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## THE LOCAL HEALTH OFFICER IN OCCUPATIONAL HEALTH\*

Harold J. Magnuson, M. D.  
Chief, Occupational Health Program, Public Health Service,  
U. S. Department of Health, Education, and Welfare

The over-extended local health officer is likely to view with dark suspicion anyone who suggests program areas that require additional emphasis. Spreading himself and his limited staff over a broad front, he often has little time or inclination to think beyond the traditional health activities which constitute the core of his program. One of the fields frequently overlooked--which is our concern today--is that of occupational health. Paradoxically, this activity, which at first glance appears to call for additional dilution of staff activities, may be one of the most effective for multiplying the resources and opportunities of the health department in bringing services to people.

To alert the health officer to the opportunities presented by occupational health, we proposed to develop some practicable yardsticks to enable him to measure the strengths and weaknesses in his own situation. We hoped that such parameters would enable him to appraise the situation and to estimate staffing and budget requirements. Several occupational health programs operating at local levels generously participated in a project to determine the feasibility of this approach. The experiment demonstrated that local health jurisdictions can obtain certain basic information essential to the planning of occupational health activity. Because of the wide variation in reporting situations, it is impossible to present a uniform summary, but certain common parameters have emerged.

While these may serve as building blocks for local occupational health activity, they can rise only from the foundation of the health officer's personal interest. I suggest that four misconceptions account for the lack or stunting of this interest, as reflected in the extremely slow growth of local occupational health activity over the past two decades.

First, occupational health still carries a limited connotation for many people. The health officer should be reminded that occupational health encompasses more than mine, mill, and factory. It embraces all places where people work, including the farm. As the latter becomes more mechanized and as more and more toxic chemicals are employed, the agricultural aspects of occupational health assume increasing significance.

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\* Presented at the Annual Meeting of the American Public Health Association, St. Louis, Missouri, October 30, 1958.

Second, occupational health activity at the local level should not be confined to the identification and control of harmful exposures in the working environment. Rather, it is concerned with the health maintenance of the employed and it views various occupational groups not as captive groups but rather as potential action bodies needing help to solve their general health problems.

Third, industry is too often considered separate from the community. Its workers, whether managers or employees, are taxpayers and members of the community served by the health officer. As such, they are entitled to the same consideration as other identifiable segments of the community. In far too many areas both industry and the health department suffer through failure to communicate with each other.

The fourth misconception is that an occupational health program must necessarily be a specialized and separate activity of the health department. In large communities this may be desirable, but in the smaller communities of less than 100,000, where the majority of local health departments are located, such activities may be carried out by the basic health department staff.

Speaking before this association in 1950, Dr. Herbert Abrams, former chief of the Bureau of Adult Health, California State Department of Health, well expressed the challenge to the local health officer:

"The California Department of Public Health believes that industrial health, like the other elements of public health, should be administered on the local level as far as practicable. Its Bureau of Adult Health promulgates the concept that a substantial part of industrial health service can be handled by extension of existing health services into the factory and field. The factory should receive a proportionate share of attention, as, for example, the school now does. 1/

### Occupational Health Self-Appraisal

To explore the practicability and desirability of extending his department's services to the employed population, the local health officer must be prepared to answer some fundamental questions.

First, what is the general health status of workers in his community? Information of this type may not be readily available for most health jurisdictions. If a specific determination cannot be made,

1/ Abrams, H. K. How Good Is the Industrial Hygiene Program? A Challenge to the Local Health Department. American Journal of Public Health 40: 1225-1231 (October) 1950.



experience from other areas may be helpful. For example, the recent California health survey showed that:

For every 100 workers about 1,220 days of disability because of illness are experienced annually, or over 12 days per worker per year.

For every 100 workers there are 526 illnesses annually and 121 of them are disabling.

For every 100 workers there are about 62 accidents annually, and 28 of these occur at work. Of these 62 accidents, 13 are disabling.

For every 100 "blue collar" workers, there are about 68 accidents annually, about 40 of which occur at work. It is interesting to note that, although the average blue collar worker spends about one-fourth of his total time at work, almost two-thirds of his accidents occur at work.

Second, what are some of the specific occupational health problems in the area? Here, too, the health officer can be guided to a degree by the types of hazards reported by the departments with established programs. As a beginning, he should look for dermatitis-producing substances, toxicity due to solvents and other chemicals used in the factory, farm, and even the home. Look for hazards due to carbon monoxide, lead fumes and dust, silica dust, and noise.

Third, what are the characteristics of the labor force? Is it a sizable one? How many are women? What are the age and racial distributions? The employed group may be expected to amount to one-third or more of the population. Information of this type may be available through such sources as the U. S. Bureau of Census publications, the State Office of Employment Security or Economic Resources, and the local Chamber of Commerce.

As a corollary to this, one wants to know the types of industry in which the workers are found. Each community may expect to have its share of food processing, clothing, printing, chemical, stone-cutting and crushing plants, foundries, machine shops, auto repair shops, dry cleaning shops, and a variety of other repair services. These are likely to be small plants with a large variety of potential health and accident problems. The accident frequency in the small plant is generally  $2\frac{1}{3}$  times higher than that in the large plants, and it is not unlikely that occupational diseases show a similar trend.

If the community is larger than 250,000, larger industries will be found. Even in this larger plant group, however, the health officer cannot assume that all is well. Less than one percent will be of a size that can afford to have their own medical departments, and fewer still will have industrial hygiene services of their own or through their parent company.

An influx of new industries will be reflected in new potential health problems and opportunities. By making his services known as early as possible the health officer can help to develop an excellent working relationship with management and the workers. At the very outset, he can render an extremely valuable service by pointing to the need of industrial hygiene controls in the blueprint stage of the plant. Frequently, the State health department may be called upon for such specialized assistance.

A fourth essential in delineating the local occupational health problem is information on occupational disease incidence. Here, the health officer will find himself handicapped by the general lack of reporting of occupational diseases. Nonetheless, he should explore the situation in his state and jurisdiction. As a first step, he should determine the existence of any laws or regulations requiring the reporting of occupational diseases by physicians. If reporting is required, and the reports are sent to the State department of health, the local health officer should make arrangements to be notified of the reports originating in his jurisdiction. Arrangements of this type have been made by several cities, among them Detroit and Cleveland.

In California, the Bureau of Adult Health receives all doctors' first reports of occupational disease made to the Department of Industrial Relations. These reports, totalling about 25,000 per year, are analyzed by counties. In addition, local health departments routinely receive a list of the most important diseases reported in their jurisdictions and are asked to participate in follow-up investigations.

The local health officer can do much to encourage physicians in industry and in private practice, hospitals, and clinics to comply with any occupational disease reporting laws in effect. He can, through the local medical society, encourage the reporting of diseases by offering assistance in the epidemiologic investigation that may be required. Local programs frequently can be more effective than State programs in stimulating occupational disease reporting.

Other sources of information are available. Complaints received by the department from workers and persons living in the vicinity of the plant may point to situations requiring correction. They also serve as an entree into the plant to determine whether other conditions need attention and to advise the plant where help can be obtained.

### Integration of Occupational Health

Once having recognized the importance of extending health services to the employed population, the health officer must next determine the resources that are available. First, he must turn to his own department.

He, himself, must assume the leadership role. There can be no substitute for personal effort on his part--through visits to industries and attendance and participation in business, trade, and union meetings--to build a good working relationship with management and labor. Close cooperation with the local medical groups is necessary in all health department operations. In occupational health this relationship assumes new importance because of the sensitive economic and legal factors. The effective occupational health orientation of his own staff depends upon the health officer's concept of how the program can be best integrated with other activities, his vision of the opportunity it offers for the furtherance of disease control, health education, nutrition, and other core programs through utilization of industrial grouping of adults, and the opportunities for training that he makes available to his staff. A growing number of local health departments are finding that with a minimum of training the basic personnel can extend their services to places of employment.

As you will note in the slide, total local health department personnel, employed in 1,385 units as of December 1955, numbered 38,383. Of these, 34 percent were public health nurses; 1 percent, sanitary engineers; 11 percent, professional sanitarians; and 4 percent, public health physicians. It is evident that the nurses and the sanitarians offer the greatest numerical potential for extending services to industry.

The nurses are in a particularly effective position to do so. The recent census of industrial nurses conducted by the Public Health Service estimated that industry now employs 16,200. Effective liaison with this large group can make far more efficient the utilization of both industrial and community health resources. What is the reaction of industry and of the health department nurse?

Miss Heide Henriksen of the Minnesota Department of Health describes it this way in a report at the 18th annual meeting of the American Conference of Governmental Industrial Hygienists:

"In our experience, public health nursing services have been well accepted by both management and the workers. We have been making small plant visits since 1951 and have yet to receive our first rebuff....

"Staff nurses never gave the impression of having another activity added to an over-loaded program but accepted it as an opportunity to do something in the adult health field."

The public health nurse can work with employee groups in various ways. High up on the list of her potential activities are routine visits to industry, especially those with plant nurses, to familiarize them with community health services. Other types of assistance run the

gamut from the follow up of infectious disease cases to the demonstration of the values of small plant part-time nursing services in those plants not now having such service.

What can the sanitarian contribute? Many of the environmental factors encountered in the plant are the same as those found elsewhere. Thus, the sanitarian can serve industry by inspection of plant cafeterias, sanitary facilities, and general housekeeping, and by assisting with problems of industrial waste, cross connections, and water supply. But he can do more than that. By assuring that washing facilities are adequate and that they are used, he can help reduce the incidence of occupational dermatitis, which accounts for more than half of the reported occupational diseases. With some training, such as California has been offering its sanitarians, he can locate trouble spots for action by specialists, follow up on compliance with their recommendations, and assist in plant surveys of environmental conditions and of health programs in industry.

In extending his department's services to industry, the local health officer will encounter situations requiring specialized help. Where can he get it?

In all but nine states, State occupational health programs, generally found in the health department, are available to assist in defining or controlling an occupational health hazard, an industry-related community health problem, or, in some cases, in assisting industry in the establishment of employee health programs. Supportive laboratory service is also available to him from the state agency.

In carrying on a limited occupational health activity, the local health officer need not concern himself with the purchase of specialized equipment. Usually, State programs are equipped to lend him such equipment as carbon monoxide indicators, radiation monitoring equipment, and temperature and humidity recorders. These instruments can be used in a satisfactory manner by local personnel after some training.

Training of sanitarians or other personnel in simple industrial hygiene procedures and in spotting problems for referral to the State or other agency is also generally available from the State department.

At times, assistance may be obtained from other local departments within the State. In 14 States, one or more local health departments have active specialized programs.

The list of other resources is too long for this paper. They include insurance carriers, voluntary agencies, professional associations, universities, and private consultants.

Through these few illustrations of how the local health officer can evaluate and meet occupational health problems in his jurisdiction, I have attempted only to show that service to industry is a logical and profitable extension of community health programs. More detailed information will be found in a kit available to interested public health personnel, without charge, from the Occupational Health Program, Public Health Service, U. S. Department of Health, Education, and Welfare, Washington, D. C. This kit includes the occupational health self-appraisal form, from which I drew a few illustrations. In it will also be found a detailed guide for occupational health services in local health departments prepared by the Bureau of Adult Health of the California State Department of Health and the California Conference of Local Health Officers. Also included is a comprehensive outline prepared by the Occupational Health Section of the Oregon State Board of Health, giving specific examples of how involvement of industry and its employees can strengthen the local health department program and vice versa, together with several statements describing the role of various local health department personnel in occupational health.

### Challenge to the Local Health Officer

The total health problems of the working third of our nation will continue to require resources from many fronts. It would be folly to suggest that the local health department can or should solve them all. Rather, it is our belief that the health officer cannot shirk his moral and legal responsibilities to know what the problems are, and to stimulate action that will lead to their solution as expeditiously as possible through the optimum use of the health resources available to his community.

We have suggested certain parameters that will assist in the measuring function. We have suggested certain areas where the facilities of the health department may represent the optimum community health resource. There are other areas where the local health department is not the optimum resource, and the health officer will do his job best to the degree that he stimulates the use of more effective resources.

If the health officer by reason of timidity, by inaction, or by preoccupation with other problems, neglects the occupational health problems of his community, he may expect to reap a harvest of health problems that become more difficult of solution. These he will have to face without the assistance of management and labor that was available during the working and productive years of the employee.

Prevention through group action has been the forte of the health department and the health officer. The entire community needs the benefit of that know-how--let the experts in the community speak up. There are too many in the community who do not know where you are.



OCCUPATIONAL HEALTH SELF-APPRAISAL FOR THE LOCAL HEALTH OFFICER

1. What proportion of the local health department's activities are directed to the working population?

To determine this, the population covered by your jurisdiction may be divided into age groups and proportions estimated as follows:

Age Group	Population		Local health dept.	
	Number	Percent	Percent of Activities	Percent of Budget
Total - All ages				
Under 5 yrs. (preschool)				
5 to 14 yrs. (school)				
15 to 64 yrs.				
Employed - total				
Male				
Female				
Not in labor force				
65 yrs. and over				

2. How much has the population in your area increased in the past decade? \_\_\_\_\_ What brought about the increase? \_\_\_\_\_

If this has resulted from the influx of new industries, what health problems have they created? \_\_\_\_\_

3. Status of the labor force in your area and its health problems:

a. How many workers are there? \_\_\_\_\_

b. Is industry diversified? If certain types predominate, please indicate:

Industry group

Number of workers

Agriculture

Mining

Manufacturing

Public utilities

Services

Trade

All other

Total

c. Do small establishments predominate? \_\_\_\_\_

Size of establishment

Number of establishments

Manufacturing industries:

with less than 100 workers

with 100 or more workers

Non-manufacturing industries:

with less than 100 workers

with 100 or more workers

Number of farms

d. What are the occupational disease problems of local industries?

\_\_\_\_\_

Non-occupational health problems of workers? \_\_\_\_\_

\_\_\_\_\_



4. How many establishments have their own employee health services? \_\_\_\_\_  
How many employees are covered by such health services? \_\_\_\_\_  
Number of physicians serving industry? \_\_\_\_\_ Industrial nurses?  
\_\_\_\_\_ Industrial hygienists? \_\_\_\_\_

5. What other occupational health resources are available in your area?

a. Insurance companies providing industrial hygiene services to industry. How many? \_\_\_\_\_

b. Voluntary health agencies extending services to industry (name and nature of service)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

c. Others \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. What services has your department extended to industry?

Through physicians \_\_\_\_\_

Through sanitarians \_\_\_\_\_

Through public health nurses \_\_\_\_\_  
\_\_\_\_\_

Through health education \_\_\_\_\_  
\_\_\_\_\_

Other \_\_\_\_\_

7. Have you sought the assistance of the State health department with occupational health problems? In what ways? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

To what extent has your staff assisted State health department personnel working in your area? \_\_\_\_\_

\_\_\_\_\_

8. Have any relationships been developed with the other occupational health resources in your area?

<u>Resource</u>	<u>Nature of relationship</u>
a. Physicians serving industry	
b. Industrial nurses	
c. Industrial hygienists	
d. Insurance companies providing industrial hygiene services	
e. Voluntary health agencies extending services to industry	
f. Industrial health committee of local medical society	
g. Industrial health committee of local chamber of commerce, association of industries, or other management groups	
h. Local labor union health committee	

\_\_\_\_\_

This self-appraisal will help you determine the occupational health strengths and weaknesses in your situation. It will point to whether maximum advantage is being taken of the opportunity offered by occupational health or whether further ways of extending your services to industry can be profitably explored. State occupational health agencies can offer any further guidance desired.

A GUIDE FOR OCCUPATIONAL HEALTH SERVICES IN  
LOCAL HEALTH DEPARTMENTS

- A. **Interim Report.** Prepared for Study Committee on Health Services of the California Conference of Local Health Officers by the Subcommittee on Occupational Health. July 24, 1958.  
I. D. Litwack, M.D., Chairman  
Morris L. Grover, M.D.  
Garold L. Faber, M.D.

The Subcommittee met individually with staff of the State Department of Public Health; they communicated by letter and also met together to consider the preparation of a "Guide to Occupational Health Services in a Local Health Department."

This task is far from completed. However, the following interim report is presented for the consideration of the Committee, and for further help and guidance from the Committee.

The Subcommittee first addressed itself to raising the questions for which a "Guide" might hope to propose answers. The questions were then placed under appropriate headings and rephrased in the light of discussion.....

Believing in Occupational Medical programs and in the idea that "example is better than precept", the Subcommittee was interested in the extent of Occupational Health protection currently available within Local Health Departments and other governmental groups. They therefore considered whether a questionnaire addressed to Local Health Officers on this subject would be of value. A draft is presented, not as a sample, but merely as a prototype, asking the opinion of this Committee as to the effect and/or value (if any) of such a step.

Next, the Subcommittee attempted answers to questions that had been developed. Obvious differences of concept and philosophy are still evident. However, the general trend of answers is offered, grouped along lines which might constitute those of a "Guide". These are presented for consideration and constructive suggestions, especially as to the suitability of the points discussed for inclusion in a guide.

- I. The Subcommittee considered responsibilities for the protection and improvement of the health of employed persons. The range of points of view include:

- A. The individual must remain the basically responsible person, the employer next.
- B. Health departments should assume as much responsibility for Occupational Health as other accepted public health services.
- C. If we speak of local agencies only, then the health department is certainly the responsible agency in health matters. If State agencies are included, the State Department of Industrial Relations and the State Department of Public Health would have the prime responsibility.
- D. The Health Department services should be educational and consultative in nature.

There was agreement that at least nominal recognition of the field could be accepted by every Health Department.

It was apparent to the Subcommittee that unless it is agreed by all that Occupational Health promotion is in fact an inescapable and clear responsibility of Public Health Departments there would be little chance in pursuing the preparation of a "Guide".

II. The Subcommittee considered goals and aims of Occupational Health. Three levels of concept are considered:

- A. The goal of employee health and productivity through the establishment of industrial health services, e.g. preplacement examinations, etc.
- B. The goal of prevention of occupational disease and injury through the Local Health Department efforts to stimulate and guide and provide industrial health services, including industrial hygiene and safety control of occupational hazards.
- C. The goal of "enhancing life itself" through application of public health principles and medical, nursing, and engineering practices for the purposes of conserving, promoting, and restoring the health of workers through their place of employment.

The following quotation appeared to summarize the objectives of Occupational Health programs for employees and therefore the goals of public health program:

"Occupational health programs bring many benefits to the employee, to the employer and to the community. For the employee and his dependents it means sustained earnings; lower personal, medical and hospital expenditures; increased and prolonged productive capacity, and the enjoyment and security that comes from good health and job satisfaction. For the employer, it means decreased production costs because of lower labor turnover, less absenteeism, fewer disability payments, lower insurance, and more capable and more alert workers. It also brings higher worker morale and fewer strikes and other labor difficulties. All of these result in diffused but extensive benefits to the community in increased property, decreased welfare costs, less labor strife and pressure for, and support of, high quality medical, hospital and public health services.

"The Objectives of the Occupational Health Program are:

- A. The assessment of a worker's physical and psychological assets, as well as his liabilities, to facilitate proper selection and placement.
- B. The prevention of occupational and non-occupational illnesses.
- C. The provision of treatment, the type and extent of which depends on the policy of the organization.
- D. The fostering of a personal, physical, mental, and social ability to work and enjoy life beyond the mere absence of disease or infirmity."

(Source: "Principles of Public Health Administration" by John J. Hanlon, 2nd Edition p. 552)

III. The Subcommittee tried to define their concepts of the terms used, but found they had not yet achieved unanimity of concept. Definition of terms such as "industry", "occupation", "occupational health", "management", "labor", "objectives - immediate and long range", "health examinations", "pre-placement", "periodic", "industrial physicians", "minimum" and "optimum", as applied to goals and standards, were not yet clear. It was suggested that the whole Committee take part in achieving definitions of the terms. There was agreement that "industry" meant all kinds of establishments - - not just those with employment in manufacturing "plants". More thought and discussion will be needed to agree on adequate definitions.

IV. The Subcommittee considered factors making Occupational Health priorities and factors which make for variability of program.

As to priorities and variability; industrialization, important occupational hazards and local problems, including staff and money were mentioned. Special mention was made of the greater needs of small plants than of big plants already possessing health services.

Minimal services were envisioned as:

- A. A part-time sanitarian and nurse, or
- B. A minimal effort to maintain awareness of whatever occupational health problems exist in the community, promotion of the concept of preventive medicine, an "open door" policy - a readiness to act even if just to refer to the appropriate agency, or
- C. Knowledge of industries in community and problems, as well as follow-up on O.D. reports.

V. The Subcommittee considered ways in which the Local Health Department might implement a program of Occupational Health. On the question "Should the Occupational Health Service Program be part of a general health program, be a specific entity, or should it be part of an adult health program," the Subcommittee's thoughts were united: It should be part of a general health program. However, this suggestion was also offered:

"By combining similar technical services, (e.g. radiological health, cross connection on control) under the general heading of Occupational Health, then in most cases, even a small Local Health Department could afford to have a separate section or bureau employing one or two full-time men."

The essential item noted was a team approach involving the entire Health Department. Sanitarians and nurses working together; if indicated, making joint visits to industries. Also noted was the possibility (in large industrial areas) of a highly specialized group under a full-time director of adult health services. A further thought was expressed as the Health Officer's responsibility for stimulating interest and participation of Health Department staff and community by:

Working with medical, industrial and civic groups to determine need.

Inservice education programs of staff, industry, et al, which had been planned with participating and interested groups (including State and Federal agencies.) It was the consensus that Occupational Health is not an expansion of new programs,

but an extension within the community of the Local Health Department's community health activities.

VI. The Subcommittee considered internal organization within the Local Health Department.

- A. The Subcommittee was agreed on the need for inservice training before, during and after the organization of occupational health services. Such training should be multi-disciplinary, and perhaps planned in part by the Health Department staff members to clarify their own roles, but all involved in the program should receive inservice education as a team. Staff discussion of roles even before inservice training begins, was suggested.
- B. Modification of record systems were considered possibly necessary for: proper sharing of information by agencies and personnel concerned; for developing adequate communication; for effecting the most efficient "team" type of approach to the solution of the Occupational Health problems and subjects.
- C. Early involvement of key persons and/or organizations in the community as Health Department co-planners or advisers was considered essential.
- D. Integration of an Occupational Health Program into the generalized public health nursing services would seem the most desirable plan. A public health nurse would then be responsible for all services in her district. She would visit the industries in her area and assist the inplant medical nursing personnel by acquainting them with health education material, available community resources, the services offered by the Health Department. All Subcommittee members stressed the role of the District Public Health Nurse in assisting, through home visits, the morale, absenteeism, case finding, occupational health, and community health facets of the program.
- E. Environmental sanitation activities in occupational health were less clearly formulated by the Committee (though no less well understood). It was noted that fundamentally no Occupational Health program can hope to succeed unless there exists an adequate environmental sanitation program in the particular plant or industry. It was further stressed that the Sanitarian's activities

should be constructively integrated with those of other agencies, and that the extent of services would necessarily vary with staff, money and apparent needs.

In summary, the internal preparation in a health department for this program should be on a team basis. Cooperation between public health nurses and sanitarians in setting up such a program is needed for its future success. A survey of industries and their occupational health needs would be of first importance. There also needs to be preparation and training of personnel. Aims, goals, and policies would need to be adopted. Consultation service would be needed from State or Local Health Departments.

VII. The Subcommittee placed major emphasis on interpreting the occupational health program within the community. This was conceived first as the responsibility of the Health Officer. The setting up and utilization of channels of communication to the professions, the enlisting of cooperation and of participation of the community (management, labor, and others, besides the professions and interested agencies), the developing of workshops, and the attempt to stress preventive methods (as opposed to the usual symptomatic crisis, disease oriented, medical care interest) were mentioned.

It was also suggested that the community could be educated to the needs of this program by its presentation at a meeting of the local Community Planning Council followed by newspaper publicity. This is naturally a matter for discretion of the Local Health Department.

VIII. The Subcommittee placed in top position the relationship of the Local Health Department to other interested groups.

- A. A long list of other interested groups was noted, including Federal, State, and local governmental agencies and national, state and local professional and civic organizations and agencies. There was some uncertainty as to how many specific organizations should be noted in a "guide".

Agency resources.

Federal

- (1) Department of Commerce (National Bureau of Standards)
- (2) Department of Labor
- (3) Department of Health, Education and Welfare, especially Public Health Service, Occupational Health Services and Communicable Disease Control Services.
- (4) Armed Forces



- (5) Veterans Administration
- (6) CAA
- (7) Civil Service

#### National

- (1) A.M.A. (especially Council on Industrial Health)
- (2) National Safety Council
- (3) A.P.H.A.
- (4) Industrial Medical Association (Chicago) and its Western Industrial Medical Association branch
- (5) AFL - CIO
- (6) National Association of Manufacturers
- (7) Insurance Companies
- (8) Manual Training Teachers Association
- (9) American Industrial Hygiene Association
- (10) American Conference of Governmental Industrial Hygienists
- (11) American Standards Association

#### State

- (1) Department of Industrial Relations, especially Division of Industrial Safety, Division of Industrial Welfare, Division of Labor Statistics and Research, Industrial Accident Commission
- (2) Department of Agriculture, especially Bureau of Chemistry
- (3) State Department of Public Health, especially Bureau of Adult Health
- (4) Department of Education, especially Bureau of Vocational Rehabilitation
- (5) Chamber of Commerce
- (6) Supervisors Association
- (7) Department of Employment

#### Local

- (1) Representative Division of Industrial Safety
- (2) Local branches of National Voluntary Health Agencies
- (3) Agricultural Commissioner
- (4) Agricultural extension agent
- (5) Adult Education Department of Schools
- (6) Labor Unions
- (7) Chamber of Commerce
- (8) Community Council or Health Council
- (9) Fire Department or Fire Marshal
- (10) Safety or Industrial Hygiene or Industrial Nursing Groups
- (11) Representatives of Industrial and Accident Insurance carriers.

- B. Cooperation with these agencies was envisioned as:  
Depending on the Bureau of Adult Health and State Division of Industrial Safety for consultative services and an interpretation of potential hazards; on the Chamber of Commerce for their support and helping to survey needs and in support and development of a local program; close communication with City Council and/or County Supervisors was considered essential.

Suggested ways of cooperation included:

Offering services.  
Being a "convener" of interested parties.  
Workshops offering technical advice.

- a) Sanitation services
- b) Laboratory services

In addition, library services could be offered.

- C. The Subcommittee was unanimous in feeling that an Advisory Committee was desirable for assistance in setting up the program and for interpretation and support of the existing program.

It was assumed that planning for occupational health is a joint responsibility of many agencies and groups. It was emphasized that "we must first familiarize ourselves with activities and responsibilities of the agencies mentioned in the field of Occupational Health; secondly, plan our program to supplement and complement their programs; third, inform these agencies of our program and encourage a free flow of information."

IX. The Subcommittee considered the fields of action by the Health Department

- A. One of the best means of developing a favorable attitude in governmental administration is by the administration of a program of Occupational Health maintenance. The Committee therefore considered inquiring into and studying the employee health programs available to local governmental employees. The method considered was that of a questionnaire to Health Officers.
- B. The role of the public health nurse as outlined above was clearly conceived.

- C. Actions of the sanitation staff with respect to environmental hygiene of plants, was included. The need for inspection of plants was agreed upon. Some consideration was given to how far a Health Department would carry out such inspections in defiance of the wishes of management. The routine follow-up of Occupational Disease reports is an important method of developing a relationship to industry.
- D. Activities in obtaining information about Occupational Health of the community was discussed. Consideration was given to obtaining a registry of industries and plants and the resources through which this might be obtained. A Registry of Industry and Plants may be obtained from local Chamber of Commerce, Manufacturing and Industry Associations and category listing from the local License Bureau. Also the yellow pages of the phone book are useful. Consideration was also given to requirements for reporting Occupational Disease directly to the Health Department and the viewpoint was that perhaps provision should be made for making the list of reportable diseases flexible in character. The question was raised as to whether sick leave should be included and whether all injuries could be included.

It was further considered that a roster of full-time and part-time industrial physicians should be maintained. It was added that a roster of industrial hygiene engineers might also be considered.

- E. Direct services to industry, especially in connection with special groups such as the physically handicapped, or aging population, might be offered, but the Committee envisioned direct medical services to employees by the Local Health Department only to governmental employees. It was thought that perhaps a Local Health Department should organize and make available to industrial physicians public health services such as epidemiological, laboratory, and environmental sanitation, and a minimum library.

Health Department services towards mental health appeared to have an important occupational health component and it was felt that the Health Department might assist supervisory personnel in this field.

Other general facilities and personnel of the Health Department could be incorporated in direct service, e.g. health education.

- X. The Subcommittee considered evaluation techniques, both positive and negative. Some suggested ways of evaluating the need for occupational health services were: (a) surveys of plants - size in relation to medical set-ups and environmental sanitation; (b) Receipt and follow-up of O.D. reports; (c) Periodic sampling of morbidity of certain types of illness; (d) Special meetings with industry and medical professions to determine problems.

Other measurements suggested were by reduction of morbidity, (which implies we must find out what morbidity exists now). Even more crudely, of course, is reduction of mortality. Hazards do change. Value judgements must be made that supercede statistics. Production may be a better indicator. Labor turnover is an indicator. What the morbidity is in the community should affect the program.

The real measurement in a preventive program is that which results in lowered morbidity in industry. This statistical data must be complete and be gathered for a period of time prior to the establishment of an occupational health program, so that accurate baselines can be established to gauge our improvement.

As in other public health fields of endeavor, results may not show up for a long period of time, and it may be difficult to trace these improvements to the program. If in the final analysis, our goal of a healthier working environment will have been achieved, this is the important point, regardless of the cause.

Finally, the Subcommittee believes that there is still need to demonstrate the ultimate concept of a Local Health Department performing an Occupational Health Program (as a generalized part of the program). The usefulness of any guide should therefore be tried and demonstrated before final development.

Rough Draft of a QUESTIONNAIRE FOR HEALTH OFFICERS  
Regarding Governmental Employee Health Services

I. D. Litwack, M.D.

The Subcommittee of the Conference charged with developing a Guide to Occupational Health Services in Local Health Departments would like some measure of the present activities of local health units. For this reason, a few questions are asked with added space for any detailed comment you are willing to submit.

- I. Are health services provided to the governmental employees of your health jurisdiction? Yes \_\_\_\_\_ No \_\_\_\_\_

If "yes" -

A. Are these services:

- 1) Provided through the Health Department? Yes \_\_\_ No \_\_\_
- 2) Provided through another governmental agency?  
Yes \_\_\_ No \_\_\_
- 3) Provided through contact with one or more private physicians? Yes \_\_\_ No \_\_\_
- 4) Provided in some other way? Yes \_\_\_ No \_\_\_

B. Is this health service

- 1) Pre-employment health examination only? Yes \_\_\_ No \_\_\_
- 2) Post-employment examination only? Yes \_\_\_ No \_\_\_
- 3) Both? Yes \_\_\_ No \_\_\_

C. What preventive measures are included in the program of employee health protection?

- 1) Periodic examination? Yes \_\_\_ No \_\_\_
- 2) Follow-through toward removal of defects found on initial examination? Yes \_\_\_ No \_\_\_
- 3) Inspection of work place for hazards? Yes \_\_\_ No \_\_\_
- 4) Consultation with respect to elimination or minimizing of environmental hazards? Yes \_\_\_ No \_\_\_
- 5) Consultation on selection and use of new products (chemicals) Yes \_\_\_ No \_\_\_
- 6) Screening procedures? Yes \_\_\_ No \_\_\_
- 7) Immunizations? Yes \_\_\_ No \_\_\_
- 8) Examination after sickness absences? Yes \_\_\_ No \_\_\_
- 9) Nursing or other services during sickness absence?  
Yes \_\_\_ No \_\_\_

- 10) Health Education on general topics, e.g. nutrition?  
Yes \_\_\_ No \_\_\_
- 11) Health Education directed towards prevention of hazards of particular governmental occupations?  
Yes \_\_\_ No \_\_\_
- 12) Health Education regarding family health needs?  
Yes \_\_\_ No \_\_\_
- 13) Individual, confidential medical or nursing consultations? Yes \_\_\_ No \_\_\_
- 14) Planned emergency care for accident or disaster?  
Yes \_\_\_ No \_\_\_
- 15) Planned follow-up of disabling injury or illness with a view to earlier return to work? Yes \_\_\_ No \_\_\_
- 16) Preparation for retirement? Yes \_\_\_ No \_\_\_
- 17) Planning health aspects of new construction?  
Yes \_\_\_ No \_\_\_
- 18) Other special health protection activities planning? (e.g. Mental Health consultation, alcoholism rehabilitation, etc.) Yes \_\_\_ No \_\_\_

D. Does the responsibility for any of these activities lie directly in the Health Department? Yes \_\_\_ No \_\_\_

- 1) If so, which? (indicate by number)  
If not, which would you consider undertaking on request?  
Who would have to initiate such a request?

II. If the answer to question I was "no", which are the reasons?

A. They are not now done because:

- 1) Not worth doing? Yes \_\_\_ No \_\_\_
- 2) Not a Health Department responsibility? Yes \_\_\_  
No \_\_\_
- 3) Health Department's hands are tied by \_\_\_\_\_  
agency or group?
- 4) Lack of time \_\_\_\_, personnel \_\_\_\_, or money? \_\_\_\_  
(Check which)
- 5) No suitable person interested in heading up such an activity. Yes \_\_\_ No \_\_\_
- 6) The governmental employees involved are too few.  
Yes \_\_\_ No \_\_\_
- 7) The governmental employees involved are too scattered.  
Yes \_\_\_ No \_\_\_
- 8) It would conflict with private interests. Yes \_\_\_  
No \_\_\_
- 9) There are no occupational hazards of importance.  
Yes \_\_\_ No \_\_\_

- 10) The Department has no opportunity to contact any other civil servants than its own group. Yes \_\_\_  
No \_\_\_
- 11) Such a program would take too much staff and time.  
Yes \_\_\_ No \_\_\_
- 12) Other obstacles. Detail \_\_\_\_\_

- B. We are hoping to do this. Yes \_\_\_ No \_\_\_
- C. We are planning to do this. Yes \_\_\_ No \_\_\_ When? \_\_\_\_\_
- D. Before starting, we are waiting for \_\_\_\_\_
- E. We don't know how to start the above program elements in our area. Yes \_\_\_ No \_\_\_

III. What populations are involved?

- A. How many employees are there in your Health Department?
- B. How many local governmental employees are there in your health jurisdiction?
- C. What is the total population of your health jurisdiction?  
\_\_\_\_\_

IV. What activities are you doing now which you consider to be Occupational Health services to part or all of your health jurisdiction. Detail \_\_\_\_\_  
\_\_\_\_\_

- V. Note anything you would particularly like a guide for Occupational Health services in a Local Health Department to include. \_\_\_\_\_  
\_\_\_\_\_





## A GUIDE FOR OCCUPATIONAL HEALTH SERVICES IN LOCAL HEALTH DEPARTMENTS

B. Revision, March 1955. Developed by the Bureau of Adult Health, California Department of Public Health and the California Conference of Local Health Officers.

### Title

Occupational health and its precursor titles "industrial health," "industrial hygiene," etc. revolve around increasingly broad concepts of attaining and maintaining health for the employed worker, that is "a state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity".

### Objectives

The long term objectives to be gained through occupational health programs are as follows:

1. Elimination of causes of occupational disease in the community.
2. The minimizing of any potentially detrimental effects of work on humans suffering from any disease or infirmity.
3. The prevention of exacerbation of disease or the occurrence of injury through in-plant medical facilities and preventive programs privately maintained as a cost of production.
4. The attaining of optimum health and productivity in the employed population.

### Definitions

An OCCUPATIONAL HEALTH PROGRAM is activity directed toward the prevention of disease, promotion and maintenance of optimal health, and the improving of the environment of the gainfully employed population and assistance with family problems affecting the worker. A major objective of both State and local occupational health activities should be the development and improvement of privately operated occupational health programs.

An EMPLOYED PERSON is one gainfully employed, and excludes housewives, students, unemployed and retired persons.

A PLACE OF EMPLOYMENT is any place where gainfully employed persons work.

**INDUSTRY** is a general term for kinds of employment, including agricultural employment; mining and quarrying; construction; manufacturing, retail and wholesale trade; transportation; utilities; finance, banking and real estate; service organizations such as cleaning establishments or garages, restaurants, theaters; governmental employment, etc.

### Basic Concepts of Occupational Health Program

It is believed that planned activity in a local health department concerned with the health of persons in relation to their employment constitutes an occupational health program wherever it is performed by qualified personnel. Further, it is believed that certain occupational health services can be performed in local health areas without specialized training in the industrial health field; others cannot be so performed. The State level program has certain specific responsibilities to a local level program and vice versa. A complete public health program in occupational health can be envisioned only as the utilization of all private programs in occupational health and public health facilities at both the State and local levels.

#### Occupational Health Programs in a Local Health Department

An occupational health program for a local health department is a sliding scale of activities specific to the needs of a local community within the framework of using present personnel, adding other personnel as the problems appear to warrant specialized activity.

Implementation. Three types of program are included.

**MINIMUM PLANNED ACTIVITY** includes the collection of presently available information and the recording of services from whatever source, and the recognition of unmet needs. This minimum service also provides a basis for an expanded program using present personnel. In time, **THE EXPANDED PROGRAM USING PRESENT PERSONNEL** shows the way for **OCCUPATIONAL HEALTH PROGRAMS HAVING SPECIALIZED PERSONNEL**. The **OUTLINE FOR THESE THREE CLASSES OF ACTIVITY**, each one supplementing the others, follows.

#### I. Minimum Service

The collection in one place of the information obtainable on subjects relating to occupational health is a **MINIMUM SERVICE**. These subjects may be listed as follows. (For detailed activities see Supplemental Explanation I.)

- A. Reports received from the State Department of Health.
- B. Information from other agencies which may be available.

C. Information obtained in the local health department.

D. The summarizing of unmet needs.

## II. Expanded Program Using Present Personnel

In-service training is provided from Bureau of Adult Health on request of the health officer.

For details see Supplemental Explanation II. EXAMPLES OF THIS PROGRAM are:

A. A REGISTERED SANITARIAN may be performing an occupational health function when he inspects a place of employment for the purpose, or with the result, of improving working conditions for the health of the employees. (This is in contra-distinction of those services of an environmental sanitation nature where he inspects the plant for the purpose of guaranteeing the purity and healthfulness of the product manufactured or produced there.)

B. The PUBLIC HEALTH NURSE in the course of her regular duties, by visiting industries in her area can acquaint them with community health resources.

C. The HEALTH OFFICER (or his representative) in the routine performance of his responsibilities has occupational health functions. His two-way communication is an important part of the program.

D. The HEALTH EDUCATOR may prepare special exhibits and material for use in industry and give consultation.

## III. Programs Having Specialized Personnel

An occupational health program utilizing specialized personnel and equipment is directed toward all the objectives listed on Page 1. The activity of each professional member is based on qualification and training. Each member, therefore, limits his activities, evaluation and responsibilities to the fields in which he has had adequate training. He will work with other specialized personnel as well as with personnel regularly present in the health department.

The qualifications and activities of these specialized persons are listed in Supplemental Explanation III. Specialized personnel include:

A. Physicians.

B. Industrial Nursing Consultants.

- C. Engineers.
- D. Chemists.
- E. Other Personnel.

### Criteria

Criteria requiring the establishment of a program having specialized personnel.

A. An expanded program using present personnel now operating, and showing demand for more specialized techniques than can be obtained locally.

B. Evidence of unmet needs and community industrial growth on the basis of which the health officer recommends instituting a specialized preventive occupational health program.

C. Total services of the State Occupational Health Team which now are either unable to fulfill needs, or are giving essentially the equivalent of full time service of one member, in the local area.

D. The kind of industry and the potential industrial hazards in the community. It is, however, considered by experts that at least one specialized person is needed when a moderately industrialized community reaches a population of 250,000.

### Responsibilities and Functional Relationships Between State and Local Agencies

Functions for which the State (Bureau of Adult Health) takes responsibility:

- A. Liaison with other State and Federal agencies. (Health and Safety Code, 1953, Article I, Chapter 2, Section 211.)
- B. Service to State and Federal agencies, either direct or by utilizing local resources.
- C. Collection and dissemination of occupational health data of statewide significance.
- D. Promotion of local health department programs in occupational health.
- E. Consultation with Division of Industrial Safety, based on review of proposed safety orders concerning hazardous materials.

- F. Direct assistance with respect to occupational health problem and/or performance of direct services in local areas, as indicated by circumstances and the availability of qualified personnel and equipment.
- G. Advice to, consultation with and evaluation of local health departments in all fields of occupational health.
- H. Educational and training services performed within the framework of the State Health Department policy and budget.

**Functions for which local health departments are responsible:**

- A. Liaison with State occupational health agency (Bureau of Adult Health) and with other local agencies.
- B. Occupational health services to other local agencies.
- C. Performance of occupational health services commensurate with with established program and available personnel.
- D. Public health services to the local population including occupational health are the responsibility of the local health officer.
- E. Completion of the annual report of local health department programs, both statistical and narrative, in respect to the occupational health section.

**Functions in which State and local health departments have joint responsibility:**

- A. Development of standards for programs and for personnel qualifications. (Health and Safety Code--Div. 1, Pt. 2., Ch. 8, Art. 4, Sect. 1130.)
- B. Integration of activities in areas where specialized occupational health services do exist, on the following basis:
  - 1) At the request of local health units, the Bureau of Adult Health undertakes direct services on a local problem (provided such undertaking is compatible with the overall bureau activity).
  - 2) In the performance of work requested by State and Federal agencies or self-initiated work of the Bureau of Adult Health, services of the local industrial hygiene unit are requested. By agreement, whenever these local facilities are adequate for the completion of the project and are

available at the proper time, the local industrial hygiene unit undertakes such of these activities as are compatible with its overall program.

- 3) Occupational health problems in State installations are serviced by the Bureau of Adult Health.
- C. Dissemination, within the community, of specialized knowledge relating to occupational health.

### Supplementary Explanation of Programs I, II, and III

#### I. Minimum Service

- A. Reports received from the State Department of Health.
1. Tabulated reports of occupational disease in the area, and where indicated individual reports toxic conditions.
  2. Reports of all State Bureau of Adult Health activities performed in the area.
  3. Lists of users of radioactive materials received through the Atomic Energy Commission.
  4. Certain sample forms, i.e., industrial sanitation check sheet, coding guide for occupational diseases, minimum library list, etc.
- B. Information from other agencies which may be available.
1. Statistical information obtainable from the Division of Labor Statistics and Research of the Department of Industrial Relations, the Bureau of the Census, etc.
  2. Information from the Chamber of Commerce regarding the type of industry, the size of industry, in the area.
  3. Information regarding occupational health problems of plants in the area obtainable from any division of the Department of Industrial Relations (e.g., Industrial Accident Commission, State Compensation Funds, Division of Industrial Safety, etc.)
  4. Information from the Agricultural Commissioner or Department of Agriculture, Bureau of Chemistry, in regard to agricultural chemicals.
  5. Reference material on occupational disease control and in-plant services.
- C. Information obtained in the local health department.

1. Complaints received regarding places of employment
  2. Inspection of places of employment, where recommendations are made affecting the health of the workers.
  3. Nursing visits to occupationally disabled bread-winners at their homes.
  4. Lists of in-plant nurses in the area.
  5. Industrial hygiene resources in the area.
  6. Requests for health education material and literature for industry.
  7. Requests for information on toxic materials and the disposition made of these requests.
  8. Information to be used in compiling the Annual Report of Selected Program Statistics from Local Health Departments, Section on Occupational Health.
- D. The summarizing of unmet needs as reported in the occupational health section of the Local Health Department Plan, Submitted Annually to the State Department of Public Health. (L.H.S. 8).

## II. Expanded Program Using Present Personnel

- A. A REGISTERED SANITARIAN doing occupational health work may do the following activities in the course of his usual duties:
1. Perform the customary inspection of food distribution facilities servicing employees.
  2. Evaluate plant sanitation conditions and record them by completing industrial sanitation survey check sheet.
  3. Co-operate with the State industrial health personnel in the study of conditions for which the State is directly responsible.
  4. During the inspection of conditions listed in the industrial sanitation check sheet, may observe other occupational health hazards for report to and evaluation by other personnel.
- B. The PUBLIC HEALTH NURSE in the course of her regular duties, by visiting industries in her area:
1. Can acquaint them with community health resources, including the services of the Bureau of Adult Health and of the local industrial health unit.
  2. Can acquaint management with the minimum library for industrial nurses.
  3. Can acquaint managements and industrial nurses with the diseases prevalent in the area and with the health education material available.

4. Can work closely with nurses in industry on the case finding and control of contagious diseases, of food poisoning, and of such other problems as may concern both the place of employment and the community.
5. Can make available health education materials to industrial nurses, and if requested by management, give counselling in hygiene and nutrition.
6. Can render health counselling service on a part-time basis using sickness and absenteeism as an introductory opportunity.

C. The HEALTH OFFICER (or his representative), in the routine performance of his responsibilities:

1. Sitting on community councils and committees, can bring to them an understanding of the occupational health program he is now doing.
2. Can utilize opportunities to keep the physicians of the community alert to occupational diseases likely to be encountered.
3. Assumes responsibility in consultation with his personnel, for the medical aspects of their activities and reports related to occupational health.
4. Co-operates with State occupational health personnel in the study of conditions for which the State is directly responsible.
5. Transmits requests for service to the specialized facilities available. Transmits information about available specialized services in occupational health to places of employment and professional persons responsible.

D. The HEALTH EDUCATOR and OTHER MEMBERS of the local health department working with the community, influence the understanding and awareness of occupational disease and of positive health practices which can be achieved in and through the place of work. (Participation in a program of in-service training may enhance the scope of this educational activity.)

In some areas a local health department may provide occupational health services to its local governmental jurisdiction (pre-employment examinations, etc.)

### III. Programs Having Specialized Personnel

An occupational health program utilizing specialized personnel and equipment is directed toward all the objectives listed on Page 1. The activity of each professional member is based on adequate qualification and training. Each member, therefore, limits his activities,



evaluation and responsibilities to the fields in which he has had adequate training.

### Qualifications

### Activities

#### A. Physicians

An M.D. degree and license to practice in California. A physician shall have working knowledge of the health hazards of occupations and of the methods of diagnosis and prevention of occupational disease and injury. He shall have a general knowledge of the activities of other professions with whom he works. He shall have an understanding of the public health aspects of industrial health. He should have experience or a period of orientation through experienced medical supervision.

(1) The physician evaluates and interprets the health effects of the actual and potential health hazards found, and makes recommendations for their medical control.

(2) He consults with managements, labor, physicians and others in regard to industrial medical matters.

(3) He utilizes opportunities to keep the physicians of the community alert to occupational diseases likely to be encountered.

(4) He actively promotes the establishment and improvement of preventive occupational medical programs.

(5) He assumes responsibility, in consultation with other occupational health personnel, for the medical aspects of their activities and reports.

(6) He co-operates with State occupational health personnel in the study of conditions for which the State is directly responsible.

#### B. Industrial Nursing Consultants

Graduation from a State accredited school of nursing

A baccalaureate degree from an accredited collegiate or university school of nursing, including or supplemented by an approved program of study in public health nursing, and courses providing knowledge of

(1) She consults with and assists the nurses in the local health department in respect to occupational health activity.

(2) She visits the medical installations of the area having industrial nurses, for purposes of evaluation of the nursing program.

## Qualifications

occupational diseases, toxicology, industrial hygiene, workmen's compensation legislation and industrial labor relations. (A master's degree is desirable.)

Registration or eligibility for registration as a professional nurse in California

She shall have had a special course (at least four months) in industrial nursing with field experience (at least four months). (These may have run concurrently.) She shall have had a period of orientation in the community and health department in which she operates.

## C. Engineers

Graduation from a recognized school of engineering with major work in one of the engineering sciences. He shall have had two years' experience in the field of public health engineering at least one of which shall have been in Industrial Hygiene Engineering. He shall have a working knowledge of the health hazards of occupations and methods of control of occupational disease and injury. He shall have a general knowledge of activities of other professions with which he works. He shall have an understanding of the public health aspects of occupational health. (Consideration can be given to experience equivalent.)

## Activities

(3) She brings these nurses, in whatever was possible, a broader concept of their programs.

(4) She actively promotes the establishment and improvement of occupational preventive medical program by nurses where there is opportunity for medical supervision.

(5) She is active in promoting educational opportunities for industrial nurses. She improves, by group activities or other means, the professional skill, understanding, and competence of industrial nurses.

(6) She co-operates with State occupational health personnel in the study of conditions for which the State is directly responsible.

(1) He observes and measures industrial exposures and evaluates and reports the significance of these findings, as compared to recognized standards and recommends principles for their control.

(2) He checks occupational health engineering calculations, plans, and drawings, designed for the control of occupational hazards.

(3) He consults with managements, labor and others in regard to occupational health engineering matters.

(4) He utilizes opportunities to keep architects, engineers, and others alert to the occupational hazards likely to be encountered.

(5) He actively promotes the establishment and improvement of

## Qualifications

## Activities

occupational preventive engineering programs.

(6) He assumes responsibility, in consultation with other occupational health personnel, for the engineering aspects of their activities and reports.

(7) He co-operates with State occupational health personnel in the study of conditions for which the State is directly responsible and in studies involving equipment and techniques which he is not equipped to handle.

### D. Chemists

Graduation with a degree of B.S. or B.A. from an accredited institution, having specialized in chemistry and/or chemical engineering. He shall have had two years' full-time paid experience in making chemical analyses of a non-routine nature. He shall have had a general knowledge of activities of other professions with which he works. He shall have an understanding of the public health aspects of occupational health. (Consideration can be given to an experience equivalent.)

(1) He makes field and laboratory analyses of materials and samples collected in connection with occupational hazard studies.

(2) He consults with other laboratories, when good chemical practice so indicates, for the completion and/or correlation of analyses.

(3) He makes continuing efforts to increase laboratory facilities of the community in addition to his own, to the point where all analyses can be made locally.

(4) He consults with managements and others in regard to chemical matters involving occupational health problems.

(5) He co-operates with other occupational health personnel in the study of occupational hazards and the development of means for determination and control of such hazards.

## Qualifications

## Activities

(6) He assumes responsibility in consultation with other occupational health personnel, for the chemical aspects of their activities and reports.

(7) He co-operates with State occupational health personnel in the study of conditions for which the State is directly responsible, and in studies involving equipment and techniques which he is not equipped to handle.

### E. Other Personnel

Wherever specialized personnel provides adequate supervision (and training opportunity), it is recognized that certain other categories of personnel engage in occupational health specialized activities. These categories include industrial hygiene technicians, industrial hygienists, sanitarians, public health nurses and other titles, for which there are a variety of generally accepted definitions. Sanitary engineers and public health engineers also perform certain occupational health activities.

These individuals perform a valuable service within their limitations. These individual limitations can only be evaluated by the qualified supervisor under whom they perform their duties. Therefore, there is no basis on which to establish rigid minimum personnel qualifications for them or specific program activities on which to evaluate the competence of the work they do.

# HOW PUBLIC HEALTH PROGRAMS AND INDUSTRIAL HEALTH PROGRAMS CAN STRENGTHEN EACH OTHER

## Occupational Health Section

### Oregon State Board of Health

**Problem:** How can State and local health departments work together more effectively in occupational health? How can local health departments become more actively involved?

#### Definitions and philosophy

Occupational health is the application of public health to the work place. It is concerned with the prevention of disease and disability and the promotion of health among employed persons.

Industry is an additional avenue for carrying out the established public health program. Some public health services may be incomplete if the public health worker does not take advantage of the opportunities in industrial contacts. In selecting priorities for activities, the growing importance of adult health services must be recognized. Where, better than in industry, can large groups of adults be reached?

Work with industry may be looked upon as a two-way street. How can involvement of industry and its employees strengthen the local public health program? How can local and state health departments strengthen the health program in industry?

I How can involvement of industry and its employees strengthen the local public health program?

#### Some Examples

#### Public Health Program

1. Maternal and Child Health

1. a. How often is the mother of a child who is a public health client found to be working? Would it help to contact that mother through the industrial nurse at the work place?

#### Industry Involvement

1. b. What are the working conditions of pregnant women? What are company policies regarding employment of pregnant women? What should they be? Are pregnant women being exposed at the work place to such things as chlorinated hydrocarbons, benzol, radiation?
  
2. a. Periodic physical exams are known to be the best method of early detection of chronic diseases and promotion of health. Encouraging plant management to provide for implant health services, including preplacement and periodic physicals, for his employees would be a tremendous boost to community health.
  
- b. Bringing industry into all special community programs of health education and screening makes it possible to reach larger numbers of people: diabetes detection, X-ray of chest, education regarding heart disease, obesity, mental health, etc.
  
- c. Encourage vision and hearing conservation programs for adults in industry.
  
3. a. The inclusion of top management and labor leaders on some local community health committees not only helps educate them regarding public health but also will bring the health departments support from key leaders during budget time.
  
4. a. Present local programs include community restaurant sanitation, mosquito control, sanitary water supply and sewage disposal. Industry is involved in all these through: Plant cageterias, log ponds, water supply and possibly responsibility for water pollution, drinking fountains, toilet facilities, washing facilities, and sewage disposal. Since industry is normally involved in one or more of these problems, is not industry then already a part of the local health department sanitation problem?

2. Adult health and the prevention of chronic diseases

3. Administration and Budget

4. Sanitation

4. b. The extent to which each plant can be involved in good plant sanitation, to that extent will the community sanitation program be strengthened.
5. a. Community programs are strengthened through inclusion of industry in community X-ray programs, TB follow-up, immunization information, etc.
- b. Assistance to industry in setting up a system of recording sickness absenteeism would be of value to the health department in epidemiological studies of both acute and chronic illness.
6. a. Greater familiarity with industry and its problems will assist the health officer in dealing with such occupational (as well as community) health problems as psittacosis, undulant fever, pesticides poisoning, lead poisoning, etc.
7. a. Industrial management is a group to whom the need for rehabilitation could be profitably interpreted.
- b. Also, a rehabilitation program would be greatly strengthened if management were helped to understand and make possible the employment of the handicapped: Controlled diabetics, heart cases, and epileptics, and recovered TB and mentally ill.
8. a. Opportunities exist in industry for education of large groups of adults--through literature, films, and articles for house organs. Industry is an outlet for public health information.
9. a. Health departments interested in bringing the community into their home safety programs could have a strong ally in industry. Industry could be persuaded

**to keep records on home accidents**

- b. Industry has experience in accident prevention that would be helpful to a public health program.**
- c. Employee groups are additional outlets for home safety education.**



II. Specifically, how can Local and State Health Departments Strengthen the Health program in Industry?

<u>Industry problem</u>	<u>What Public Health Action Is Called for?</u>	<u>Who will do it?</u>	<u>How?</u>
1. Poor sanitation, particularly in small plants	Plant surveys to determine condition Recommendations to plant management Follow-up on recommendations Education of workers on plant sanitation	Local Sanitarians	Generalized sanitation programs; sanitarians visit plants in their respective districts. Consultation service could be obtained from District Sanitary Engineer and Occupational Health Section as desired
2. Toxic gases, fumes, mists, dusts; poor illumination and general ventilation; noise; radiation; toxic chemicals; infectious materials	Studies to evaluate health hazards Recommendations to plant management Follow-up on recommendations	Occupational Health Section staff, OSBH Local sanitarians	Occupational Health Section staff makes special studies when referred to them by local sanitarians, or by plant management, or by employee  Local sanitarians observe during sanitation surveys, make recommendations when they are able, or refer to OSBH when problems are too technical
			OSBH Industrial Hygiene Engineer would orient sanitarians to some of problems. One sanitarian might receive extra orientation in industrial hygiene, to serve as a consultant to other san-

What Public Health Action Is Called for?	Who will do it?	How?
<u>Industry problem</u>		
3. First Aid for Employees	Local sanitarians Local public health nurses	Sanitarians can survey during regular plant surveys  P. H. Nurses can assist with planning when contacting plant personnel manager, safety director or industrial nurse for some other reason
4. Occupational Diseases Example: Dermatitis	Local sanitarians Local P.H. Nurses Health Officer	Assistance regarding plant needs and recommendations can be secured from Occupational Health Section, OSBH  Sanitarians can check washing facilities, protective equipment, etc., during surveys  P.H. Nurses can discuss with plant nurse or personnel manager protective equipment and follow-up of cases  Health Officer could give consultative assistance to the plant  Occupational Health Section Director, OSBH, would serve as consultant to local health dept., as well as to plant, if requested
Surveys to determine adequacy of program Assistance in planning, such as arranging for First Aid Classes		
Determine adequacy of washing facilities and of personal protective equipment		
Education regarding prevention and prompt care		

<u>Industry problem</u>	<u>What Public Health Action Is Called for?</u>	<u>Who will do it?</u>	<u>How?</u>
5. Communicable Diseases	Information to plant management on methods of control Assistance in Keeping Records of Cases Follow-up	Public Health Nurse Health Officer Sanitarian Epidemiology Section, OSBH	Public health nurse could follow-up on communicable diseases in industry, just as in other areas of the community  Health Officer and/or P. H. nurse could bring information and advice to management in times of high community incidence  Health Officer and/or nurse could consult with plant medical consultant when there is one  Sanitarian investigate, as in outbreak of infectious hepatitis in plant
6. Vision and Hearing Conservation	Evaluation of noise problem and hazards to the eyes Evaluation of plant programs Information to plant management on proper programs and on community facilities Follow-up	Sanitarians OSBH: Occupational Health Section Hearing Conservation Vision Conservation Public Health Nurses Health Officer	Sanitarians could help evaluate noise problem, and eye protection, during plant surveys  Engineers could be called on for special noise studies and recommendations  Health Officer and P. H. Nurse could advise on proper eye first aid, vision and

<u>What Public Health Action Is Called for?</u>	<u>Who will do it?</u>	<u>How?</u>
<p>7. <u>Industry problem</u></p> <p>7. Off-the-job Safety</p> <p>Cooperation in an educational program regarding home safety aspects</p>	<p>Staff of local health department OSBH Home Safety Program</p>	<p>Sanitarian or P.H. Nurse contact plant manager regarding a program:</p> <p>A. Advise on keeping records in plant of off-the-job accidents,</p> <p>B. Plan for use of plant and community facilities for education:</p> <p>(1) Plan a program for plant, and</p> <p>(2) Bring industry into community home safety program</p>
<p>8. Health maintenance of employees</p> <p>Education of plant managers, local physicians, and employees on need for and value of a preventive medicine and public health program in or applied to each place of employment</p> <p>Assistance in planning for in-plant health services</p>	<p>Health Officer P.H. Nurse OSBH Occupational Health Section Staff</p>	<p>Health officer could talk to local medical society</p> <p>Health officer could visit industrial plants to discuss preventive medicine aspects of program (placement, periodic health inventory, etc.)</p> <p>Health officer could talk to labor groups</p> <p>P.H. Nurse could work with plant nurse or promote industrial nursing where plant does not have nurse</p> <p>OSBH (Occupational Health Section) could assist (Health Education Consultant and Section Director.)</p>

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October 1956



**HOW GOOD IS THE INDUSTRIAL HYGIENE PROGRAM?  
A Challenge to the Local Health Department**

**Herbert K. Abrams, M.D., M.P.H., F.A.P.H.A.**  
Chief, Bureau of Adult Health, Division of Preventive Medical  
Services, State of California Department of Public Health,  
Berkeley, Calif.

(Presently, 1958, Medical Director, Union Health Service, Inc.,  
Chicago, Illinois)

"Industrial hygiene is one of the most important topics in preventive medicine and hygiene, as it deals with the health, the welfare and the human rights of the vast majority of the adult population.... The object of industrial hygiene is to protect the health of the worker, whether in mines, ditches, factories, stores, ships, farms, banks or houses. The object of industrial hygiene is also to prevent industrial diseases, but the control of special health hazards does not solve the problems of the health of the worker. Industrial hygiene is nearly as broad as adult hygiene itself--indeed, industrial hygiene runs the whole gamut of hygiene and sanitation. It deals with the problems of industrial poisons and dust; ventilation, temperature and humidity; light, noise and nuisances; cleanliness, plant sanitation, overcrowding; hours of labor, rest periods and fatigue; child labor; women in industry; workmen's compensation; medical and nursing service, physical examinations, communicable diseases in the factory, mental health, personal hygiene."-- Rosenau (1)

Since we believe that "the local health department has the general responsibility of providing effective leadership in meeting all types of community health needs," (2) it is appropriate to review critically our public health programs in the light of Dr. Rosenau's forthright statement. If his comment was correct in 1935, it is even more cogent in 1950 as we enter the atomic age in this highly industrialized America.

**Adequacy of Governmental Industrial Health Services**

There are in the United States only 13 local and 44 state industrial hygiene units, two of which are a part of the state labor department (Tables 1-3). More than half of these units have five or less personnel, with 17 (30 per cent) having only one or two persons. Only 25 (44 per cent) have any medical personnel and only 30 (52 per cent) have nursing

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personnel. The personnel available is in most cases insufficient to do substantially more than specific studies upon request. Little time or man power is available for going into the hundreds of thousands of plants, large and small, in which hazardous conditions prevail.\*

Moreover, the great bulk of the inadequate number of industrial hygiene workers is comprised of those in the "environmental" phase of the work: engineers, chemists, and technicians. Medical investigation is essential in appraising the effects of the exposures measured by the engineer and chemist. The limitations of mechanical application of "Maximum Allowable Concentrations" are well known to the industrial hygienist.

### Official Industrial Hygiene Units in the United States\*

#### 1. Summary\*\*

Type Unit	No. Units	<u>Physicians</u>	<u>Engineers</u>	<u>Chemists</u>	<u>Nurses</u>	<u>Other</u>	<u>Total</u>
State	44	34	137	54	32	89	346
Local	13	3	17	4	10	36	70
Totals	57	37	154	58	42	125	416

#### 2. By Size of Staff\*\*

<u>No. Personnel</u>	<u>No. Units</u>
1-2	17
3-5	15
6-10	15
11 over	10

\*\*Source: Directory of State, Local & Territorial Hygiene Personnel, USPHS, March, 1950. This directory does not include positions which were vacant. On the other hand, it does include some part-time workers who have been counted in this table as being full-time.

\* The state labor department industrial safety programs are similarly inadequate. There are about 800 inspectors in all the states to safeguard upward of 40,000,000 workers subject to the jurisdiction of state labor laws. The majority of these give only part time to safety and health work for they must also inspect for compliance with wage and hour, child labor, and other laws. In 1946 in Michigan, there was a total of 20 factory inspectors. In Alabama there were 11, 8 of whom worked only in the coal mines. Even in states like New York and California, the safety staff was physically incapable of inspecting each plant subject to the law even once a year. (14)



### 3. By Type of Personnel\*

<u>Type of Personnel</u>	<u>No. Units</u>
Physicians	25
Nurses	30
"Environmental" group**	57

\* Source: Directory of State, Local & Territorial Hygiene Personnel, USPHS, March, 1950. This directory does not include positions which were vacant. On the other hand, it does include some part-time workers who have been counted in this table as being full-time.

\*\* This group includes engineers, chemists, and other technicians such as "industrial hygienists." The designation, "industrial hygienist," is confusing as it may refer to a highly trained engineer or chemist in one state and to a sanitarian or relatively untrained technician in another.

Further, if one approaches the field with the viewpoint of "adult health" it can be seen how far short of the mark most of the existing programs fall. The well defined occupational diseases comprise a relatively small part of the occupational health picture. Cancer, heart disease, tuberculosis, and other clinical conditions frequently related to occupation receive pitifully little attention from industrial hygiene agencies. And the more subtle problems such as fatigue and mental impact of occupations go begging for study.

To make matters worse, most states have no accurate knowledge of the size of their problems, due to the inadequacy, or in many cases the total absence, of occupational disease reporting. Since it is generally accepted that there occurs one occupational disease to every 10 or 15 occupational accidents, one gains an impression of the magnitude of the problem by examining statistics on disablement, death, and absenteeism from occupational causes. In 1947-1948, the nation's industries reported an annual incidence of two million lost-time injuries (lost time---absence of 1 day or more), 17,000 deaths, 90,000 permanent disabilities, 41,000,000 man-days lost and financial loss to employers of over three billion dollars. (3) These figures are an underestimation because they are based on reports submitted for workmen's compensation, which in no case is complete in coverage.

#### Labor's Growing Interest

It is not surprising, therefore, that labor groups, dissatisfied with existing services, have demanded that industrial hygiene programs become a part of federal and state labor departments. Several bills have been introduced into the Congress in recent years to accomplish this, and the major labor federations support the proposals. (4)

The public health movement is faced with an important challenge here, for obviously it cannot ignore the interest of at least the organized part of some 65 million or more workers who, with their dependents, comprise the great majority of the nation's population. In recent years, trade unions have demonstrated increasing activity in health matters. Through collective bargaining agreements alone, by mid-1948, more than 3 million\* workers were covered by some type of health, welfare, or retirement benefit plan (5); and millions are protected by health, safety, and sanitation provisions written into their collective bargaining contracts.

The following factors are germane to the subject but they lie outside the scope of this paper: status of the workmen's compensation laws which are fundamental to the progress of industrial hygiene; the inadequate legal basis of the industrial hygiene program in many of the states; the relationship of the federal and state public health and labor departments; the attitudes of industrial health agencies to management and labor.

### Opportunities for the Health Department

It is clear that if public health agencies are to give the function of industrial health service more than lip service, vigorous efforts must be made to extend public health into the places where people work. This paper does not attempt to offer a complete solution to a problem so fraught with complex social and economic factors, but it does suggest some ways in which the health department, especially the local health department, might effectively bring better public health to the industrial community.

Industrial hygiene for long has been a narrow "fringe" service surrounded by an aura of highly technical specialization. Probably for this reason, it has continued to operate, with few exceptions, as a state-level function, rather than as a basic local health service.

The California Department of Public Health believes that industrial health, like the other elements of public health, should be administered on the local level so far as practicable. Its Bureau of Adult Health promulgates the concept that a substantial part of industrial health service can be handled by extension of existing health services into the factory and field. The factory should receive a proportionate share of attention as, for example, the school now does. A relatively small sector of industrial health requires the attention of the skilled hygienist and his specialized equipment and facilities.

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\* Present estimate is 5 million or more.

The health officer is encouraged to inventory his program to see whether opportunities to reach the employed population are being exploited:

### General Community Health

Morbidity--The average worker loses 15 times as much time from non-industrial injuries and illnesses as he does from occupational causes. (6) Is the local health department cognizant of the sickness absenteeism problem in the industries in this area? Does the department offer assistance to these industries in reducing the incidence of illness through case finding studies, nutrition consultation, health education, sanitation, communicable disease control, and other services? In several states, the disability insurance program now offers a valuable source of information on nonoccupational illness hitherto unavailable.

Case Finding Studies--Are case finding studies planned for industrial groups, or are they occasionally conducted among them because they offer convenient aggregations of people? Certain occupational groups, such as those in the dusty trades, should be systematically investigated not only for the pneumoconioses but also for tuberculosis because these workers are notoriously subject to tuberculosis. Further, the health department can materially assist employers to improve their health services by offering miniature x-ray services on a regular periodic basis. The multiphasic study technique applied to occupational groups now offers great possibilities, not merely in case finding but in elucidating basic socio-medical factors in health and disease.

Rural Health--Mechanization and modern chemicals have brought factory conditions to the farm but under far less satisfactory circumstances for coping with them. The occupational death rate for farmers exceeds that of factory worker. (7) Farmers lose 9 per cent of their gross income from accidents. (8) In California in 1949, 11,202 farmhands had disabling accidents, and almost 60 were killed. (9) There were 300 officially reported cases of occupational poisoning from agricultural chemicals. (10)

Health on the farm in general is not what many used to think it was. A recent study showed the prevalence of disabling illness among agricultural workers to be greater than among nonagricultural workers.(11)

The interested health officer can find much to do in this field. For example, in the past year, a new series of insecticides, known as organic phosphates, caused numerous poisonings and several deaths. Private practitioners were suddenly presented with a clinical entity about which they knew nothing. The health officer was in a strategic position to supply data on diagnosis and treatment which were available but not yet generally known.

## Sanitation

Basic Environmental Sanitation--Do the sanitarians inspect local industries for basic sanitary facilities? To the knowledge of this writer, public health sanitarians virtually ignore industrial plants except where cafeterias require inspection. Only recently the author saw an industrial plant of 200 employees where there were neither drinking water nor toilet facilities. Availability and use of washing facilities is the most important factor in reducing the incidence of dermatitis, which constitutes the largest single category of occupational diseases.

The sanitarian and sanitary engineer can also be effective in the more technical phases of industrial hygiene by (a) informing the state industrial hygiene agency of problems to be investigated; (b) assisting the state agency in the actual study and solution of the problems; (c) learning to do some of the simpler procedures such as carbon monoxide testing. The state agency should be requested to organize courses of training for local personnel or to furnish training funds.

Air Pollution--The Donora tragedy found health departments ill prepared to assume responsibility for keeping community air clean. Aroused public opinion, nevertheless, is insisting on action. The health department with an industrial hygiene program has a nucleus around which to build an intelligent and authoritative approach to its own community air pollution problems.

### Communicable Diseases

There are many problems of special importance to occupational groups: for example, brucellosis, Q fever, anthrax, epidemic keratoconjunctivitis, tuberculosis, and upper respiratory infections. Upper respiratory infections comprise the largest single cause of sickness absenteeism. The health department can bring to industry its expert assistance in the control of these diseases.

### Chronic Diseases and Rehabilitation

Has the health officer become informed about the problem of the older worker and the physically handicapped worker in his community? Can he assist in improving their employment possibilities by informing management of the facts of employability of these people? Is there cooperative effort between the health department and the vocational rehabilitation program? In some areas the health officer acts as medical consultant to the vocational rehabilitation program. Here is an opportunity to build both the rehabilitation and the public health services by mutual effort.

## Mental Health

There is much talk of accident proneness. Has the health officer examined the incidence of industrial accidents in his area? Does he participate in community activities concerned with recreation, housing, and other factors important in mental health?

## Maternal and Child Health

About 30 per cent of the labor force in the United States is female. Women workers have special problems of pregnancy, dysmenorrhea, and the problems arising from the stress of work added to domestic responsibilities. The maternal and child health program might with profit look into those industries in which there are large numbers of women workers. In one city, the health department holds well child conferences in the premises of a union hall. In some areas, particularly farming regions, the health officer might well examine the health aspects of child labor. (12)

## Public Health Nursing

Is there liaison between the public health nurses and the local industrial nurses for the exchange of information and promotion of the public health program in industry? The industrial nurse is functionally in large measure a public health nurse. Through her close contact with the workers, she can be a valuable ally to the health department in reaching the industrial population. Since workers spend one-third of their lives in the factory, the industrial nurse's position is not unlike that of the school nurse.

Conversely, the public health nurse can help the plant nurse as a family and community contact in the many industrial problems, such as absenteeism, illness, and emotional situations in which home or community factors play a part.

## Health Education

Does the health educator reach the organizations of the working man and woman in the same proportions as he does other groups? Does he furnish materials to the union newspapers; motion pictures and talks for union meetings and for union women's auxiliaries? Recently, the U. S. Public Health Service and the Pennsylvania State Health Department organized a course in industrial hygiene and safety principles for shop stewards of the United Steel Workers in Pennsylvania. Why cannot this approach be employed for other public health matters? Similarly the health educator should work with chambers of commerce and other management groups.

## Industrial Medical Services

One of the urgent unmet needs in industry is the almost complete absence of medical service for workers in small plants. The familiar cigar-box first aid kit symbolizes medical service to the two-thirds of American workers who are employed in plants having less than 500 workers. Economic factors make it impractical for most small plants individually to provide preplacement and periodic physical examinations and the other necessary in-plant medical and nursing services.

Moreover, too many large industrial organizations still offer poor services or none at all. Yet when industries are shown that prevention of occupational disability pays financially, they will consider seriously offering good services.

The health department can stimulate groups of small plants to provide inplant medical and nursing services by group financing of costs of medical and nursing personnel and physical facilities. Two county health departments in Georgia have successfully promoted such services. (13) Similarly, the Connecticut Division of Industrial Hygiene has played a leading role in setting up small plant programs in Hartford.

It should not be forgotten also that example is a good teacher. Let the health officer examine the medical program, if any, which is available to the employees of the health department.

Many other activities of the public health department, such as nutrition and dental health, might be discussed in the same vein. Whether these activities are planned in connection with a formal industrial or "adult" health program, or whether they are integrated into the structure of the fundamental work of the department, does not matter. Important only is the fact that the working population is recognized and given service.

## Large Industrial Centers

In the larger, more industrialized areas (population over 100,000), specific industrial hygiene services should include the medical, engineering, chemistry, and nursing services necessary in the prevention of occupational disease and the promotion of good industrial health practice. The health officer must not delude himself into thinking that employment of an industrial hygiene engineer or sanitarian constitutes an industrial hygiene program. Rather, this is only a beginning. Where budget permits employment of only one or two such persons, some definite arrangement should be made with the medical and nursing sections of the department for specific and well defined participation in the work.

## Stimulation of Local Health Interest

The California Department of Public Health implements its program of interesting local departments in industrial health work by means of many approaches, including the following:

1. The Bureau of Adult Health sends reports on all industrial hygiene studies made to the local department in whose jurisdiction the plant is located.
2. Wherever possible, personnel from the local department participate in the actual conduct of the study.
3. All local departments receive periodic reports of occupational disease incidence according to location, industry, diagnosis and other categories. Several local departments which have potentialities of building their own program, or already have a partial program, receive and utilize individual case reports of occupational diseases.

4. The Bureau carries on systematic education of local department personnel in industrial health practice. For example, the sanitation consultant holds orientation courses with local sanitarians, including actual work in the factory. Formal training institutes are conducted for local sanitarians and sanitary engineers by the Bureau in collaboration with the University of California. Similarly, the industrial nursing consultant has developed institutes and collaborated with the university in planning courses for industrial and public health nurses.

5. In one county, on invitation from the local health department, the Bureau organized a county-wide survey of the industrial health needs of the community as a demonstration project. The team of surveyors included personnel from the local department, the State Department of Labor, the State Health Department and the U. S. Public Health Service. It was an exemplary instance of cooperation of various governmental agencies. The study helped to create wide public interest in an industrial health service and it is hoped thereby to enable the local health department to develop its own complete service. At this writing, this department has already been authorized to employ an industrial hygiene engineer and some services have been started.

### Conclusion

Occupational health programs offer an unusual opportunity to the local health officer. Occupational diseases are completely preventable, yet they now occur in large numbers. Moreover, occupational health is a keystone in the fundamental study of the social and environmental factors, so important in the mental and physical health of all people. The public health department needs to recognize and act on these facts, realizing that occupational health is a basic and necessary public health service.

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## OCCUPATIONAL HEALTH PROGRAM AS A LOCAL HEALTH OFFICER'S OPPORTUNITY

Huntington Williams, M. D., F.A.P.H.A.  
Commissioner of Health, Baltimore, Md.

If you, as a local health officer, are considering the challenge of establishing in your health department a more active program for improving the oft-neglected field of industrial hygiene, you may wish to begin by reviewing such early writers on this important segment of public health as Ramazzini (1), Thackrah (2), and M'Cready (3), although a modern summary volume such as Alice Hamilton's Exploring the Dangerous Trades (4), (5) may be more appealing and helpful. As a health officer or industrial hygienist you may well wish to visit some community where you can see a local health department busily and happily engaged in a program of the type I have in mind, where by slow and consultative and educational methods the leaders of big and little industry have been brought to trust the health department and its trained medical men and chemical engineers and to seek their services in efforts to protect the health of the workman.

Then will come the task, self-imposed because, perhaps, of the contagiousness of the enthusiasm that has been built up, of persuading the local appropriating authorities to provide the needed funds to make a start, or a sharp upswing, if the start has already been made. Let me trace for you some of the points of beginning and the major elements of advance in a thirty-year program which has grown from a very small start in a health department with which I have been associated.

The opening gun can be any one of a dozen items that strike the local health officer as real neglect in protecting the health of large groups of workmen, urban or rural. In our case, in the 1920's there were complaints that came to the Health Department and occasional known cases of occupational disease. Baltimore passed a strong gas appliance ordinance in 1925. Too many deaths had made legislation a "must" and so the department entered into the control of carbon monoxide poisoning. The way was thus paved for steps in real preventive work in industries, from garages to tailor shops to large chemical plants. Two state bodies encouraged the City Health Department in these efforts. The State Board of Health designated the City Health Department as its agent to receive reports of cases of occupational diseases from physicians under a mandatory law and the State Department of Labor teamed up their field inspectors with the City Health Department inspectors for joint staff instruction purposes. The Labor Department had little or no preventive program and was more than glad for the City Health Department to go forward.

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In 1934, R. R. Sayers, M.D., and J. J. Bloomfield of the Public Health Service staff came to our aid with invaluable suggestions. Our first specialized inspector was salvaged from a dramatic budget cutting and the present program was launched, literally on a shoestring. During the period from 1935 to 1939 Maryland restudied (6) and revised its Workmen's Compensation Legislation and gave the State and City Health Departments the responsibility for controlling and preventing occupational diseases (7), and for adopting regulations to that end. (8) Somewhat later, the City Health Department secured the aid of the City Buildings Engineer in the Department of Public Works and, thereafter, all applications and plans for new or altered industrial buildings have been referred to the City Health Department for review before approval. This was a great preventive step. Needed control equipment is now installed on Health Department requirements so that buildings and apparatus are not erected in a manner that will cause occupational diseases. (9) And lastly Dr. Sayers, on retirement, came to join the staff of the industrial hygiene unit he had helped to build up and is now Senior Medical Supervisor for Occupational Diseases with us on a part-time basis.

It may be said that in the early days management, skeptical of visits from the Health Department, was very reluctant to give any information about types of operation or the nature of materials used. Frequently, it denied the existence of occupational disease or health hazard. As time went on, the confidence of management was gained and the situation has now been reversed, so that management, and the medical profession also, seek the advice and guidance of the City Health Department in protecting workers from harmful materials. This is chiefly the result of the way the Director of our Sanitary Section does his work, and the same may be said of his co-worker, who is our Bureau Director in Industrial Hygiene. The service is on a consultation basis with management; one plant tells another of its relations with the City Health Department, and requests for help and guidance keep coming in. (10) (11)

Close and effective working relationships have been built up over the years with the physicians in the city and with the Industrial Health Committee of the Medical and Chirurgical Faculty of Maryland, the State Industrial Accident Commission and its medical board, the Baltimore Association of Commerce and other official and civic groups.

While in most instances industrial management is anxious to work with the City Health Department in protecting the health of the worker, there are rare occasions when it may be necessary to resort to fairly stern procedures. In such instances it is customary, prior to any legal action, for the Commissioner of Health to ask top management to discuss the situation in his office with him. Court action has been taken but only after wilful and repeated disregard of increasingly strong persuasive methods.

It may be well here to give a brief outline of procedures that seem to produce results, as applied in our city. Company X is a fairly large organization employing over 200 men. Step I was the usual health department nuisance complaint procedure, in this instance repeated ad nauseam. The complaints were investigated, orders were issued, but only with moderate success. Step II, then taken, was a special hearing in the City Health Department office of the Director of the Sanitary Section. It was attended by the plant manager, a vice-president of the company, and the City Health Department directors of sanitation and industrial hygiene. Warnings were given, records were made, and the promises offered were partially carried out. Still the complaints continued and were investigated and thereupon Step III was taken. This was a hearing in the City Health Department office of the Assistant Commissioner of Health. The attendance was the same except that the Assistant Commissioner directed the hearing. The results which followed this meeting showed some progress had been made, partly due to the psychology of the meeting place.

Later, it became clear that satisfactory relations between the plant and the Health Department had not yet been achieved. Step IV was a meeting then called by the Commissioner of Health in his own office to which the president of the company came, attended by his staff. The prior unsatisfactory record was reviewed and the public responsibilities of industry were emphasized. Following this conference, "top orders" seem to have produced the desired result by infiltration throughout the entire plant, and a series of planned periodic meetings between the Health Department staff and plant management appear to strengthen and confirm our teamwork.

In medical literature lead poisoning has appeared as an occupational disease as far back as classic times and it occurs in many forms today. How many persons are poisoned or killed by it in your community? What are you, as local health officers and local industrial hygienists, doing about it? What can you do? With what official agencies can you team up in this matter? Do you ever ask yourself such questions? It may not have occurred to you that lead may be acting as a poison in many unsuspected ways. We found that a specialized blood lead laboratory service (12) was essential, if we were to help the family physician and the hospital dispensary pin down this disease, as it occurs both in and out of industry. In the scrapping of old painted metal, it could be expected; but it was also found by blood lead tests among "clean-up" men and other attendants exposed to lead dust in shooting galleries (13), and special control devices were instituted for its prevention in such places in our city. The burning of battery casings as fuel by the poor may be a "depression disease" of the past, but it did kill and maim when the lead-bearing fumes were inhaled, and it may put in an appearance again, unless we are watchful. Many have been amazed at the number of children of teething age living in the slums who

chew window sills and other exposed lead-paint covered surfaces and die or become desperately ill, as a result. Twenty years' work with this special problem has given us a total of 369 cases and 94 deaths, the diagnosis and partial control of which was based on the blood lead laboratory service. (14)

One more example of our service to industry was the case of a small local broom factory which called on us to study a peculiar rash or dermatitis among the employees. There we were able to trace the "grain itch" to an insect mite (15) and the trouble was promptly eliminated.

In the constantly changing industrial picture involving the developments of new materials and chemicals, the manufacturer may fail to provide adequate control measures to prevent dangerous exposures to unknown health hazards. In this particular category are some of the newer insecticides, particularly parathion, and the recently increasing use of radioactive isotopes in industry and in medicine. A well developed industrial hygiene service within a local health department is also eminently qualified to study atmospheric pollution of industrial origin, the control of which is frequently expected of the health officer, as a nuisance abatement procedure. (16), (17)

Some of you will say that the problem of official industrial hygiene in your part of the country is the legal responsibility of a state health department and you are only a local health officer, or that in rural areas there is little or no heavy industry. Any of these things may be true, but even so, a local health officer can play a large part in assuring the success of a health program in his area. Is he not in duty bound to be certain that this work is actually being well done? Surely a local health officer would not think of leaving diphtheria control in his community to the state health department.

After careful scrutiny, you may find that no official agency is effectively active in the prevention of occupational disease, and it remains for you to become aware that there is a great untilled field in preventive medicine at your doorstep. If so, and if you will recognize your opportunity, I venture to predict that you will be well satisfied with the efforts you make and that you will find rewarding benefits in closer relations with your local medical profession, your community leaders, and the people who pay your salary to protect their health.

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## NURSING SERVICE FOR EMPLOYEES IN SMALL PLANTS

Heide L. Henriksen  
Minnesota Department of Health

Industrial nursing in the United States dates back to 1895. And for many years visiting nurse organizations have provided part time nursing service to small plants. But routine plant visits made by generalized public health nurses is a relatively recent development in adult health services.

In Minnesota, the inclusion of work places in planning community health programs and plant visits by public health nurses was an outgrowth of the effort made by the state health department's Section of Industrial Health to help small plants provide health protection for their workers.

### Problems Unique to Small Plants

One characteristic of the "small plant problem" is that there are so many small plants. (Some authorities classify as "small plants" those which have less than 55 employees. Others place in this category plants with less than 250 employees because this is the point at which the employment of health personnel at the plant is feasible, at least to the extent that services of a full-time nurse are justified.) In Minnesota, only 0.4 percent of the plants employ more than 500 workers.

Another characteristic of the small plant is that its executive staff is small and that each member has a variety of responsibilities. The president of the firm may also be its treasurer, secretary, production manager, and personnel director. He may "pinch hit" for the foreman or other key worker who may be absent. Many activities compete for administrative attention and as a result, health protection of workers may consist only of compliance with state laws for workmen's compensation. When the occupational injury rate is high, the employer has to pay higher insurance rates. However, he may prefer to remain an "insurance pool risk" rather than spend the money, time, and energy needed to develop a sound health protection program.

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In plants employing less than 100 workers, the accident severity rate is more than twice as high as that in plants employing 1000 or more workers. In Minnesota in 1955, the respective rates were 20.0 per million man hours worked in the smaller plants and 9.1 in the larger plants.

The likelihood of finding considerable numbers of workers with military "4-F" rating is greater in those small plants where employee health services are minimal. Workers who have been rejected for work because of a physical liability tend to gravitate to the plant where there is no planned employee health service. This is the unfortunate sequence where the pre-employment physical examination is made not for the purpose of placing a worker according to his physical capacity but for the exclusion of all possible risks.

The combination of the numerical preponderance of small plants, the attitude of some employers, the unavailability of health personnel, the higher accident frequency rate and the probability of a larger number of workers with non-visible impairments or manifestations of chronic diseases comprise the health problems peculiar to the small plant.

#### Help for Small Plants

In 1946, four plans of graded comprehensiveness were suggested by the Minnesota Department of Health to employers in small plants. These were: (1) to train selected workers to administer first aid and assign them certain responsibilities for emergency care; (2) to purchase nursing service on a cost-per-hour basis from voluntary nursing agencies; (3) to develop a mutually maintained and centrally located health service; (4) to establish specialized medical centers for occupational health services to plants.

These plans were a part of an ongoing program of the Section of Industrial Health and some progress was made. Through private industrial medical practice, a number of plants in the Minneapolis-St. Paul area bought occupational medical services; two plants bought nursing time from a visiting nurse agency and two plants shared the services of one nurse. The plants outside the Twin City area did not have access to either the industrial medical clinics or the nursing agencies from which nursing services could be obtained, and progress in health protection was measured primarily in the engineering control of hazards.

In the early nineteen fifties, a new kind of problem associated with the health protection of workers began to manifest itself and it had to do, not with work-connected disabilities, but with long-term illnesses. The trend in personnel practices to expand health benefits for nonoccupational disabilities together with the growing problem of chronic illness focused attention on this aspect of occupational health.



Because chronic disease is one of the concerns of official health agencies, the problem was taken to the local health departments. A study of the situation resulted in a plan to include plant health services in generalized public health nursing programs.

### Calling Public Health Nurses

Exclusive of Minneapolis, St. Paul, and Duluth, Minnesota had 270 public health nurses in January, 1956, not counting school nurses. They were distributed throughout most of the 87 counties which, in turn, are grouped under the health jurisdiction of the eight districts of the Minnesota Department of Health. The population served by a public health nurse ranges from approximately 5000 to 40,000.

A similarity between the school and the plant as a focus for selected preventive health services is apparent, and this is the approach that was used in extending health services to the wage earner in the family.

But before the public health nurse was ready to start knocking on doors of plants in her community, there were other doors that had to be opened for her. Initial plans were made in official health agencies at both the state and local levels. The community was brought into the planning through conferences with chamber of commerce representatives, local physicians, and the personnel of voluntary health agencies. The readiness of the local nursing service to add this program and the interest of the nurses in occupational health were appraised.

Once a local nursing service decided to include plant visits in its generalized public health program, the next step was to orient the nurses to their new responsibilities. Their in-service education program included sessions at which the factual material was presented, visits to plant health services, and discussions of adult health services in relation to preventive and rehabilitative measures. Supplementary resource and educational materials included a directory of plants showing numbers of employees and types of occupation; a booklet entitled Opportunities Unlimited which suggested services they might offer; two references for employers, Public Health Nursing Services Available to Industry and A Guide to Minimum First Aid Facilities; "In Case of Emergency" cards supplied by the Minnesota Safety Council; and a guide on Emergency Treatment in Industry for use in the plants. The forms the public health nurses used in making community surveys and writing monthly reports were enlarged to include a section on activities relating to plants.

## The Plant Visit

Before the first visit to a plant, an appointment was made with the president or top officer of the firm, on the principle that he should be the first to know of any proposed activity in his establishment and have a chance to give or withhold his blessing.

All initial visits followed much the same pattern. The public health nurse and the industrial nurse consultant after introducing themselves usually said: "We have come to see if there are services offered in your community health program that could be useful to your employees if they knew about them." One did not have to be a mind reader to know what their host's mental response would be to this offer. His mind's eye saw his foreman who can handle any man on his crew, his truck driver, the man on the electric drill, his employees en masse--self-reliant, a little taciturn, and fiercely resentful of anything that smacked of philanthropy.

Before he had a chance to verbalize his reaction, the nurses hastily would add, "We are particularly interested in employees with long-term illness and those who keep losing time because they themselves are ill, or because of illness in the family." Again, his thought processes needed no verbal expression to be understood. He would relax, close the desk drawer where he had put his checkbook, and lay down his pen. He was interested and ready to hear about the public health nurse's services in a family-centered program which includes his employees.

Employers, too, are interested in the selected health information materials the nurses suggest he post on the bulletin board or place in a pamphlet rack. This is illustrated by an incident which took place in a foundry where no women were employed. While showing the employer some literature on child care, behavior problems in children, and the like, the nurse commented, "If you had women employees, we would suggest pamphlets like these." Whereupon the employer retorted, "Why do you nurses assume that only women are interested in children? I have a year-old son at home and I would like very much to read those pamphlets. What's more, I will pass them on to a couple of other fathers here when I get through with them."

The last topic for discussion during this first visit is emergency care, because this is the part of the house where the dust is swept under the rug. The nurses offer to look at the plant's facilities. Often there are none. Often the facility is in itself a hazard. One nurse, with permission of management, removed a half bushel of bottles without labels, drug samples, proprietary medicines, antiseptics which had no claim to virtue other than a pungent odor, burn salves, dermatitis ointment, contaminated dressings, unwound bandages, and old adhesive.

Considerable thought was given to including first aid in the proffered public health nursing services in view of the fact that the care of workers with work-connected disabilities is the responsibility of the employer. However, first aid has its public health aspects. Injuries on the highway, at home, and at work are a high-ranking cause of death, and one aspect of a preventive program is good emergency care. If an injured worker is given proper first aid treatment, he is the primary beneficiary, not the employer. And hopefully, he will carry over the principles of safe emergency care to practices in his own home.

The precedent set by public health nurses in school health services was followed. The nurses offered assistance in planning first aid facilities, supervising their maintenance, and obtaining written standard procedures. Four general recommendations were made to the employer: (1) compliance with minimum facilities as defined in "Safety Standards for All Places of Employment in Minnesota"; (2) establishment of defined medical direction; (3) assignment of responsibility for emergency care to a person whose first aid certificate is current; and (4) a record system.

#### What the Nurses Do

Incidents have been selected from actual practice to illustrate the kinds of nursing services provided to small plants as part of the family health program in the community.

One had to do with an employee whose recovery from an injury was discouragingly slow. The nurse visited him at home to see if she could be of help. Because of his long confinement in bed he was developing flexion contractures. There was also a nutrition problem here. The physician had ordered fresh orange juice daily, but oranges were expensive and a carbonated orange drink was being substituted. The nurse reported her findings to the physician and together they worked out a plan to help the family carry out his directions.

Another nurse told about an employee who came to her while she was at the plant to find out if she carried with her a "blue medicine for cold sores they use in schools." He had a cold sore which did not heal. She persuaded him to go to his doctor. Later the surgeon told her it was gratifying to receive a referral while the cancer was still in an early stage.

In a turkey processing plant, there was a persistent dermatitis problem. The insurance carrier was threatening to cancel the policy. No chemicals were being used, and the only apparent adverse contact was with the wet birds on the conveyor line. The nurse had one advantage other members of the health team did not have. She could go

into the washroom with the women employees. These women had heard of Newcastle disease and they also knew there was something like "turkey itch." They had developed their own "preventive measures"--first a vigorous scrubbing of the hands and arms with an abrasive soap and a stiff brush, reminiscent of old-time operating room "scrubbing-up," then a liberal application of rubbing alcohol. One woman dashed cupped handfuls of alcohol on her neck and chest. These employees were not only producing their own dermatitis, but were very efficient in perpetuating it. A few lessons in handwashing and the use of hand creams solved the problem.

In one firm, the secretary-bookkeeper whose mother was a paraplegic had to stay home every time outside help failed to show up because the mother could not be left alone. Intensive rehabilitation nursing by the nurse brought the mother to the point where she could take care of her own personal needs. To the employer, this was the most important service the nurse had given in her whole community program.

The last instance is quoted from a public health nurse's record. There were a good many long-time employees in the plant she visited and many of them had progressive impairments. The problem was to motivate them to do their part in taking care of themselves, to follow their physician's directions, and particularly to work at weight control. To quote from the record:

Between May 16 and October 20, 18 visits were made to the plant, during which time 49 employees (all of whom were over 50) were given health counseling. Wives of three employees also came to the plant health center for conferences on family health problems, including the diet problems of overweight husbands. A chest x-ray was obtained for an employee's child who was a tuberculosis contact; one employee was given care at home for an acute condition and his wife was shown how to do the simple nursing procedures that were required for his continued care at home. I spent approximately one hour in the plant during my visits to that part of the county and believe it was good use of time.

The tremendous significance that health and useful, satisfying work years have for the individual, the family, and the community cannot be expressed in figures. On the negative side, there are figures which show how the loss of wages due to injuries and illness emphasize the need for adult preventive services.

For example, the net wages lost by Minnesota workers due to compensable injuries and illnesses totaled \$3,765,884 for the fiscal year ending June 30, 1954. No figures of comparable reliability are available for net wages lost due to disabilities not compensable

under workmen's compensation, but the general experience has been that time lost due to such disabilities is at least nine times greater than that which is legally attributable to compensable disabilities. Multiplying wages lost because of occupational disabilities by nine results in an estimated wage loss of \$33,892,596 due to noncompensable disabilities. These 37 and a half million dollars would take care of a great many nutritional, medical, dental, housing, and educational needs.

### A Subjective Appraisal

The inclusion of plant visits in the generalized program was tried out in all eight districts of the Minnesota Department of Health, but only by those nurses whose programs and interest made the introduction of new responsibilities possible.

The public health nurses felt that their services had been well accepted by both management and workers. When one plant celebrated Founders Day, the local public health nurse was invited to sit at the head table and, along with the mayor and other important guests, she was introduced because she had come to the plant on her own initiative to see if the services offered in the community health program would be useful to the employees. Because persons in management and in the labor force are taking an important part in community health programs, such as serving on hospital boards and participating in fund-raising drives, the public health nurse has found not only a warm but a discerning, appreciative welcome.

The public health nurses did not consider plant visits just an addition to their already overloaded programs. To the contrary, they believed that the plants provided an opportunity for adult health services never before available to them. For example, in the past, the nurse rarely saw the wage earner because he was not at home when she visited. If he were at home, usually it was because he was too incapacitated to work. And then he needed curative and rehabilitative care, not preventive services. During her plant visits is the time to do casefinding and emphasize disease prevention and health maintenance.

The public health nurses found opportunity to reach groups of working mothers. In October, 1955, women made up 37.5 percent of the labor force in Minnesota. Not only is the plant visit a means of offering health education directed toward the interests of working mothers but it has facilitated the handling of problems associated with school children who become ill during school hours or who have physical conditions that need correction.

The biggest advantage is access to the wage earner as a policy maker in home affairs. Frequently, obstacles to establishing good health practices among children lie in the father's attitude and the example he sets. If the parents are convinced that balanced meals, adequate sleep, dental care, immunization, and the correction of physical defects are important, they are likely to give their children the benefit of such practices.

Subjectively appraised, the inclusion of small plants in a generalized public health program is a promising method of providing selective adult health services concerned with disease prevention and health conservation. The objective appraisal of the development of small plant nursing services and their effectiveness remains to be done.

## ROLE OF LOCAL HEALTH DEPARTMENT IN OCCUPATIONAL HEALTH

Charles D. Yaffe  
Occupational Health Program,  
U. S. Department of Health, Education & Welfare

Occupational health can be effectively promoted only by teamwork, and the team must consist of the entire health department. Most public health programs require the combined efforts of various disciplines, and occupational health is certainly no exception. As an engineer, I feel that engineering is an indispensable part of any activity dealing with the health of our gainfully employed population. I recognize and acknowledge, however, that it is equally necessary that the physician, dentist, nurse, sanitarian, chemist, toxicologist, statistician, and the health educator also participate in such a program.

As sanitarians, you are all fully aware of the relationship between environment and health. Industrial hygiene is concerned with the effects of the working environment on health.

Let us consider, first of all, what the sanitarian can contribute to an occupational health program. A sanitarian's work, to a large extent, is in the field of environmental health. Many of the environmental factors in the industrial plant are the same as those encountered elsewhere. Among these are water supply, waste disposal, air pollution, food handling, rodent, vermin and insect control, and general sanitation.

There is nothing mysterious about these items. They involve activities which are part of the regular program of the sanitarian, and there is no question about his competence in coping with them. Yet, strangely enough, it has been my observation that local health department personnel often abstain from activity in many or all of these items where a factory is involved. For example, I have been in a number of plant cafeterias which had never been inspected by anyone from the local health department, although the food handling establishment had been in existence for many years. I believe that all of you will agree that any establishment of this type should be required to meet the same standards as those for other public restaurants.

Generally speaking, serious sanitation problems are not likely to be found nowadays in industrial plants, particularly the larger ones. Nevertheless, the sanitarian can find many opportunities to render a worthwhile service. Such service, however small, can go a long way toward gaining the confidence and appreciation of management. Such opportunities should be sought as they provide a means eventually for successful promotion of the entire public health program.

## Use Opportunities to Observe

The sanitarian has more opportunities than other personnel of a local health department for contacts with industry. As a consequence, he should look upon himself as an advance man for the department, a part of his job being to stimulate the plant's interest in other phases of public health.

Health agencies for many years have utilized the schools in connection with certain aspects of their program, since the school presents a place in which a large group of children is assembled. Physical examinations, immunizations and health education are readily accomplished under such circumstances.

The industrial plant offers a similar opportunity to reach adults. Promotion of such programs as tuberculosis case finding, nutrition and health education lends itself ideally to the industrial establishment, provided that management has been sold on the value of such things, and has been convinced that dollars and cents profits will accrue from his operations as a result of the improved health of his employees.

Bringing management around to this point of view is seldom easy and usually requires considerable time to accomplish. As all of you are well aware, the promotion of public health ideas requires an attack on more than one front. Trying to win acceptance of a health program in industry is no different, although it may be somewhat more complex because of the relationships involved between employers, employees, and, in some cases, the general public.

Suitable rapport must be established with many individuals, including top management, supervisory personnel, and individuals responsible for specific activities, such as safety or nursing. It is also essential that proper relationships be established and maintained with the workers, not only individually but also through their unions.

## Consider the Importance of Good Public Relations

Industry is very sensitive to the attitudes of the community and takes public relations into consideration in reaching many decisions. For example, plant operations may create a noise or air pollution problem. In most instances, this problem is not, or cannot be shown to be, definitely detrimental to health. Nevertheless, it presents a nuisance from which the public wants relief, and the health department is usually brought in.



Proper handling of such a situation can win the confidence, respect, and good will of all concerned. Unfortunately, I cannot lay down any specific rules to follow to accomplish such a task. The procedure to be followed will vary with each situation and will seldom be easy. However, I would like to point out one or two aspects which, in my opinion, require special attention. First of all, any information classified by management as confidential or restricted should be so treated, and if there is any question about the release of certain information, it should be cleared with the proper company officials.

Finding a solution to problems of this nature often requires the gathering of certain data regarding processes or operations which may be secret, or regarding quantities of materials used or produced. The release of any information of this type to unauthorized persons is considered objectionable by management in the same way that you would resent your bank teller discussing your bank balance with other people. Similarly, in most cases, specific recommendations made to the management should be considered as a matter between just you and them.

This often presents situations which require the utmost tact and diplomacy. For example, you may be called in on an industrial problem as a result of a complaint from a union which may demand to know exactly what your findings were and what recommendations you made to correct the situation. If conditions detrimental to health were found, the union is certainly entitled to have the situation corrected.

The release of information on certain details, however, may not always be necessarily advisable. For example, where there is concern about exposures to a toxic agent, informing the union or individual workers that certain tests showed the presence of 200 parts per million of carbon monoxide or 5 mg. of lead per cubic meter of air often will accomplish no constructive purpose and may result in considerable harm.

The interpretation of technical findings is not a simple matter and should be left in the hands of those properly qualified. In withholding such information, the idea followed is the same as in the case of the physician-patient relationship. The doctor very often withholds information about blood pressure, blood counts and other findings, since he realizes that the patient might attach too much significance to specific figures and be upset to the point where a cure is much more difficult to effect.

## Use Information Discreetly

As long as the union or the individual worker is concerned solely with the health aspects, it is usually only necessary to advise him that there is no danger to health, or to assure him that anything potentially dangerous will be satisfactorily eliminated.

There are obvious exceptions where comprehensive clinical-environmental investigations are carried out, in which the detailed findings are of wide importance. Such was the case, for example, when the U. S. Public Health Service was asked to resolve the question of potential hazards to workers exposed to sodium fluoride at open hearth furnaces. The workers suspected that sodium fluoride was harmful, and some were at the point of striking.

Representatives of both the United Steelworkers of America (CIO) and the Republic Steel Corporation requested a thorough study to get the actual facts. When our findings were made available, absolving sodium fluoride of any toxic effect in the open hearth operation, the union printed and distributed the report before our expanded public health bulletin was published.

A somewhat parallel situation in which I recommend withholding information from management is found with respect to physical examination records on individual workers. Even though management pays for the plant medical program, detailed records of physical findings are confidential and should not be made available to anyone outside the medical department except the worker's personal physician, or, where communicable disease problems are encountered, the official health agency.

The only information which management is entitled to is whether or not the man's physical condition is good enough for him to perform a certain type of work. Boiling it all down, what I have tried to say is that each side has certain rights and certain responsibilities. Management has the responsibility for providing safe and healthful working conditions; and, as long as it does so, it has the right to determine for itself how the job shall be accomplished.

The worker has the right to safe and healthful working conditions and the responsibility to make proper use of safeguards which are provided. There will be special situations in which the workers will be entitled to all or much of the detailed information uncovered as a result of an investigation of a public health problem.

In such cases, the plan of procedure should be agreed upon in advance, so that there will be no misunderstanding later on. I might add that any time that the public health worker fails to limit his

interest and actions to the health aspects, he is very likely to find himself, sooner or later, in a situation where he loses the confidence of most, if not all, of the parties concerned.

The principles which have been outlined here are also applicable with respect to publicity. The health authorities should have a clear understanding with management, and if necessary with labor, regarding information to be provided to newspapers or other news sources. Publicity is often very desirable and can prove beneficial not only to the management and workers of a plant but also to the health agency. It does require very careful handling, however.

### Look for Health Problems in Many Occupations

My remarks thus far may have given the impression that industrial hygiene problems are limited to manufacturing establishments. I wish to emphasize that such problems are not confined to the factory, but are also found in the office, in the store, and on the farm. Occupational health encompasses any place where people work.

I wonder, incidentally, how many of you have ever thought of, or looked for, possible health hazards while visiting dairy farms, pasteurizing plants, restaurants, schools, or sewage treatment plants. You might not find serious dangers, but you could find situations requiring improvement. Every year many persons working in such places file claims for compensation for occupational disease.

Returning to the discussion of the role of the sanitarian in the occupational health program, there is no reason why he should not utilize his knowledge and experience in other fields, such as ventilation and illumination. He may not be an expert in these subjects, but he usually has more information on them than the average individual and is in a position to advise whether or not a problem requires the services of a specialist.

### Call in the Specialist

I believe it is very good psychology for the local health department to call in specialists at every suitable opportunity, even though the problem in question may not be too serious or complex. Industry, particularly the small plant, will remember with gratitude the efforts of the local health department.

There are hundreds of toxic substances employed in industrial operations, but their use does not necessarily imply the presence of a hazard. The method of use, quantity involved, period of exposure, chronic and acute effects of the material, the control measures, and other factors all have a bearing on the situation.

Any use of toxic chemicals should be evaluated by industrial hygienists, however, to insure that there is no significant danger. Similarly, certain operations, such as welding, grinding and degreasing, present varying degrees of hazard.

Sanitarians, in the course of routine plant visits, may often have an opportunity to observe the nature of processes and materials used, and may pick up information which will enable the industrial hygienist to determine whether detailed investigations are indicated. State industrial hygiene staffs are usually so small in size that they cannot cover enough territory to locate all hazards in the State without assistance.

When the occasion arises, the sanitarian, and also, I might add, the health officer or other local personnel, might very profitably accompany State industrial hygiene personnel on plant visits. This affords an excellent opportunity for the development of closer relationships between the health department and the plant. It is worth emphasizing that industrial management usually occupies a respected position in a community, and is able to lend valuable support to the public health program.

Joint visits to industry also afford the local personnel an opportunity to become more familiar with occupational health problems and methods for dealing with them. They may be able, also, in some instances, to do follow-up work, thereby reducing travel and time demands on State personnel.

Where plant medical or nursing programs are in operation, it is most desirable to develop friendly relationships, since the people who operate such programs are in a strategic position to help sell public health ideas to both workers and management.

One means for obtaining their interest is to invite them to speak at one of your staff meetings. Such an invitation need not be limited to the plant physician or nurse. A member of management might give a most interesting talk to the health department.

If there are any of you who would like to become more familiar with specific phases of industrial hygiene, I am certain that your State department of health will be happy to provide information on materials for study, and to work with you on problems in your own community.

## SMALL PLANT HEALTH SERVICES AND THE HEALTH OFFICER

Joseph H. Gerber, M. D., Dr.P.H.  
Public Health Service  
U. S. Department of Health, Education, and Welfare

The progress made in occupational health in the past 50 years has been tremendous. Services that started out to provide traumatic surgery alone now encompass such elements as preplacement, periodic and return-from-illness examinations, treatment of occupational illnesses and injuries, emergency treatment of nonoccupational conditions followed by referral to family physicians for definitive care, health counseling and education, the prevention and control of job-related environmental health and safety hazards, and proper recordkeeping with the provision for confidentiality of personal health files. Through the application of the principles of preventive medicine and public health, we are now in a position to prevent illness, disease, and disability and to maintain optimal health of employed persons.

In addition to the emphasis now being placed on prevention, a most significant development in this field is management's growing recognition of its obligations to provide a safe working environment and its opportunity to promote better health for workers. This attitude is more than the response to a humanitarian impulse. Experience has shown that occupational health programs, properly organized and conducted, lead to reduced absenteeism from sickness, improved employee morale, increased productivity, decreased personnel turnover, and lowered compensation-insurance rates.

And yet, despite this notable progress, the fact is that occupational health services are at present available to comparatively few workers. Particularly lacking are services to employees of small plants--those with fewer than 500 employees. Seventy percent of all workers are employed in plants of this size. Less than 5 percent of these employees have available to them any type of inplant, on-the-job medical services. This situation is and should be of concern to all public health workers.

To what can we ascribe the relatively slow acceptance, especially by small plants, of programs so mutually beneficial? Three main reasons can be cited:

Lack of appreciation (and perhaps knowledge) by management of the many benefits and advantages to employer as well as employee.

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Belief on the part of management that costs of such programs are excessive.

Difficulty in obtaining advice and assistance in developing such services.

What can the health officer do to rectify this situation? By adding to his own knowledge of local factors an acquaintance with the efforts being made elsewhere to provide health services for small plant workers, the health officer can choose the approach--or approaches--that might best succeed in his community and then attempt to stimulate appropriate action.

### Practical Programs

Experience offers a variety of practical methods for providing health services to employees of small establishments. Here are five of such programs which have seen successful operation.

Part-time implant medical services have been sponsored cooperatively by managements of several companies in a community. Typical programs are the Hartford (Conn.) Small Plant Group Medical Service and the New Haven (Conn.) Small Plant Medical Program, which have been operating 11 and 3 years respectively. Organization of the Hartford group was spurred on and the program continues to be supported by an official of one of the member companies. In New Haven the chamber of commerce took the initiative. In both communities, the bureau of industrial hygiene of the Connecticut State Department of Health has lent its active support and guidance.

In both programs one full-time physician is employed by the member companies, each of which maintains its own dispensary and full-time or part-time nurses. The physician visits each plant at a scheduled time and is available for emergencies at all times. Each member company designates one employee as "coordinator" with responsibility for the program's administration in his company. At least once a year the coordinators from all member companies meet to transact joint business.

Experience in these two communities indicates that this type of program works well when some one person in the community is actively interested in the program, the chosen physician is "dedicated," and there are health facilities and personnel in each plant readily available to the employees.

Union health centers provide varying health services for their own members. An increasing number of such centers are now providing services to members of other unions in the community or are being organized jointly by two or more unions. The services include definitive medical care

and, increasingly, preventive services. Many centers also serve families of members.

Individual physicians or groups of physicians themselves have provided part-time, implant medical services. Some physicians are limiting their practices to industrial medicine and serving a number of plants. In such cases they usually visit the plants and are concerned with on-the-job environmental conditions as well as with provision of emergency care and physical examinations. In many instances, however, the physician is "on call" for emergency care only. Plants with this type of program may or may not employ nursing personnel or contract with a visiting nurse association for implant service.

It is estimated that more than 25,000 physicians are doing industrial medical work--5,000 full time, 10,000 part time, and another 10,000 on call. But only 164 of these have been certified in occupational medicine by the American Board of Preventive Medicine, and only 3,400 are members of the Industrial Medical Association.

Mobile clinics have been established in a number of communities under various auspices. Nonprofit organizations have been established to operate such clinics in at least two communities (Birmingham, Ala., and Atlanta, Ga.) with the support and guidance of health department personnel. In Asheville, N. C., the privately owned and operated Occupational Health Service has several mobile units which provide comprehensive physical examinations at the plant site, with the necessary adjunctive laboratory and X-ray studies. A number of the locals of the International Ladies Garment Workers Union are using mobile units to provide examinations for their members near or at their place of work.

Insurance companies have assisted many establishments in developing occupational health programs. The varying types of such assistance have included the provision of implant nursing services.

### Role of the Health Department

Health department interest in the promotion of occupational health services has been largely confined to the activities of approximately 40 States and 20 local health departments which have special units for this purpose. A recent count, including the three State labor department programs in Illinois, Massachusetts, and New York, reveals that a total of 355 employees are engaged specifically in occupational health activities. It is significant, however, that 289 of these are engineers, chemists, physicists, or other nonmedical workers, while only 31 are nurses and 26 are physicians. It may be concluded, therefore, that in some of the State and local occupational health programs there is underemphasis of preventive medical aspects.

It has been said many times before and should be repeated and repeated again--health on the job is and must be related to health away from the job. This seems obvious enough, but it is amazing how often this interrelation is disregarded. It is important for those planning occupational health programs to do so with an understanding of community health activities and an appreciation that integration of the two is the essential program ingredient. The current emphasis on prevention and early diagnosis of long-term illnesses makes more apparent than ever the need for concurrence in approach and operation of all health programs.

It appears obvious that the health department, of all community health agencies, is best equipped to provide this holistic approach. Is it not timely for health officers to take a fresh look at their occupational health activities, particularly from the viewpoint of relating them to their other program activities? It is possible that a health department's consideration of these questions may reveal activities that need strengthening, areas that need exploration:

What information have we about the size, number, and kinds of industrial and business establishments in this community?

How many of them have occupational health programs? Which elements of a comprehensive program are being neglected?

What services does this health department now provide to industrial and business establishments? Are our nurses, sanitarians, nutrition consultants, and health educators visiting them?

Are the accident programs in plants adequate? Are toxic agents well controlled? Are health department services in these areas being utilized? What additional services are required? Should we provide them? What services and information are available through other official sources--State labor departments and workmen's compensation agencies, for instance?

What services are voluntary agencies providing to industrial establishments?

Is the health department providing chest X-ray and serology services to plant health programs?

Have we conducted any surveys--diabetes, glaucoma, tuberculosis, syphilis--among employees?

What more can the health department together with the medical society, the chamber of commerce, the trade associations, unions, and other voluntary agencies do to assist establishments in organizing effective occupational health programs?



Are we setting a good example by providing the services of a good occupational health program for State and local government employees?

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