



Navy and Marine Corps Public Health Center

Fiscal Year (FY)

2016 **COMMAND ANNUAL REPORT**



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NMCPHC FY 2016 Command Annual Report

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LETTER FROM THE COMMANDING OFFICER

The Navy and Marine Corps Public Health Center (NMCPHC) is dedicated to providing worldwide Force Health Protection services to Naval and Joint Forces in support of our National Military Strategy. We offer world-class health surveillance, epidemiology and analysis; disease and injury prevention; and public health consultation and support capabilities to improve the lives of our Sailors and Marines around the world.

As the Commanding Officer of NMCPHC, I am proud to submit the NMCPHC Fiscal Year 2016 (FY16) Command Annual Report. The report highlights the significant accomplishments of our command over the past year, and the impact of those accomplishments on the fleet. It is a testament to the dedication and hard work of our staff and a mechanism for us to reflect on what we have accomplished as we plan for the future.

In FY16, NMCPHC spent significant effort evaluating and updating its strategic plan to ensure our mission, vision, goals, and objectives accurately reflected the focus and direction of our command. In crafting our updated strategy, we ensured alignment of our goals and objectives with that of Navy Medicine to build momentum toward a shared desired outcome. Our strategic plan is the foundation for all that we do to serve and protect our Sailors, Marines, and their families.

The NMCPHC continually facilitates two-way communications with our internal and external stakeholders to ensure our focus is on the fleet and its constantly evolving requirements. We also evaluated our internal operations to identify and address improvement opportunities and make this command a more responsive, agile, and effective asset for Navy Medicine. The NMCPHC has implemented several process improvement initiatives to realize significant cost savings and reduce cycle time for many day-to-day processes. In doing so, our command has maximized the value and impact of our resources to best serve our customers and stakeholders and ensure the command is demonstrating good stewardship of the resources entrusted to us.

Finally, NMCPHC has continued to engage on a global scale in a broad spectrum of public health related efforts to deliver world class public health products, services, and solutions. We have partnered with various organizations throughout the DoD and the federal sector to provide force health protection at home and abroad for our Sailors and Marines while ensuring the safety and well-being of their families and loved ones.

Moving forward, we will continue to proactively seek out opportunities to improve and optimize the way we do business while addressing the evolving public health issues, challenges, and opportunities. We will continue to coordinate and partner with public health customers and stakeholders around the world to deliver creative and innovative solutions to complex public health challenges.

We are the Navy and Marine Corps Public Health Center...Prevention and Protection Start Here.

Very respectfully,

Todd L. Wagner

Captain, Medical Corps

United States Navy

Commanding Officer







EXECUTIVE SUMMARY

The Navy and Marine Corps Public Health Center (NMCPHC) is a fully-operational Echelon IV shore activity providing leadership and expertise to ensure mission readiness through disease prevention and health promotion in support of the National Military Strategy. The command delivers three critical public health capabilities to its customers across the globe: health surveillance, epidemiology and analysis; disease and injury prevention; and public health consultation. The NMCPHC FY16 Command Annual Report presents the command activities and accomplishments throughout the year. It is an account of our meaningful efforts and resulting impacts to protect the Navy and Marine Corps community at home and abroad.

The realignment of NMCPHC to Navy Medicine East (NME) continued in FY16, bringing additional changes to the way the NMCPHC enterprise operates on a day-to-day basis. This realignment presented the command with an opportunity to review and analyze the current guidance and direction from our immediate superior in command (ISIC) to ensure NMCPHC efforts were properly aligned. Throughout the realignment process, the command maintained its focus on delivering top quality public health programs, products, and services to satisfy the public health requirements of the Navy and Marine Corps community worldwide.

The NMCPHC is committed to delivering world-class public health products and services to Sailors and Marines around the globe. Over the past year, NMCPHC made great strides by maintaining both an internal view to improve the enterprise and an external view by responding to the demands of its stakeholders and global community in a timely and efficient manner.

During the past year, NMCPHC:

- ▶ Engaged in public health efforts on a global scale to address the evolving and emerging public health needs of Sailors, Marines, and their families and deliver creative and innovative public health products and services in a timely, efficient and effective manner.
- ▶ Leveraged the NMCPHC Strategic Management System to identify and begin implementation of five critical strategic initiatives aligned with the BUMED Commander's Guidance and focused on achieving the command's goals of excellence, relevance and a valued workforce.
- ▶ Established mechanisms to track and monitor the command's critical operational performance measures and compare them against the NMCPHC Strategic Plan.

INTRODUCTION

PURPOSE

The Navy and Marine Corps Public Health Center (NMCPHC) FY16 Command Annual Report presents the command's FY16 activities and accomplishments. It is an account of the meaningful and impactful efforts within NMCPHC to protect the Navy and Marine Corps community at home and abroad. As a fundamental element of the NMCPHC's Strategic Management System (SMS), this report communicates the command's value and importance to Navy Medicine and to Sailors and Marines worldwide.

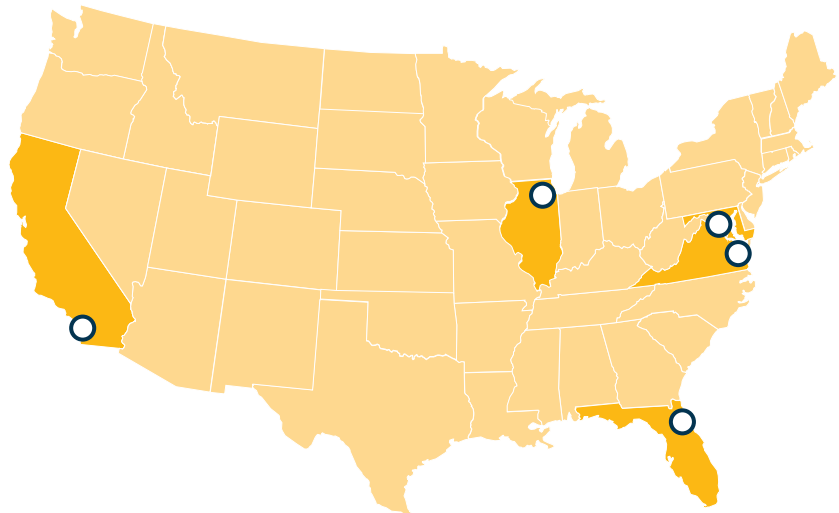
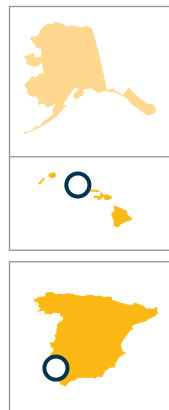
BACKGROUND

The NMCPHC is a fully-operational Echelon IV shore activity providing leadership and expertise to ensure mission readiness through disease prevention and health promotion in support of the National Military Strategy. The command delivers three critical public health capabilities to its customers across the globe: health surveillance, epidemiology and analysis; disease and injury prevention; and public health consultation. These core capabilities are supported by 42 product lines consisting of more than 300 unique products and services in the fields of occupational medicine, environmental health, disease surveillance, prevention monitoring, public health emergencies and risk communication. Figure 1 displays the NMCPHC capabilities and their supporting product lines.



Figure 1. NMCPHC Capabilities and Product Lines

In coordination with NMCPHC Headquarters, NMCPHC's ten operational field activities are responsible for the delivering and managing programs designed to support the command's public health capabilities. The NMCPHC enterprise includes the following Echelon V commands:



▶ **Navy Drug Screening Laboratories (NDSL) in Great Lakes, Illinois; San Diego, California; and Jacksonville, Florida**

NDSLs ensure warfighter readiness by deterring illegal drug use through providing accurate and timely forensic drug testing.¹

▶ **The Navy Environmental and Preventive Medicine Units (NEPMUs) in Norfolk, Virginia (NEPMU-2); San Diego, California (NEPMU-5); Pearl Harbor, Hawaii (NEPMU-6); and Rota, Spain (NEPMU-7)**

NEPMUs assist the Navy and Marine Corps operational forces by providing specialized consultation, advice, training, and recommendations in matters of occupational health, health promotion, preventive medicine, environmental health, and deployment medical surveillance.²

NEPMUs -2 and -5 also provide oversight support for two additional services:

- **Forward Deployable Preventive Medicine Units (FDPMU)** capable of meeting force health protection needs, in theater, from small humanitarian assistance missions to full scale full scale global engagement..³
- **Comprehensive Industrial Hygiene Laboratories (CIHL)** in Norfolk, Virginia and San Diego, California that identify and quantify occupational exposures of Navy and Marine Corps personnel, both military and civilian, to chemical substances.⁴

▶ **Naval Dosimetry Center (NDC) in Bethesda, Maryland**

NDC serves as the Navy's ionizing radiation dosimetry center of excellence for radiation protection programs and provides naval commands worldwide with radiation dosimetry processing and consultation services.⁵

▶ **Navy Bloodborne Infection Management Center (NBIMC) in Bethesda, Maryland**

NBIMC provides expertise to ensure mission readiness by overseeing the administration and aid in the development of policies concerning the Human Immunodeficiency Virus, Hepatitis B, and Hepatitis C screening for the Department of the Navy (DON), as directed by Navy Bureau of Medicine and Surgery (BUMED) for the Bureau of Navy Personnel.⁶

▶ **Navy Entomology Center of Excellence (NECE) in Jacksonville, Florida**

NECE develops and evaluates novel products and application technologies to better protect deployed forces from blood-feeding insects and other arthropods that transmit human diseases. It also provides force health protection through operational disease vector surveillance, control, and training to enhance Navy and Marine Corps mission readiness.⁷

¹ NDSL Home Page: <http://www.med.navy.mil/sites/nmcphc/navy-drug-screening-labs/Pages/default.aspx>

² NEPMU Home Pages: NEPMU-2 (<http://www.med.navy.mil/sites/nmcphc/nepmu-2/Pages/default.aspx>), NEPMU-5 (<http://www.med.navy.mil/sites/nmcphc/nepmu-5/Pages/default.aspx>), NEPMU-6 (<http://www.med.navy.mil/sites/nmcphc/nepmu-6/Pages/default.aspx>), NEPMU-7 (<http://www.med.navy.mil/sites/nmcphc/nepmu-7/Pages/default.aspx>)

³ FDPMU Home Page: <http://www.med.navy.mil/sites/nmcphc/expeditionary-platforms/fdpmus/Pages/default.aspx>

⁴ CIHL Home Page: <http://www.med.navy.mil/sites/nmcphc/comprehensive-industrial-hygiene-labs/Pages/default.aspx>

⁵ NDC Home Page: <http://www.med.navy.mil/sites/nmcphc/ndc/Pages/default.aspx>

⁶ NBIMC Home Page: <http://www.med.navy.mil/sites/nmcphc/nbimc/Pages/default.aspx>

⁷ NECE Home Page: <http://www.med.navy.mil/sites/nmcphc/nece/Pages/default.aspx>



VISION

A healthy and resilient Navy and Marine Corps community inspired and enabled to achieve the highest quality of life.

MISSION

The NMCPHC is the Navy and Marine Corps' center for public health services. NMCPHC provides leadership and expertise to ensure mission readiness through disease prevention and health promotion in support of the National Military Strategy.

NMCPHC STRATEGY

The NMCPHC strategy defines what the command desires to achieve and how it will reach those aspirations. It is the foundation and compass by which NMCPHC navigates the continually changing public health environment. The NMCPHC Strategic Plan is central to all command activities and aligns efforts and resources toward a clearly stated objective. At the foundation of NMCPHC's strategy are the vision and mission statements.

The vision and mission statements define direction for NMCPHC and describe the command's purpose and value to the Navy and Marine Corps. While the NMCPHC Strategy may undergo changes and modifications over time, the vision and mission are enduring statements that explain why the organization exists, where it would like to go, and what it would like to accomplish in the future.

NMCPHC GOALS

In support of the vision and mission, the NMCPHC goals align command activities and efforts to a common purpose and ensure resources are focused on moving the command in the desired direction. The NMCPHC's goals are a critical component of the command's culture and impact NMCPHC staff daily responsibilities. The NMCPHC goals are:



Excellence

NMCPHC provides top quality public health programs, products, and services to customers.



Relevance

NMCPHC is the first choice for public health solutions.



Valued Workforce

NMCPHC is the best place to work in the field of public health.



NMCPHC STRATEGIC MANAGEMENT SYSTEM

The NMCPHC employs a structured system to focus and align efforts and inspire innovation within the command. An annual process, the NMCPHC Strategic Management System (SMS) enables the command to review and adjust strategic focus based on current events and emerging topics. The SMS ensures command activities directly support the vision, mission, goals, and objectives and maximizes NMCPHC's value to its customers and stakeholders.

As shown in Figure 2, the SMS is a flexible methodology focused on five key elements to ensure NMCPHC defines, implements, and monitors an actionable and achievable way ahead for each fiscal year.

Continued implementation and expansion of the SMS allowed NMCPHC to operate efficiently and effectively while enabling timely and accurate communications with internal and external stakeholders. The NMCPHC is consistently focused on improving decision-making capabilities to incorporate business analytics and performance measures aligned with its mission.



Figure 2. NMCPHC Strategic Management System

FISCAL YEAR 2016 IN REVIEW

ALIGNING RESOURCES AND EFFORTS TO A COMMON PURPOSE

The realignment of NMCPHC under a regional command, NME, continued in FY16. This realignment presented the command with an opportunity to review and analyze current ISIC guidance and direction to ensure NMCPHC efforts are consistent with the expectations of stakeholders up and down the chain of command. Throughout the realignment process, the command maintained its focus on delivering top quality public health programs, products, and services to satisfy the public health requirements of the Navy and Marine Corps community worldwide.

To ensure relevance and impact in a constantly changing Navy and global public health environment, NMCPHC reviewed and updated its strategic plan in FY16. During the NMCPHC Strategic planning Annual Offsite, a critical component of the command's SMS and an event attended by all command leadership, the command defined a new vision statement to communicate NMCPHC's focus and intent. Furthermore, in support of the newly defined vision, NMCPHC developed three new goals with supporting objectives and initiatives to align resources and efforts toward a clearly delineated end state. The NMCPHC goals, objectives, and initiatives represent the actionable and achievable items the command is focused on to support its strategy. To ensure NMCPHC fully supports Navy Medicine and guidance of the Navy Surgeon General, NMCPHC identified and communicated the alignment of its strategic plan with that of BUMED.



As in previous years, NMCPHC leveraged its command operations governance structure to track and monitor progress not only against the command strategy, but also against command operations targets. In FY16, NMCPHC developed and implemented two new dashboards to provide visibility into operational metrics and progress against strategic initiatives. The dashboards serve as a critical tool enabling informed business decisions and emphasize ownership and accountability in achieving the goals and objectives of the command.

Finally, in FY16 NMCPHC revitalized process improvement efforts to identify and address key opportunities for improvement within the NMCPHC enterprise by implementing Process Improvement Action Teams (PIATs). The PIATs focused on developing action

plans from the deck plates to resolve process challenges and issues within the command. This has greatly improved the command's ability to execute its mission in a more timely and efficient manner. Under the guidance of the Process Improvement Board (PIB) with representation from across the command, the PIATs continue to find new and innovative ways to conduct business and maximize NMCPHC's value and impact.

In FY16 NMCPHC maintained an internal view to improve the enterprise and an external view to respond to the demands of its stakeholders and global community in a timely and efficient manner. The command continues to build momentum in improving products and services, as well as internal processes, and work collaboratively with Navy Medicine to deliver top quality public health solutions to the Navy and Marine Corps community.





FISCAL YEAR 2016 SUCCESS

The NMCPHC is committed to delivering world-class public health products and services to Sailors and Marines around the globe. Over the past year, NMCPHC has engaged in a broad range of public health efforts delivering meaningful and innovative public health solutions to meet the changing demands and requirements of its stakeholders. The following accomplishments correspond with the command's goals: excellence, relevance and a valued workforce. They highlight the command's ability to execute its mission through delivery of high quality public health products and services.

EXCELLENCE

The NMCPHC provides innovative public health solutions in a timely manner. Excellence in everything NMCPHC does is critical to those who depend on the command's public health services. The health and well-being of Sailors, Marines, veterans, and their families is directly impacted by the work accomplished by NMCPHC personnel. The NMCPHC's analysis and services deliver high quality, evidence-based products and resources for its customers.

Excellence defines NMCPHC's level of commitment and integrity in the public health arena. The NMCPHC is the Navy's premier public health provider, measuring itself against the highest standards and reaching for superior performance in every task. The entire naval community depend on NMCPHC's expertise, dedication to accuracy, and responsiveness as they serve on the battlefield and within their daily lives.

The following NMCPHC FY16 accomplishments are aligned with the command's three core capability areas and demonstrate the command's commitment to excellence.

Health Surveillance, Epidemiology and Analysis

Enhancing Access to Care:

NMCPHC conducted extensive analyses to support several key efforts across Navy Medicine focused on enhancing the patient's access to care. At the request of Naval Medical Center San Diego (NMCS), NMCPHC evaluated the effect of the United States Naval Ship Mercy deployment on hospital readiness. The NMCPHC delivered information concerning the impacts on hospital workforce (available versus assigned full time equivalents), access to care (number of days between booking and the scheduled appointment), and loss of patient care to network providers (Medical treatment



Facility [MTF] versus purchased care encounters). Results from these products informed decisions about strategies to appropriately prepare for staffing and patient care around planned deployments within Navy MTFs. The NMCPHC also conducted a review and analysis for NMCSA to determine the number and cost of major trauma admissions with a post-acute treatment phase that it could have treated in 2015. These admissions included patients who were stable and could be transferred to the direct care system. The NMCPHC applied its unique clinical, epidemiological, and geospatial expertise to deliver actionable insights at 30, 60, and 90 days from project start. The NMCPHC analyzed TRICARE beneficiaries, from general to major trauma admissions with a post-acute treatment phase, and determined that TRICARE paid \$12 million for 567 major trauma admissions with a post-acute treatment phase. The detailed information included location, demographics, costs, diagnoses, bed days, and other characteristics provided NMCSA with the number and types of admissions it could recapture and the cost it could recoup.

The NMCPHC also conducted an analysis to inform BUMED's Primary Care Manager (PCM) continuity metric development effort. PCM continuity is focused on tracking interactions with patients and the various providers involved in their care and treatment. The NMCPHC created PCM continuity clinic profiles to develop demographic profiles at the primary care clinic level for Navy MTFs. This enables BUMED to calibrate the PCM continuity target development into meaningful and reachable targets. This analysis is the first of two parts that recommend an appropriate PCM methodology and continuity targets.

In 2015, Naval Health Clinic (NHC) Patuxent River streamlined the process of routine flight physical exams by using RelayHealth Secure Messaging. The NMCPHC developed the Association of the Utilization of Secure Messaging and Reduced Wait Times for Flight Physicals Report for the NHC Patuxent River, which decreased wait times for flight physical exams. The NMCPHC's support enabled the NHC Patuxent River leadership to effectively and efficiently communicate the successes of their process improvement effort to the Naval Aerospace Medical Institute to improve broader patient care delivery.

The NMCPHC developed the Marine Centered Medical Home (MCMH) Emergency Department Utilization Report. In 2013, Marines began enrolling in MCMHs as part of an initiative to improve care and treatment given to Marine Corps service members in a garrison environment. The report examines differences in emergency department use among MCMH enrollees, non-enrollees, and operational forces since the implementation of the MCMH program. The report also analyzes the program's impacts on referrals and appointment wait times. As a result of NMCPHC's support, the MCMH program demonstrates a positive impact on

patient care delivery and continues to improve access to care for Sailors, Marines, and their families.

Injury Surveillance: The NMCPHC conducts injury surveillance to support various prevention efforts across the Navy and Marine Corps community. For example, NMCPHC conducted an assessment of how events that lead to injury or illness are portrayed in Military Health System (MHS) medical data. The command reviewed data including recruit in-processing, injury documentation, management of clinical laboratory samples, and medical board processing to develop injury reports that provide key measures of musculoskeletal injury prevention interventions over the Navy and Marine Corps enterprise. The Headquarters Marine Corps Safety Division uses reports from NMCPHC to evaluate Marine Corps efforts in reducing the frequency and cost of injuries and minimizing their impact on operational readiness. The Naval Safety Center uses these data to improve compliance with required injury mishap through the Web-Enabled Safety System (WESS). The Centers for Disease Control and Prevention (CDC) requested NMCPHC assistance in developing new injury analysis tools using the International Classification of Diseases, 10th Revision.

Substance Abuse: The NMCPHC provides expertise and tools to support multiple substance abuse programs across Navy Medicine. The NMCPHC provided a descriptive analysis of beneficiaries attending substance abuse clinics at Navy MTFs in FY15. The purpose of this analysis is to understand patient demographics across all treatment levels to support program planning and resource allocation. The command developed the BUMED Substance Abuse and Rehabilitation Program Referral Tool to enhance the provider referral process for patients with moderate alcohol/substance use disorder. Also in support of BUMED, NMCPHC developed the Active Duty High Narcotics Users Roster as a result of analysis to identify high narcotics use at targeted MTFs. The effort was critical to enabling MTFs to target care management activities for high narcotics users.

The NMCPHC developed Alcohol and Substance Use Disorders (AUD/SUD) Quarterly Reports for BUMED that describe alcohol and substance abuse patterns among DON active duty service members from calendar years (CY) 2003 through 2015. In support of the U.S. Marine Corps (USMC) Behavioral Health Branch, NMCPHC



conducted an analysis on the number of active duty Marines diagnosed with alcohol use disorder. AUD/SUD reporting helps guide resource allocation and information distribution aimed to prevent development of these use disorders.

Geospatial Analysis: NMCPHC provides geospatial analysis support to enable and inform various Navy and Marine Corps public health programs. In addition, the command is continually expanding and enhancing its Geographic Information System (GIS) capabilities to deliver creative and innovative products and services. In FY16, NMCPHC implemented the Environmental System Research Institute's (ESRI's) ArcGIS Online Web Portal to enhance the command's geospatial analysis capabilities by leveraging the ESRI suite of products through their online portal. As a part of this implementation, NMCPHC has established standard operating procedures to track commonly used data layers and to protect sensitive information. As a result, the command is better positioned to provide meaningful and impacting analysis via the ESRI tool.



Additionally, NMCPHC conducted a series of geospatial analyses to support access to care initiatives for numerous organizations. The command provided Naval Hospital Beaufort (NHB) with information regarding TRICARE beneficiaries in Beaufort, SC to include enrollment information, drive time to NHB, and encounters in the direct and purchased care setting. The NMCPHC executed BUMED's Navy Reserve analysis to help determine the feasibility of moving reserve psychological care from Navy and Marine Corps reserve centers into MTFs in an effort to enhance reservists' access to care. At the request of NME, NMCPHC completed the NME and Naval Medical Center Portsmouth (NMCP) TRICARE Clinics Purchased and Direct Care Geospatial Analysis focused on determining potential locations for TRICARE clinic sites in the Hampton Roads area. The analysis is focused on improving access to care by identifying healthcare provider and specialty needs in the area. Similarly, NMCPHC developed the Branch Health Clinic (BHC) Boone Geospatial Analysis for Enrollee Demographics and Conditions of Interest Report. The report aims to improve access to care by analyzing demographic and geographic data to inform recommendations regarding services provided within a specific area.

Behavioral/Mental Health Analysis: Behavioral and mental health is a high priority public health topic facing the DoD and the Navy. Surveillance and analysis of this subject is essential to inform prevention and treatment efforts across all the services. The NMCPHC supported the Office of the Chief of Naval Operations

(OPNAV) 2016 Suicide Deep Dive by reviewing case information of select active duty and reserve service members to identify suicide-related risk factors. The analysis identifies service members more susceptible to suicide risks and continues efforts to proactively identify and support Sailors and Marines in need. The NMCPHC also completed four USMC suicide medical reviews for the Marine and Family Programs; reviewed all personnel, administrative, and medical notes for each Marine; and provided summary information to the customer. This effort helps identify risk factors and trends in suicide and potential areas to focus resources. Additionally, NMCPHC provided Navy Expeditionary Combat Command with suicide analysis information focused on promoting awareness and understanding of suicide ideation in the fleet to target prevention measures.

The NMCPHC supported BUMED, The Medical Officer of the Marine Corps, and USMC Behavioral Health with analyses to understand behavioral health factors and suicide risk indicators identified within one year following deployment for a specific cluster of suicide incidents. The NMCPHC was asked to assist in a deep dive for these same Marines by reviewing all of the case notes, collating data, and building a data collection tool. This is the first suicide prevention effort that is also engaging the Department of Veterans Affairs. The analysis is focused on improving resources to prevent suicide deaths.

The NMCPHC provided BUMED with Post-Traumatic Stress Disorder (PTSD) Incidence Quarterly Reports to provide insight into the occurrence of PTSD in the DON. In addition, NMCPHC provided information to Personal Emergency Response System 45 (Distribution Management) on mental health in active duty Navy including rates of PTSD, depressive disorder, alcohol use, and shipboard medical evacuations for mental health. These reports assist with the identification of trends and outcomes to help make data-driven policy and healthcare decisions.

The NMCPHC supported the Navy Special Warfare Command lead psychologist for the Navy Sea Air and Land (SEALs) group by analyzing the number of current active duty Navy Special Warfare Command Sailors who have met the case definition for PTSD



in the past year. The NMCPHC's analysis was used to brief the Commander, Naval Special Warfare Center on PTSD medical care to promote awareness and understanding of the severity of PTSD numbers in the fleet and allow for more efficient distribution of treatment resources.



Similarly, the Marine and Family Programs requested support from NMCPHC to analyze behavioral health encounter data and psychotropic drug pharmacy transactions among a select group of Marine Corps recruits who were identified with suicidal ideation and/or suicide attempts. The analysis supported Commandant of the Marine Corps efforts to understand career outcomes for recruits with suicidal ideation or suicide attempts at both the Marine Corps Recruit Depots and Schools of Infantry. The NMCPHC also supported BUMED's Depressive Disorder Quarterly Report, which describes depressive disorder among DON active duty service members from CY2003 through CY2016. Both of these efforts enabled leadership to target prevention measures appropriately so as to minimize the impacts of behavioral and mental health challenges.

The BUMED implemented the Behavioral Health Integration Program (BHIP) with the goal of increasing patient access to mental healthcare. BUMED has traditionally relied on NMCPHC's health analytics expertise to determine the effect of the program on the health of TRICARE beneficiaries.

The NMCPHC develops a quarterly analysis report on BHIP for BUMED that helps monitor the number of Medical Home Port (MHP) patient encounters for each Internal Behavioral Health Consultant (IBHC). It also provides insight on the provider's integration within the clinic, if the PCMs are effectively using the IBHCs, and how many services are provided to a population that would not typically receive behavioral health intervention.

In FY16, NMCPHC conducted the BHIP Access to Care Wait Times evaluation to assess the relationship between implementation of IBHCs in primary care clinics and the number of days between booking and the scheduled appointment at a mental health clinic in

the same MTF. The analysis indicated that there is no association between the implementation of IBHCs and scheduled appointments at a mental health clinic. The NMCPHC also evaluated referral patterns from BHIP providers, specifically to out-of-network and specialty care settings.

NMCPHC completed a project feasibility study, Behavioral Health Measure-20 (BHM-20) Analysis and Initial Evaluation, by reviewing data availability within the MHS Data Repository. The report explored the effect of the BHIP program on the health of TRICARE beneficiaries by evaluating clinical outcomes and BHM-20 scores focused on tracking potential clinically significant improvement in BHM-20 results over time. The BHIP program leadership uses the information NMCPHC provides as part of an ongoing effort to evaluate the program.

Chronic Pain: In FY16 NMCPHC continued efforts to address chronic pain within the DON. The NMCPHC conducted an analysis of the Non-Cancer Chronic Pain and the Chronic Pain, High Utilizer, Polypharmacy programs to enhance the Navy's ability to properly define chronic pain and identify chronic pain patients. The command supported the Chronic Pain Capacity project which evaluated provider capacity at eight MTFs with pain-management specialty clinics to assist BUMED in determining staffing needs for these facilities. And finally, NMCPHC developed the Chronic Pain (Tertiary Care Burden, Active Duty)

Report, which assessed target population burden in specialty care (pain) clinics and primary care. The effort helps identify specialty care needs for patients and recapture these patients into direct care, which will reduce costs in the purchased care setting. By identifying potential patient specialty care needs, Navy Medicine can make informed decisions about how to allocate resources needed for certain specialty clinics, which helps ensure patients can access the care in a direct care setting rather than through a purchased care provider. Recapturing the purchased care back into direct care would save the DON money that can be used for other direct care services. Also, more direct care provides a larger volume and variety of patients to be treated by DoD personnel. This volume and variety can provide more training opportunities for residency programs and increase the readiness of healthcare providers through more experience executing patient care.



Quality of Care: NMCPHC efforts to enhance quality of care

continued in FY16 through support of an analysis for Naval Medical Center Portsmouth (NMCP) Pediatrics Department to determine whether appropriate narrow spectrum antibiotics were routinely being prescribed according to national guidelines. The analysis focused on four key conditions: sinusitis, pharyngitis, pneumonia, and otitis media for children, under age 18, from 2012 through 2014. These findings assisted NMCP's implementation of a quality control program to increase the rate that providers appropriately prescribe antibiotics for these diagnoses. This analysis received second place at the NMCP Academic Research Competition in April 2016. The information was also shared with local providers to improve quality of care related to antibiotic use.

Medical Event Reporting Support: The Disease Reporting System, internet (DRSi) is the official repository for reportable medical events for the Navy, Army, Air Force and Coast Guard. The purpose of medical surveillance is to ensure timely recognition and control of disease threats and estimate distribution of disease and disease risk in order to inform policy and resource allocation decisions. The NMCPHC operates and maintains DRSi and continually works to improve disease reporting and analysis of medical surveillance data to inform leadership decisions. As a part of NMCPHC's maintenance of DRSi, the command ensures data security and integrity; monitors data quality; addresses ongoing security and information assurance requirements; administers user accounts for the Navy, Air Force, and Coast Guard; provides customer support; and supports all Defense Health Agency (DHA) and BUMED Chief Information Officer (CIO) taskers related to the Federal Information Security Modernization Act and DOD CIO enterprise transition. In addition, NMCPHC has implemented system enhancements to provide greater functionality and value to system stakeholders. For example, DRSi has the capability to provide local MTFs with visibility of positive lab results that may indicate a reportable event.



Over the past year, NMCPHC has worked with the Navy, Army, Air Force and Coast Guard to standardize disease reporting processes and identify opportunities for collaboration to better support DRSi user needs. In FY16 over 39,000 medical event reports were recorded in DRSi. In addition, the NMCPHC DRSi helpdesk established 320 new accounts and responded to over 6,600 emails and phone calls. In FY16, NMCPHC released four disease

reporting metric reports that allowed MTFs to evaluate their local reporting processes and make improvements as needed. NMCPHC coordinated with several MTFs in response to these metrics, providing subject matter expertise in the processes and systems needed for an effective disease reporting program. As a result, disease reporting in Navy Medicine reached an all-time high of 85% reporting completeness.

The Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) tracks and monitors the health of service members, family members and military retirees to detect both naturally occurring outbreaks of disease and potential bio-terrorism attacks. Not only is ESSENCE critical to ensuring the health and well-being of Sailors, Marines, and their families, it is also at the front line of defense in the war against global terrorism. In FY16, NMCPHC participated in working groups and other efforts to identify and prioritize ESSENCE upgrades and promote the implementation of a new civilian version of ESSENCE. The NMCPHC is a critical subject matter expert on the Defense Electronic Medical Syndromic Surveillance Systems Advisory Workgroup, providing public health, preventive medicine, and epidemiologic expertise and advice.

Navy Medicine Performance Measurement and Analysis: In response to a Secretary of Defense memo, the DHA implemented Partnership for Improvement (P4I) to establish an MHS performance management system that would support the Services as they manage and monitor MTF performance. The system monitors MHS-wide core measures and dashboards to assess system-level improvement in all areas from the MHS 90-Day Review. At the request of BUMED, NMCPHC conducted the P4I Metric Support analysis and completed two data visualization deliverables. The first was a series of interactive graphs displaying past and predicted future performance of Navy MTFs across nine Process Improvement Priority measures. The second illustrated performance of the components on the MHS Quality Composite, a metric consolidating information across three outpatient quality of care measures. The analysis provided numerous tables and graphs to display Navy MTFs' healthcare measures in comparison to nationally recognized standards. As a result of the analysis, BUMED was able to evaluate MTF performance for selected disease conditions and healthcare delivery activities. The NMCPHC's unique expertise in data management, visualization, and interpretation is supporting the goal to improve the MHS' capability to quickly assess access, patient safety, and clinical quality performance across DoD facilities.

Drug Demand Reduction Program Support: NMCPHC's Laboratory Services Directorate plays a critical role in supporting the DoD Drug Demand Reduction Program's (DDRP's) ability to detect and deter DoD civilian and military personnel from using illicit drugs and misusing prescription drugs. As a major component of

the DDRP, the NDSLs are recognized as a premier, responsive readiness asset through exceptional customer service, accurate and timely test results, and advancing the frontiers of drug testing capabilities through research and development. In FY16, NMCPHC supported several process improvement efforts to enhance and improve drug screening business processes. In coordination with Naval Medical Logistic Command, the Navy Drug Testing Program completed a major equipment procurement action, totaling over \$1.2M, for state-of-the-art detectors that will be integrated into existing instrumentation at the three NDSLs, the Air Force laboratory, and an Army laboratory. The detectors will increase the capacity for sample throughput during confirmatory analysis, and create stand-alone systems capable of adaptive drug screening techniques.



The NDSLs also augmented their drug screening capabilities through the installation and validation of additional screening analyzers. These analyzers allowed for the removal of remaining outdated screening analyzers and poised the laboratories to increase the volume and throughput of the initial testing department through larger batches and faster analysis time.

The NDSLs are also expanding their confirmation capabilities to include more agile instrumentation. Method development experiments are an ongoing effort to refine the confirmation extraction process and analysis. The NDSLs are evaluating methods to combine confirmatory analysis extractions, utilize new instrumentation, and incorporate automation into labor intensive processes.

Disease and Injury Prevention

Periodic Occupational and Environmental Monitoring Summaries Process Standardization:

Periodic Occupational and Environmental Monitoring Summaries (POEMS) are DoD

approved multi-Service documents for summarizing the medical interpretation of occupational and environmental health (OEH) surveillance information associated with deployment sites where service members may be exposed to environmental stressors.



POEMS describe the potential health threats at a site, summarize data/information collected, and then provide an assessment of the significance of any known or potential acute (short-term) and long term (post-deployment) health risks to the population deployed at that location. The NMCPHC led the development of a standard methodology for completing POEMS that is being adopted by the DoD. This effort ensures POEMS are developed with a common level of rigor and routed appropriately for Combatant Commander and the Joint Chiefs of Staff's Logistics Directorate release. As a result, POEMS information is available to healthcare providers to assist in addressing service member's concerns about OEH related exposures.

Antibiotic Resistance: Antibiotic resistance occurs when an antibiotic has lost its ability to effectively control or kill bacterial growth. The bacteria become resistant and continue to multiply in the presence of therapeutic levels of an antibiotic. The NMCPHC efforts to promote awareness and understanding of antibiotic resistance are ongoing, and the command supports various organizations through surveillance and analysis. In March 2016, the *Medical Surveillance Monthly Report* published an article from the NMCPHC entitled "Correlation between antimicrobial resistance in *Escherichia coli* infections in hospitalized patients and rates of inpatient prescriptions for selected antimicrobial agents, Department of Defense hospitals, 2010-2014."⁸ The publication promotes clinician



awareness of regional susceptibility patterns for consideration when choosing treatment options. The NMCPHC also conducted an analysis to identify pneumonia, bronchitis, and conjunctivitis clinical visits among selected recruit populations and the antibiotics prescribed within a three-day timeframe of their clinical visit. This analysis was used by NEPMU-2 and NMCPHC in support of a Marine Corps Recruit Depot (MCRD) Parris Island surveillance project. Finally, NMCPHC supported the development of an MCRD Parris Island surveillance report focused on antibiotic and antiviral medications provided to individuals during their training period at Parris Island. The intent of the report is to potentially identify patterns of infections in the same training company. Case investigation support for NEPMU2 and MCRD Parris Island may identify patterns of infections and inform prevention interventions.

⁸ http://www.med.navy.mil/sites/nmcpHC/Documents/epi-data-center/v23_n03.pdf

Hearing Conservation Program Support: Tinnitus is a condition that causes the perception of sound when no actual noise is present. Since 2006, the number of service-connected disability payments to veterans from all periods of service for tinnitus, has been increasing at a rate of 15 percent per year. In 2012, the Veterans Affairs paid out \$1.5 billion in disability compensation to over 971,000 veterans for tinnitus alone. At the current rate of increase the cost will exceed \$3 billion annually by 2017. In FY16 NMCPHC continued its support to the DON Hearing Conservation Program (HCP). Recent changes to the NAVMED P-5132 stated that all audiometers in the HCP will be centrally procured, owned, and managed by NMCPHC. As a result, NMCPHC established a structured and standardized process for calibration and distribution of HCP equipment. Over 2,000 pieces of audiometer equipment were procured and are currently managed through the new standard process. As a result of NMCPHC's efforts, HCP equipment is maintained via a sustainable calibration schedule and practitioners in the field are equipped with the most up-to-date equipment.

Wounded, Ill, and Injured Program:

Through the NMCPHC Wounded, Ill, and Injured (WII) Program, NMCPHC delivers various public health services to support the readiness, resilience, and recovery of wounded, ill, and injured service members and their families. Through its support of the WII Program, the command produces targeted resources and provides actionable data to operational and medical leadership to inform decisions and support mission readiness throughout the Navy and Marine Corps. In FY16 the WII Program became institutionalized within NMCPHC and became a component of the command's core mission. This expansion in core mission allows NMCPHC to leverage the command's vast public health capabilities in order to promote, protect, and restore the physical and psychological health of our Sailors and Marines during all phases of deployment. Each year NMCPHC produces an annual report for the WII Program to highlight the major impacts and accomplishments of the program and to increase awareness and understanding of the program among Navy leadership and NMCPHC stakeholders.⁹



Health Promotions and Wellness

Activities: Promoting health and well-being among the Navy and Marine Corps community is an integral objective for the command. The NMCPHC's Health Promotions and Wellness (HPW) department conducts multiple trainings each year and monthly health observances to promote awareness and understanding of the potential impacts and benefits of various health related topics. In FY16, HPW trained over 855 people in health promotion topics, including education for Health Promotion Coordinators and Program Facilitators who promote healthy behaviors that reduce illness and injury. In support of suicide prevention, NMCPHC sponsored the September Suicide Awareness Month webinar in partnership with OPNAV N17. The webinar identified opportunities for local advocates and program managers to be leaders in suicide prevention, promoted the understanding and application of the Navy's evidence-based prevention and intervention resources, and empowered culture change through collaboration, education, and action.



While managing the Sexual Health and Responsibility Program (SHARP), NMCPHC conducted trainings, hosted sexual health related webinars, and published the sexual health newsletter, (SHARP News) to promote and protect the sexual health of the DON population. This supports mission readiness and accomplishment, minimizes avoidable healthcare costs and personnel losses, prevents morbidity and mortality, and supports quality of life. NMCPHC subject matter experts advised various boards and working groups focused on sexual health related issues and topics including: BUMED's Women's Health Advisory Board, the National Coalition for Sexual Health, the DHA Workgroup for the DOD Survey of Health Related Behavior, the DHA Workgroup for development of the DoD Periodic Health Assessment (PHA), and the National Campaign to Prevent Teen and Unplanned Pregnancy. The command led analyses of Navy Medicine contraception prescription practices and HIV risk behavior among Sailors and Marines. The NMCPHC has trained over 300 healthcare team members to ensure informed decision making regarding contraceptive use and sexual health risk reduction for the thousands of Sailors, Marines, Soldiers, and Airmen they care for. Additionally, NMCPHC developed the Long-Acting Reversible Contraception Use at Navy MTFs, CY 2009-2015 report in response to a congressional inquiry regarding intrauterine device use and their availability in the Navy.

⁹WII Project FY15 Annual Report: http://www.med.navy.mil/sites/nmcpHC/Documents/health-promotion-wellness/wounded-ill-and-injured/NMCPHC_FY15_WII_Annual_Report.pdf

In support of tobacco cessation and in response to a congressional inquiry, NMCPHC completed the Tobacco Prevalence and Cessation Cost Tasker to assess the cost of smoking cessation treatment for active duty Navy service members. The NMCPHC continually provides its expertise to various tobacco cessation-related activities including: responses to congressional requests and Secretary of the Navy taskers, and the design, development, and delivery of Navy Medicine Tobacco videos focused on promoting Naval education and awareness on the importance of preventing and quitting tobacco use. Furthermore, tobacco cessation metrics reports created by NMCPHC are provided to NME, Navy Medicine West (NMW), and BUMED to guide policy and programmatic decision making.

Readiness Promotion: BUMED's implementation of the Readiness and Cost Reporting Program (RCRP) is an important element in Navy Medicine's ability to report readiness. The RCRP provides a mechanism for deployable forces to track, monitor, and report readiness with respect to personnel, equipment, supply, and training. Information from RCRP is seamlessly reported up to the Defense Readiness Reporting System – Navy (DRRS-N), which is the Navy's authoritative system for readiness reporting and indicates a command's ability to execute specified missions. In FY16, NMCPHC played an instrumental role in implementing RCRP by becoming the first Navy Medicine expeditionary platform to report readiness in the system. NMCPHC subject matter experts coordinated with BUMED representatives to configure the RCRP system based on command requirements and mission essential tasks. As a result of these efforts, visibility and awareness of FDPMU team readiness is provided in DRRS-N in accordance with OPNAV Instruction 3501.360A.



NMCPHC Command Operations Management: In an effort to maximize agility and responsiveness, NMCPHC developed and implemented the Mission Management System (MMS) to provide command leadership with visibility and situational awareness of all NMCPHC enterprise resources around the world. The MMS captures sourcing requirements from across the enterprise in support of Navy Service Component mission requirements and

captures in near real-time the operational picture of all NMCPHC assets and capabilities across Navy Medicine and the Geographic Combatant Commands. Furthermore, the MMS provides NMCPHC with a common operating picture to enhance situational awareness and ensure NMCPHC enterprise resources are implemented in a manner to maximize value and impact for the fleet.

Exposure Assessment: Potential exposure to chemical warfare agents (CWA) is a growing and ongoing concern of many Sailors and Marines who have experienced combat deployments. The NMCPHC coordinated with Army Public Health Center to define and implement a standard process for adjudicating concerns of CWA exposure. As a part of the implementation, NMCPHC conducted interviews and medical record reviews to determine CWA associated risks. As a result of these efforts, the Navy has successfully adjudicated over 75 cases of Sailors and Marines that expressed concerns over CWA exposure.



Medical Matrix Online Launch: The Medical Matrix Online (MMO) is the digital companion to the Medical Surveillance Procedures Manual and Medical Matrix, which is the authoritative source of guidance for Occupational Medical Surveillance and Certification Exams throughout the Navy. It is also used extensively by other services. In FY16, NMCPHC created and launched a new, updated version of the MMO intended to streamline several tasks for providers and enable clinics to perform occupational exams in the most efficient manner possible. The MMO provides the most up-to-date medical surveillance examination guides online for clinics and practitioners.

Radiation Health Inspections: In support of the Naval Radioactive Material Permit program, NMCPHC conducted various radiation health inspections and permit amendments to ensure sites under the purview of NMCPHC were in compliance with current Naval Regulatory Commission regulations and the provisions of their permit. Monitoring and enforcing regulations and permit specifications is essential to ensuring the safety and well-being of the Sailors and Marines who operate in environments where exposure to radioactive materials is a common threat.

Medical Home Port (MHP) Population Health Support: To implement Patient-Centered Medical Home (PCMH) principles, BUMED formally developed its PCMH model and is in the process of implementing MHP across its enterprise. The MHP helps provide primary care in a way that best meets the needs of Navy Medicine beneficiaries. The MHP team ensures that care is all-inclusive and integrated with all other care provided within the healthcare system. The NMCPHC specifically provides support to the Population Health component of MHP. In FY16, NMCPHC conducted analyses to determine the type and amount of resources necessary to manage a population's health needs at a local-level. Ongoing analysis will be implemented to drive focused, cost-effective, evidence-based practices across the enterprise with BUMED and NMCPHC as the central hubs to improve efficiency and reduce duplicate of efforts.

The NMCPHC developed Community Health Assessments (CHAs) for Naval Hospital Camp Pendleton (NHCP) and Naval Hospital Jacksonville (NHJ) in support of MHP Population Health that included geospatial analysis of MTF enrollee high density areas and drive times to health promotion resources for the population. The NMCPHC also developed a CHA Guide, which provides Navy MTFs a step-by-step process for completing local community health assessments allowing them to prioritize and allocate resources in an effective and efficient manner. Both the CHA and the CHA Guide were used to develop and provide NHCP and NHJ with evidence-based recommendations of best-practices and lessons learned to enhance products and services. The NMCPHC then developed an Evidence-Based Recommendation (EBR) Checklist to track and monitor progress against recommendations. The EBR checklist reduces the time and effort to implement best-practices, allowing service providers to spend more time with patients.

Also in support of MHP Population Health, NMCPHC developed an Ambulatory Intensive Care (AIC) Portal to support the AIC program. The tool provides tracking for all interactions between AIC support staff and AIC participants and serves as a data collection tool for epidemiological analysis. In addition, NMCPHC conducted onsite training in Pensacola, Florida to provide guidance and improve use of the AIC program. This new tool enables better data collection at a reduced administrative burden.



Public Health Consultation

Public Health Assessments (PHA) and Reviews:

A major component of NMCPHC's mission is identifying, quantifying, documenting, and communicating health, safety, and environmental risks to assist military commanders and other staff in making informed risk management decisions and relaying information to various stakeholders. In FY16, NMCPHC led multi-disciplinary public health risk assessment efforts to investigate reported disease clusters from several Navy and Marine Corps locations. Potential sources of environmental contamination were identified using historical environmental and safety records; epidemiologic studies were conducted to determine if the anecdotal reports of disease could be confirmed from medical records; and risk analyses were developed to determine what risks to public health existed in these locations. The NMCPHC has become the "go-to" entity for public health surveillance data analysis as a result of the command's extensive experience in conducting environmental exposure investigations. Throughout the course of FY16, NMCPHC conducted public health reviews focused on issues including, but not limited to, the following public health issues:

- ▶ Carcinogen exposures and potential resulting cancer clusters
- ▶ Pesticide contaminated soils and the potential impacts
- ▶ Water quality analyses near Naval installations and housing complexes and preventive measures to ensure public health
- ▶ Analysis of DRSi information to identify exposures related to travel to specific geographic locations
- ▶ Analysis of potential health issues associated with pollution in selected geographies

Also in FY16 and in collaboration with BUMED, NMCPHC developed the PHA system proof of concept. The system is intended to support more than 650,000 users annually, allow for consistency and visibility of all behavioral health components for individuals completing the assessment, and provide data for assessing total force health.

Health and Environmental Risk Communication: As the recognized center of excellence within the Navy and Marine Corps for health and environmental risk communication, NMCPHC has provided consultative training expertise for communicating environmental and public health risks for a wide range of programs. Uniquely staffed by risk communicators with backgrounds in chemistry, biology, industrial hygiene, public health, and engineering,



the command has coordinated efforts with internal and external health professionals to support site-specific and topic-specific risk communications for our Navy and Marine Corps environmental, health, and safety customers around the globe.

Submarine Atmosphere Advisory Board Support: NMCPHC toxicologists are supporting the Submarine Atmosphere Advisory Board to establish scientifically defensible protocols for developing Continuous Exposure Guidance Levels and Emergency Exposure Guidance Levels. These levels define acceptable atmospheric air quality levels in operating nuclear submarines and ensure the safety of submarine crews. This effort is critical to ensure the safety and well-being of Sailors on submarines where new chemical products are being used in submarine construction, maintenance, and use.

Toxicology Support for Health Hazard Advisories: NMCPHC toxicologists are working to further develop the process of toxicological review of Industrial Hygiene Health Hazard Advisories (HHAs). In HHAs, NMCPHC develops and reviews toxicological and related information and makes recommendations concerning acceptable exposures to materials and mixtures based on their potential to produce toxic effects under specific conditions. Recent changes in the process of toxicological review of HHA documents include implementing evaluations of the strength and consistency of the available toxicological information and the severity of the critical effect. These endpoints facilitate production of a scientifically accurate HHA with the scientific rigor and objectivity to provide a toxicological perspective to these documents.

Naval Facilities Engineering Command (NAVFAC) Engineer Field Division and Base Realignment and Closure Support: NMCPHC provided health and safety technical expertise and consultation to the NAVFAC Engineer Field Division, Base Realignment and Closure (BRAC) Program Management Office Remedial Program Managers and their contractors for remediation/cleanup projects, including health and safety document reviews, assistance with field health and safety issues, and site compliance audits. As part of continuing health and safety technical support for time-critical Environmental Restoration and BRAC funded

environmental projects, NMCPHC provided technical review and comment on 98 contractor developed site-specific Site Safety and Health Plans (SSHPs), 81 site-specific Accident Prevention Plans (APP), and 630 Activity Hazard Analyses.

Also in support of NAVFAC, NMCPHC developed a training module for the NAVFAC South West Safety U.S. Army Corps of Engineers Safety and Health Requirements Manual EM 385-1-1 (EM-385) Training Course. The course is focused on the application of APPs and SSHPs at Installation Restoration Sites where Hazardous Waste Operations (HAZWOPER) are being conducted. The NAVFAC South West requires all personnel responsible for field health and safety issues and site compliance audits to successfully complete the EM-385 training course.

Public Health Program Evaluations: NMCPHC completed the Health Experts onLine at Portsmouth (HELP) Program Evaluation. As a part of the evaluation, NMCPHC conducted an in-depth analysis of costs and savings associated with providers using HELP to communicate with specialists at NMCP between June 2014 and December 2015. The analysis identified that HELP produced an 80 percent return on investment (ROI) based on prevented medical evacuations. Furthermore, the addition of intangible savings such as reduced loss of productivity increased the ROI to 250 percent.

RELEVANCE

The NMCPHC is committed to providing meaningful public health solutions that address stakeholder requests. By doing this, NMCPHC ensures customers recognize the value and impact of the command in the public health arena. Relevance is necessary to operate effectively in a dynamic public health environment. The NMCPHC products and services must consistently provide a measurable benefit for stakeholders. The NMCPHC's demonstrated impact on Sailors, Marines, and the entire naval community ensures the command is the first choice for public health support.

Relevance defines the command's commitment to be the frontline provider and primary source of solutions to address stakeholders' toughest public health concerns. Relevance in public health is pivotal when defining the services offered to stakeholders.

The following NMCPHC FY16 accomplishments are aligned with the command's three core capability areas and demonstrate the command's commitment to relevance.



Health Surveillance, Epidemiology and Analysis

Antibiotic Resistance: As previously stated NMCPHC is a key player in the enterprise-wide surveillance of healthcare-associated infections, especially Multi-Drug Resistant Organisms (MDROs). This surveillance capability serves DoD programs and initiatives and supports the infectious disease and infection control communities in the healthcare setting. The NMCPHC conducted and completed a pilot program focused on reporting antimicrobial resistance data for selected MTF's into the National Healthcare Safety Network system to support the President's Initiative for Combating Antibiotic-Resistant Bacteria (CARB). The data will be used by healthcare providers to inform and support patient care and help prevent the prevalence of antibiotic resistance. The NMCPHC also provided a report on MDRO 2005-2015 and *Clostridium difficile* infection incidence (2007-2015) among MHS beneficiaries for the United States Army Medical Research and Materiel Command. The report informs prioritization of research, development, test, and evaluation investments in novel antimicrobial countermeasures. MDRO infections among MHS beneficiaries have declined 50 percent over the years, largely impacted by significant declines in Methicillin-resistant *Staphylococcus Aureus* (MRSA).

NMCPHC epidemiologists wrote and published several articles to increase awareness of public health trends and current issues. For example, NMCPHC collaborated with the pediatrics department at Brooks Army Medical Center to develop a manuscript titled "Changing Susceptibility of *Staphylococcus aureus* in a U.S. Pediatric Population¹⁰" which was published in the American Academy of Pediatrics journal. The manuscript documents decreasing MRSA trends, variability in geographical resistance rates, and increasing clindamycin resistance among MRSA in the pediatric population. A collaborative work between NMCPHC and Multidrug Resistant Organism Repository and Surveillance Network titled "Anatomic, Geographic, and Taxa-specific Relative Risks of Carbapenem Resistance in the Healthcare System of the U.S. Department



of Defense¹¹" was accepted for publication by the *Journal of Clinical Microbiology*. In February 2016, the *Medical Surveillance Monthly Report* published an article titled "Incidence of *Chlamydia trachomatis* infections and screening compliance, U.S. Army active duty females under 25 years of age, 2011-2014¹²." This article was supported by several NMCPHC epidemiologists. The publication promotes clinician awareness of regional susceptibility patterns for consideration when choosing treatment options, and is an example of the surveillance and analysis capabilities at NMCPHC.

In regard to antibiotic resistance and MDRO, NMCPHC efforts included the following actions:

- ▶ Developed and maintained the Navy Antimicrobial Surveillance System for the DoD Antimicrobial Resistance Monitoring and Research program. NMCPHC alerts leadership of emerging infections and resistance patterns to trigger additional precautionary infection control measures and inform provider decisions on empirical treatment.
- ▶ Supported the DoD Combating Antimicrobial Resistant Bacteria (CARB) program, an effort to combat drug resistance from a global perspective. NMCPHC provides MTFs with facility antimicrobial susceptibility data which is reported to the CDC to inform the antimicrobial stewardship interventions.
- ▶ Provided reports to the DHA Patient Safety Analysis Center on exposure burden associated with the importation of MDRO to inform policies and interventions that influence patient safety.
- ▶ Conducted routine surveillance of MDRO and provided reports to MTFs, service public health hubs, and infectious disease community. Reports are used to inform infection prevention interventions, program evaluations, and patient treatment.

Disease Outbreak

Analysis: In FY16, the world encountered several disease outbreaks that captured the population's attention due to their global impact. The NMCPHC's health surveillance, epidemiology, and analysis capability is a Navy Medicine asset in understanding the nature of these outbreaks and the potential impacts across the globe.



¹⁰ <https://pediatrics.aappublications.org/content/early/2016/02/28/peds.2015-3099>

¹¹ <http://jcm.asm.org/content/early/2016/03/24/JCM.00359-16>

¹² <http://www.health.mil/Reference-Center/Reports/2016/01/01/Medical-Surveillance-Monthly-Report-Volume-23-Number-2>

In collaboration with Infectious Disease Clinical Research Program (IDCRP), Armed Forces Health Surveillance Branch (AFHSB), and Walter Reed National Military Medical Center, NMCPHC supported a study presentation at the December 2015 International Society for Disease Surveillance Conference. The objective of the IDCRP-lead study titled "Use of Electronic Health Records to Determine the Impact of Ebola Screening" was to present methods of screening symptoms and laboratory orders to identify patients who presented for Ebola Virus disease screening, in order to determine the impact of Ebola on the MHS.

At the request of BUMED, NMCPHC supported Zika preparedness by analyzing pregnancies treated within Navy Medicine to identify pregnancy population densities and locations. The effort enabled BUMED to identify impacts to the community and demand that could arise from potential infections and outbreaks.

NMCPHC also regularly monitors the MHS to identify cases with concerns of Ebola, Zika and other diseases of interest to proactively alert DoD public health commands and AFHSB to prevent the spread of disease.

Influenza Surveillance: Throughout the influenza season, NMCPHC epidemiologists provide comprehensive surveillance using multiple clinical and support data sources to evaluate the burden and severity of influenza on the DON beneficiary population, with specific focus on special populations (e.g., active duty, children, and recruits). Analyses are also completed to determine potential risks associated with influenza such as relationship to bacterial coinfections and immunizations provided within DON MTFs. Annually, NMCPHC develops a seasonal influenza summary report that evaluates the most recent influenza season compared to previous seasons. The report analyzes trends, analyzes the impact of data sources on the burden assessment, and provides a more in-depth study of comorbidities for confirmed cases.

Navy Analytics: In support of the Navy Medicine Chief Medical Officer, NMCPHC contributed to the development of a health analytics brief to BUMED. The analytics plan defined the current state and potential staffing estimates of health analytics across Navy Medicine. While serving as lead of the Analytics Workstream for BUMED's High Reliability Organization (HRO) change plan, NMCPHC briefed the BUMED Executive Steering Committee regarding establishing Integrated Analytics as a program of record. This will shape Navy health analytics in conjunction with BUMED's HRO efforts which aim to advance quality of care and patient safety across the Navy Medicine enterprise. The BUMED uses health analytics to execute efforts in process improvement, healthcare business analytics, and health analysis throughout the enterprise. The coordination of the effort helps allocate resources appropriately



for analytics requests and ensures analytics capabilities are available at the MTF, Region, and Enterprise level. By optimizing resources, health analytics contributes to Navy's HRO plan and supports the Navy Surgeon General's priorities on Readiness, Health, and Partnerships.

Prescription Drug Abuse Analysis: According to the CDC National Center for Injury Prevention and Control, prescription drug overdose is one of the ten most important public health problems and concerns¹³. The NMCPHC supported the Assistant Secretary of Defense, Manpower and Reserve Affairs's Drug Demand Reduction Program (DDRP) FY2015 Report: Risk Factors for Unauthorized Prescription Drug Use in Active Duty and Reserve Active Duty Sailors and Marines. This analysis examined risk factors for unauthorized prescription drug use in active duty and reserve active duty Sailors and Marines. The analysis informs the development of targeted efforts within the DDRP. Additionally, NMCPHC conducted an analysis to examine how Navy and Marine Corps policies could more effectively address and detect prescription drug misuse among active and reserve component service members.

Disease and Injury Prevention

Forward Deployable Preventive Medicine Unit Management:

The NMCPHC's Expeditionary Platforms Department continues to expertly manage one of Navy Medicine's three operational platforms: the FDPMU. Since 2003, this major \$3 million a year program deployed 18 separate, 13-member teams on 6-month deployments in support of U.S. forces in Iraq or Afghanistan and in humanitarian operations in Haiti (2004 and 2010) and Pakistan (2005).

The FDPMU deployed twice in 2016 in support of Commander, Pacific Fleet and U.S. Naval Forces Southern Command/4th United States Fleet where 18 members from NMCPHC's NEPMU 2, 5, and 6 participated in Southern Partnership Station 2016 and Pacific Partnership 2016. The FDPMU has become a significant force



¹³ CDC Prevention Status Reports Page web site can be accessed at: <http://www.cdc.gov/psr/>

enabler for BUMED's growing Global Health Engagement missions. FDPMU members are preparing for Continuing Promise 2017 where the unit will be integrated with the Navy Expeditionary Unit to demonstrate Navy Medicine's Adaptive Force Package concept while operating in three Central and South American countries.



Global Public Health Exercises and War Gaming Participation:

In partnership with Commander, U.S. Fleet Forces Command (CFFC), NMCPHC planned and coordinated the command's involvement in BOLD ALLIGATOR 2016, a virtual and constructive, scenario-driven exercise designed to improve Navy and Marine Corps amphibious core competencies. The NMCPHC presented an accepted concept to CFFC Health Services Support (HSS) planners for the FDPMU integration with the Naval Expeditionary Forces to demonstrate its interoperability with Naval Forces, coalition, and partner nations.

The NMCPHC staff augmented Navy and joint planning efforts at United States Pacific Command, U.S. Southern Command, CFFC, Pacific Fleet, Naval Forces Southern Command, Navy Forces Europe/Africa (NAVEUR/AF) and Navy Central Command (NAVCENT) in sourcing over 40 officers and enlisted from the NMCPHC enterprise. The NMCPHC staff supported six global health exercises, global training missions, and environmental surveillance efforts across five geographic combatant command areas of responsibility. These missions included Continuing Promise 2016, Southern Partnership Station 2017, Pacific Partnership 2016 and Cobra Gold 2016, Cooperation Afloat Readiness and Training 2016, Ardent Sentry 2016 and occupational and environmental health surveillance activity in the U.S. Central Command area of responsibility.



The NMCPHC participated in the first ever PACFLT planning conference to construct an HSS logistics wargame for a war-at-sea scenario. The FDPMU brought an integral capability to the wargame and aptly demonstrated its value as an important component of the Naval HSS structure.

Occupational and Environmental Health Site Assessment Support:

NMCPHC led the technical review and completion of a NAVCENT tasking to conduct environmental sampling at three sites within the NAVCENT area of responsibility. The NMCPHC conducted a thorough technical review of Occupational and Environmental Health Site Assessments of NAVCENT forward operation areas. Department efforts resulted in the development of a scientifically valid and defensible sampling and analysis plan for three expeditionary sites.

Public Health Consultation

Environmental Sampling Process Improvement:

NMCPHC coordinated efforts between NEPMU-2 members, Army Institute of Public Health, and BUMED to close a capability gap in the ability to receive and analyze environmental samples collected from forward deployed sites. In doing so, NMCPHC led an inter-service support agreement between NMCPHC and AIPH for environmental sample preparation, direct laboratory support, and environmental risk assessment support to aid field activities in conducting environmental sampling.



Defense Health Agency Support: In support of the DHA, NMCPHC conducted an analysis on public health surveillance systems across the DoD. This analysis was done as a component of the MHS GENESIS implementation. GENESIS is a new electronic health record system being implemented to leverage the latest advances in medicine and innovations medical technology. As a result of NMCPHC's analysis, data gaps across the various public health surveillance systems in place were identified. Those data gaps will be used to facilitate a successful GENESIS implementation and enable Navy Medicine to track communicable disease, vaccines, laboratory results, and other public health surveillance data. This data allows Navy Medicine to control outbreaks and prevent the spread of disease across the enterprise.

VALUED WORKFORCE

The NMCPHC is committed to providing staff every opportunity to grow and succeed in a productive and encouraging environment, making NMCPHC a sought-after and desired place to work. The NMCPHC would not exist without a skilled and dedicated workforce. A healthy naval community is wholly dependent on the selfless devotion of hundreds of professionals who work each day to protect and improve their lives. It is imperative that the command continue to attract and retain quality personnel that not only provide

unparalleled expertise in their fields, but have a deep commitment to delivering enduring results to our forces and their families.

The NMCPHC encourages a sense of pride and appreciation among staff for the efforts they put forth daily on the front lines and in locations across the globe. The ability to provide excellent products and services and relevant information to the public health sector would not be possible without a capable and motivated workforce who are dedicated to command success.



The following NMCPHC FY16 accomplishments demonstrate the command's commitment to fostering a valued workforce.

NMCPHC Strategic Plan Updates: As part of the NMCPHC SMS, the command conducts a strategic offsite on an annual basis to review the previous year's progress and discuss critical public health trends, developments, and challenges, and emerging issues factoring into the command's future strategy. The offsite is an opportunity for leadership to step back from day-to-day operations, analyze the previous year's performance and define a strategic approach to navigate the coming fiscal year. In FY16, the command focused significant effort on reviewing and updating its mission, vision, goals, and objectives. The result was a completely updated NMCPHC Strategic Plan with new goals and objectives



focused on reinforcing the command as a critical Navy Medicine asset. The NMCPHC Strategic Plan is the foundation and compass by which NMCPHC navigates the continually changing public health environment and aligns efforts and resources toward a clearly stated objective. As a result of the strategic plan, NMCPHC is able to maximize the value and impact of its resources to ensure Navy and Marine Corps community public health requirements are addressed through creative and innovative solutions that demonstrate the command's excellence and relevance.

Enterprise Communications: In support of the updated NMCPHC Strategic Plan, the command developed and implemented a structured communications approach to promote awareness and understanding of the NMCPHC strategy throughout the enterprise. The NMCPHC developed a comprehensive communications plan based on specific communications goals and objectives focused on ensuring command staff were actively engaged and connected to the NMCPHC strategy. The communications plan also focused on promoting coordination and collaboration across the NMCPHC directorates to engage staff in all facets of mission execution and ensure comprehensive public health solutions that addressed and considered all components of public health were the trademark of the command. As a result of the communications strategy, NMCPHC issues periodic communications such as newsletters, fact sheets, and one pagers to its staff. These materials foster a culture of knowledge-sharing and a sense of community throughout the enterprise and connect the day-to-day work to the commands strategy.

Performance Management: Monitoring and managing performance against strategic goals is critical to the SMS. As such, NMCPHC developed and implemented the Strategic Planning Review dashboard to monitor strategic initiative progress and the Command Operational Snapshot dashboard to monitor critical operational metrics. Each quarter throughout the year, the NMCPHC's leadership meets to review the performance metrics and determine appropriate actions. Key performance measures are captured across the enterprise and presented to command leadership to drive data-based decision making and maintain momentum.

Process Analysis and Improvement: In FY15, NMCPHC established its PIB to identify and discuss opportunities for improvement in command processes. Building on the momentum of the PIB's success, in FY16 the command established the PIAT. The PIAT is focused on driving process changes and executing action plans for change. As a result of the NMCPHC PIAT, the command has successfully enhanced and streamlined several business processes resulting in reduced turnaround time, cost savings, and more efficient and effective use of command resources.

COMMAND RESOURCES

PERSONNEL

Active duty service members, Government civilians, and contractors support NMCPHC. The supporting manpower mix is directly influenced by the need to deploy and sustain fleet readiness. The directorates predominately executed at home station (Environmental Health, Laboratory Services, and Population Health) are largely supported by civilians. In addition to conducting environmental and population health, preventive medicine, and laboratory services functions, NMCPHC Enterprise Support Services is responsible for providing administrative, information technology, logistics, and resource management support to all its subordinate field activities. Each activity is assigned the workforce mix best suited to accomplish its mission. Table 1 displays the personnel assigned to each directorate and field activity.

NMCPHC DIRECTORATES	ON-BOARD FY16 PERSONNEL
Command Suite	4
Environmental Health Support Services	62
Population Health Support Services	107
Preventive Medicine Support Services	37
Laboratory Services	5
Administration	45
Resource Management	23
Total NMCPHC Staff	283

NMCPHC FIELD ACTIVITY	ON-BOARD FY16 PERSONNEL
NEPMU-2	34
NEPMU-5	39
NEPMU-6	39
NEPMU-7	15
NECE	31
NBIMC	10
NDC	31
NDSL Jacksonville	62
NDSL San Diego	57
NDSL Greater Lakes	57
Total Field Activity Staff	375
Total NMCPHC and Field Activity Staff	658

Table 1. NMCPHC Directorate and Field Activity Staffing Support





THE WAY FORWARD

In FY17, NMCPHC will continue to focus efforts on providing creative and innovative public health solutions focused on addressing the evolving and emerging public health requirements of the Navy and Marine Corps community. The command will continue to coordinate and collaborate across Navy Medicine and the DoD to build a joint-focused functional community of public health practitioners dedicated to serving Sailors and Marines at home and around the globe. With a focus on the future, command activities will continue to position NMCPHC as the gold standard in public health and the primary, trusted source for Navy and Marine Corps public health needs.

Leveraging the guidance and foresight outlined in the NMCPHC Strategic Plan, the command will align resources and efforts around the goals of excellence, relevance, and valued workforce. In doing so, NMCPHC will maximize the value and impact of its efforts to public health stakeholders around the world; positioning the command for long-term success and demonstrating the importance of the command as a Navy Medicine asset. In FY17, NMCPHC's primary focus will be on the following:

- ▶ Establishing, fostering, and mentoring functional communities focused on expanding and enhancing naval public health capabilities
- ▶ Structuring and coordinating command outreach activities to promote awareness and use of NMCPHC capabilities, products, and services
- ▶ Facilitating coordination and collaboration across the NMCPHC enterprise to establish a culture focused on delivering comprehensive and inventive public health solutions
- ▶ Establishing a coordinated approach to recruit, retain, develop, and reward the world's best public health practitioners
- ▶ Implementing standard and repeatable processes to respond to the most critical and pertinent public health requirements in an agile, efficient, and effective manner

As NMCPHC continues to provide world class public health products and services to Sailors, Marines, and their families at home and abroad, the command will continue to focus efforts on maximizing its value and impact to its stakeholders. Maintaining focus on identifying and addressing opportunities for improvement is critical to the health and well-being of the command. The NMCPHC Board of Directors, SPB, and command leadership will continue to drive NMCPHC forward and maintain a focus on the needs of the Navy and Marine Corps.

THE NAVY AND MARINE CORPS PUBLIC HEALTH CENTER CONTACT INFORMATION

COMMAND LEADERSHIP

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Executive Officer: CAPT Eric R. Hoffman

Command Master Chief: HMCM (SW/EXW) Derek M. Petrin

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