 Annual Report of the U.S. Scientific Registry of Transplant Recipients and The Organ Procurement and Transplantation Network*. The format of the report is changed somewhat from last year. Chapters have been replaced by a single section on Data Highlights, followed by the Data Tables, and Appendices.

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