LETTER FROM RADM J. M. ENGEL, NC, USN

As we deploy new methods of recording and sharing information, Force readiness increases. Two innovations in the Navy and Marine Corps will make medical readiness surveillance in our Forces more effective, economical, and useful. The Naval Disease Reporting System (NDRS) is an electronic communication and analysis system that links the deckplate to our four Navy Environmental and Preventive Medicine Units (NEPMU) and their parent command, the Navy Environmental Health Center (NEHC). The *Naval Medical Surveillance Report (NMSR)*, a quarterly publication from NEHC back to the fleet, is the second innovation.

The NDRS is a self-contained reporting program that can be used afloat or ashore, deployed or in garrison (ref. BUMEDINST 6220.12A). It provides medical event report forms, disease definitions and codes for reportable diseases, and includes useful forms for outbreaks, PPD follow-up, and mandated State reporting. It simplifies reporting, makes communication instantaneous, enhances reliability and validity of data through built-in quality assurance measures, reduces paperwork, and allows for electronic analysis via spreadsheet and statistical programs. The NDRS provides current data for operational and preventive medicine decisions at local, regional, and Service-wide levels. This information can be used for policy development, program assessment, and resource allocation.

A critical element of a good surveillance system is reporting the data back to the user at the deckplate. This is the primary function of the *NMSR*. This report provides a summary of current population–based data gathered via the NDRS. The *NMSR* also provides preventive medicine information of interest and use to both operational and policy leaders in the Naval and other Armed Services.

I welcome these innovations, and hope you will discover them to be valuable tools for your mission. It is my belief that your use of these tools will enhance effective medical surveillance. These epidemiological developments are essential to our mission of Force Health Protection.

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To be added to the mailing list, Contact the Navy Environmental Health Center at DSN 253-5603, Comm: (757) 462-5603.

DEPLOYMENT MEDICAL SURVEILLANCE IMPLEMENTATION

Implementation Update

As program manager for Deployment Medical Surveillance, the Navy Environmental Health Center has aggressively addressed six key areas: Health Surveillance, Threat Assessment, Health Promotion, Risk Communication and Training, the Forward Deployable Preventive Medicine Unit (FD-PMU), and the Chemical Biological Radiological and Environmental (CBR-E) program. A Deployment Medical Surveillance Handbook has been developed for customer use, and a Deployment Medical Surveillance homepage can be accessed at http://www-nehc.med.navy.mil/depsurv/depsurv.htm. Products and services for each of these areas are currently available and are rapidly being developed and revised.

DoD Anthrax Vaccine Immunization Program (AVIP) Update

The threat of biological warfare (BW) has been a subject of increasing concern to military leaders in the United States and other countries in recent decades. During Operation Desert Storm/Desert Shield, it became clear that the threat is real, imminent, and serious. This leaves us with the challenge to develop measures that will reduce the probability of BW attack and/or increase our capability to rapidly and adequately respond to such an attack when it occurs. The potential for mass casualties in the event of a BW attack with certain agents is enormous and the best protection against such losses is by active prophylactic immunization of our troops against these agents when possible.

In January of 1996, the military began stockpiling anticipated troop equivalent doses of the anthrax vaccine and in December 1997, the Secretary of Defense announced the decision to immunize the total force. The AVIP is designed for execution in three phases (Figure 1). An accelerated immunization of units in Southwest Asia (SWA) began in March 1998 as a direct result of tensions over United Nations weapons inspections in Iraq. However, phase I of the program, which involves the immunization of all units that are either assigned to or rotating into high threat areas of SWA and Korea officially began in August 1998.

About 160,000 service members have been vaccinated through December 1998, including 149,275 Army, 140,153 Air Force, 75,565 Navy, and 27,161 Marine Corps. A minimal number of military personnel have refused vaccination: 12 Army, 15 Air Force, 14 Navy, and 27 Marine Corps. The number of vaccines administered and adverse events following vaccinations have been closely monitored. There have been a total of 37 adverse reactions reported through the Vaccine Adverse Event Reporting System (VAERS) (21 Army, 11 Air Force, 5 Navy, and 0 Marine Corps) as of 1January 1999 (Table 1). Sixty-five percent of these were local reactions consisting of localized erythema and induration. The majority of the systemic reactions included symptoms of nausea and vomiting, dyspnea, generalized itching without rash, body aches, jaw swelling, burning sensation on skin, etc. Most of the patients in this category as well as those with local reaction did not require hospitalization. For all of these patients, full recovery without any sequelae has either been achieved or is anticipated.

The need for tracking such information is important both from the standpoint of evaluating the program and also for public education. The efforts of the DoD to track the immunization process is substantial, demonstrating commitment to the success of the program.

Figure 1. AVIP Concept of Execution

Phase I: Forces assigned or rotating to high threat areas of SWA and Korea

Phase II: Early deploying forces into high threat areas of SWA and Korea

Phase III: Remainder of Total Force, accessions, and program sustainment

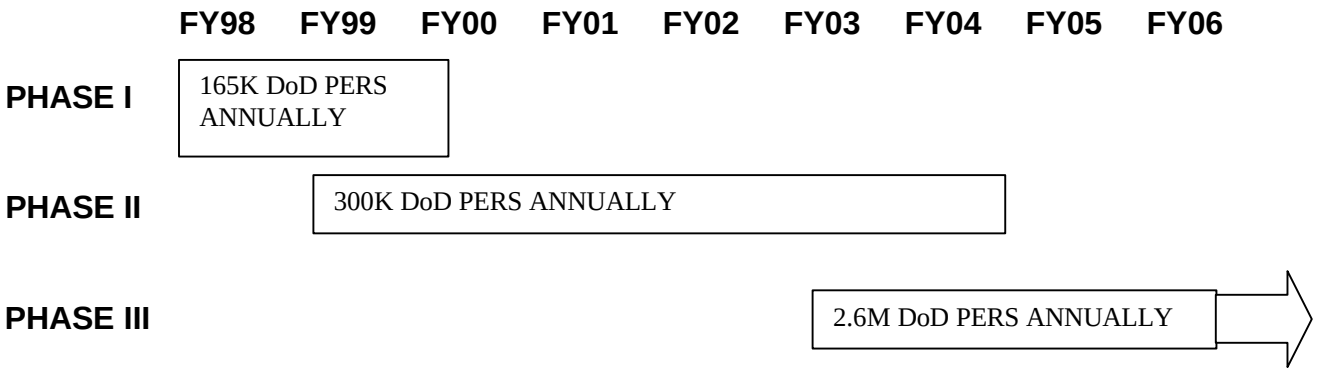


Table 1. Anthrax Adverse Reaction

Weekly Data (Week Ending 1/15/99)

Service	VAERS Report Required		Classification				Weekly Totals
			Local Reaction			Systemic Reaction	
	Yes	No	Mild	Moderate	Severe		
USA	0	1	0	0	0	1	1
USN	0	0	0	0	0	0	0
USAF	0	0	0	0	0	0	0
USMC	0	0	0	0	0	0	0
Non-DoD Reports	N/A		N/A	N/A	N/A	N/A	0

Cumulative Data (Commencing 8/98)

Service	VAERS Report Required		Classification				Cum. Totals
			Local Reaction			Systemic Reaction	
	Yes	No	Mild	Moderate	Severe		
USA	2	20	7	6	4	5	22
USN	3	2	0	0	2	3	5
USAF	4	7	2	2	1	6	11
USMC	0	0	0	0	0	0	0
Non-DoD Reports	N/A		N/A	N/A	N/A	N/A	7

* Excludes 4 ODS/DS VAERS reports on Anthrax

NAVAL DISEASE REPORTING SYSTEM (NDRS)

Commonly Reported Communicable Diseases, 1997

Part of medical surveillance for medical readiness means keeping track of data at the operational level in real time. As we move towards that goal, we present the 1997 NDRS data (with U.S. population comparisons, as available) categorized by reporting sites.

Table 2 shows selected disease frequencies by category of reporting site within the Naval reporting system, i.e., hospital, clinic, and vessel size. For the Crude Rates presented in Table 3 and Figure 2, we estimated the denominator "at risk" population served by the MTFs to be 480,000 active duty and large vessels to be 110,000 active duty USN and USMC service members. For comparison, we include some national population frequency estimates from the Centers for Disease Control and Prevention (reported through civilian reporting mechanisms). Further detailed information from CDC for 1997 is available at http://www.cdc.gov/epo/mmwr/preview/mmwrhtml/00056071.htm .

Comparison of broad categories represents composite information drawn from complex data sources via multifarious data reporting systems. We recommend they be interpreted for "order of magnitude" comparisons and general trends hypothesis generation only. For example, the incidence rate for syphilis reported by MTFs is almost twice the national rate, however, the population is not age adjusted. We also display data from several different sources, as a result, the case frequency and rate calculations within the national population estimates may not correlate exactly because of source differences. The 1997 national comparison data for salmonella, shigella, and varicella presented in Table 3 are from the "Total" column Table C of the Summary of Notifiable Diseases, United States, 1997. The rates for the national population for these diseases are extrapolated from Figures 39, 41, and 54 of the same report. Giardia is not reported in the national data, and varicella reporting varies by state.

Specific disease or sub-population comparisons may be suggested directly to your NEPMU Epidemiology Department, to NEHC Preventive Medicine Directorate via email to our Homepage, or to this publication via a Letter to the Editor.

Table 2. Selected Communicable Diseases, 1997

CATEGORIES	HEP A	HEP B	GIARDIASIS	LYME	MALARIA	SALMONELLOSIS	SHIGELLOSIS	SYPHILIS	TB	VARICELLA
Naval Medical Centers	2	3	4	0	4	7	4	6	2	7
Naval Hospitals	4	4	5	13	1	6	2	10	2	3
Branch Medical Clinics	2	2	6	0	0	3	2	11	0	1
Navy Medical Clinics	0	3	0	2	0	2	0	3	0	2
Aircraft Carriers	2	0	1	0	0	0	0	3	1	3
**Large Amphibious Vessels	0	1	3	0	1	0	0	1	2	1
*U.S. Population	27595	8656	-	10622	1756	41,901	23,117	7787	16905	98,727

*Numbers are from the cumulative frequency tables for 1997 found in the MMWR, Jan 9, 1998, Vol. 46: No. 52 & 53.

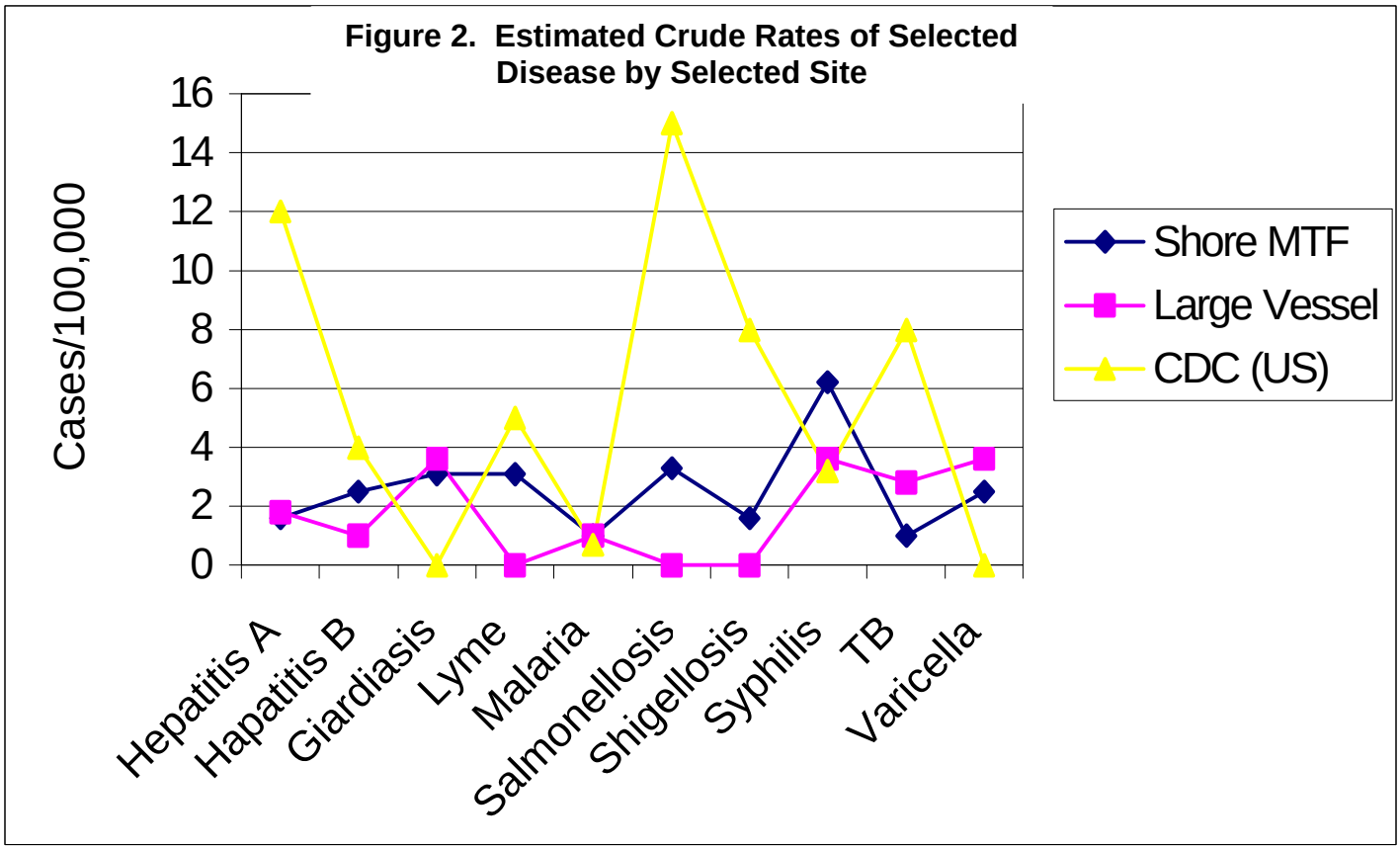
**Large Amphibious Vessels include LPDs, LHAs, LHDs, and LSDs

Table 3. Estimated Crude Rates of Selected Disease by Selected Site Cases/100,000 Population, 1997

CATEGORIES	HEP A	HEP B	GIARDIASIS	LYME	MALARIA	SALMONELLOSIS	SHIGELLOSIS	SYPHILIS	TB	VARICELLA
Shore MTFs	1.6	2.5	3.1	3.1	1.0	3.3	1.6	6.2	0.8	2.5
*Large Vessels	1.8	0.9	3.6	0	0.9	0	0	3.6	2.8	3.6
CDC (U.S.)	12.0	4.0	-	5.0	0.7	15.0	8.0	3.2	8.0	93.0

*Large Vessels include CVs, CVNs, LPDs, LHAs, LHDs, and LSDs

The following figure displays the rates for 1997 graphically:



GLOBAL SURVEILLANCE OF EMERGING DISEASES

Synopsis of the DoD Five Year Plan

The Department of Defense Global Emerging Infections Surveillance and Response System (DoD GEIS) has recently completed and distributed a Five Year Strategy for the DoD GEIS activities. A draft of this plan is available on the DoD GEIS website (new address is www.geis.ha.osd.mil), and the full document can be obtained from Global Emerging Infections System, Walter Reed Army Institute of Research (WRAIR), Division of Preventive Medicine, Washington D.C. 20307-5100. The fifty page document entitled "Addressing Emerging Infectious Disease Threats: A strategic Plan for the Department of Defense," outlines the priority activities which will enhance force protection and preventive defense.

The high priorities for DoD-GEIS Implementation, 1998-2002 are:

Goal 1: Surveillance

- Conduct malaria, enteric infection, influenza, and fever surveillance at six OCONUS laboratories.
- Implement laboratory-based surveillance within DoD.
- Enhance influenza surveillance in DoD populations.
- Institute unexplained mortality surveillance in DoD populations.

Goal 2: Systems Research, Development, and Integration

- Develop a DoD "virtual" public health laboratory network.

•Establish appropriate specimen archiving and information gathering systems.

Goal 3: Response

•Develop mechanisms for communicating surveillance data to those who need to know to include a web site and the DoD-GEIS Emerging Infections Report.

•Establish appropriate interagency agreements with Centers for Disease Control and Prevention and the Department of State.

•Address product availability and influenza pandemic planning issues.

Goal 4: Training and Capacity building

•Continue humanitarian assistance projects funded by regional unified command CINCs to leverage global resources for surveillance in developing countries.

OUTBREAKS

Febrile Respiratory Illness Testing Update

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Background – Naval Health Research Center (NHRC), San Diego, has been conducting surveillance of febrile respiratory illness (FRI) at military recruit camps since June 1998. Eight camps, representing all three service branches, report FRI rates to NHRC each week. Viral throat culture specimens are taken from a systematic sample of ill recruits, and the specimens are shipped to NHRC to undergo testing for viral pathogens including influenza A and B, adenovirus, respiratory syncytial virus (RSV), and parainfluenza.

Current progress – Testing has been completed for 764 specimens taken between 8 June and 2 December 1998. Summary results are shown in Table 4.

Influenza – As of December 1998, 44 (5.7%) of the specimens have been positive for influenza, with type A accounting for 84% of the positives and type B the remaining 16%. The earliest type A and B isolates were found on 22 July (Ft. Jackson) and 11 August (Ft. Leonard Wood), respectively, while the most recent A and B isolates are from 9 November (Great Lakes) and 4 November (Great Lakes), respectively. Among the positives for which vaccination status was known, 29/39 (74%) had received influenza vaccine. Among the vaccinated positives for which vaccination date was known, 23/27 (85%) had been vaccinated more than two weeks prior to their illness, suggesting that they may have been infected with a nonvaccine strain of influenza (see Table 5). Most of the positives among the vaccinated occurred at Ft. Jackson, where all 21 positives came from vaccinated personnel. Subtyping of the isolates is in progress.

Adenovirus – Adenovirus has clearly been the leading cause of FRI among recruits, as 68.7% of all specimens tested to date have been positive. The proportion of disease caused by adenovirus varies greatly by location, ranging from 12.5% (Lackland AFB) to 88.1% (NTC Great Lakes). Because adenovirus vaccine is only given seasonally to conserve existing supplies, more than 90% of the specimens tested to date have come from unvaccinated personnel. Serotyping of the isolates has recently begun.

Other pathogens – RSV, parainfluenza 1, parainfluenza 2, and parainfluenza 3 were isolated in 2.6%, 1.3%, 0.8%, and 1.4% of the specimens, respectively.

Negative specimens – Only 28.5% of the specimens were completely negative for

virus. The proportion of negatives varied greatly by location, with NTC Great Lakes, MCRD San Diego, and Ft. Benning having a relatively low number of specimens testing negative.

Temporal trends – The adenovirus and influenza infection rates over time are shown in Figures 2 and 3. The rates are calculated by multiplying the febrile respiratory illness rate by the proportion (%) of specimens testing positive for adenovirus and influenza. Adenovirus infection rates appeared to rise in late summer and early fall, remaining relatively high through November. Influenza infection rates rose slightly in September and declined subsequently. Comparing the graphs, it is again evident that adenovirus accounted for the majority of febrile respiratory illness morbidity among military trainees.

Table 4. Summary of Viral Testing Results for Specimens Taken Between 8 June and 2 December 1998 (Specimens were obtained from military trainees who sought medical care and had an oral temperature of ≥ 100.5°F and cough or sore throat)

	Great Lakes	MCRD San Diego	Ft. Leonard Wood	Ft. Jackson	Lackland AFB	Ft. Benning	Total
Number tested	177	119	80	349	24	15	**764**
% Influenza	7.4	5.8	3.8	6.0	0	0	**5.7**
% Type A	5.1	5.0	2.5	5.7	0	0	**4.8**
% Type B	2.3	0.8	1.3	0.3	0	0	**0.9**
% Adenovirus	88.1	83.2	20.0	67.9	12.5	93.3	**68.7**
% RSV	1.7	5.0	3.8	2.0	4.2	0	**2.6**
% Parainfluenza 1	0.6	0.8	1.3	1.7	0	6.7	**1.3**
% Parainfluenza 2	0.6	0	0	1.4	0	0	**0.8**
% Parainfluenza 3	0.6	2.5	2.5	1.4	0	0	**1.4**
% Negative	10.2	12.6	73.8	29.8	87.5	6.7	**28.5**

Note: Column percentages total more than 100 percent because some specimens were positive for more than one virus.

Table 5. Characteristics of Influenza-Positive Trainees who Received Vaccine and had a Known Vaccination Date (n=27) (Cases are shown in chronological order)

Site	Flu Type	Specimen Date	Vaccine Date	More than 2 weeks?*	Sex	High Temperature	Days with Symptoms
MCRD S.D.	A	08/27/98	07/22/98	Y	M	102.6	2
Ft. Jackson	A	08/31/98	07/16/98	Y	M	101.8	3
Ft. Jackson	A	08/31/98	07/14/98	Y	M	103.3	3
Ft. Jackson	A	09/01/98	06/27/98	Y	F	102.0	7
Ft. Jackson	A	09/01/98	08/07/98	Y	F	100.5	3
Ft. Jackson	A	09/01/98	07/21/98	Y	F	102.1	3
Ft. Jackson	A	09/02/98	07/13/98	Y	M	104.1	3
Ft. Jackson	A	09/08/98	08/03/98	Y	F	100.7	6
Ft. Jackson	A	09/08/98	09/02/98	N	M	104.4	3
Ft. Jackson	A	09/08/98	07/20/98	Y	M	102.2	3
Ft. Jackson	A	09/08/98	07/24/98	Y	M	102.5	3
Ft. Jackson	A	09/08/98	07/17/98	Y	M	102.5	3
Ft. Jackson	A	09/18/98	08/06/98	Y	M	101.3	2
Ft. Jackson	A	09/21/98	07/03/98	Y	M	103.8	4
Ft. Jackson	A	09/21/98	08/12/98	Y	M	103.6	4
Ft. Jackson	B	09/28/98	08/24/98	Y	M	101.7	16
Ft. Jackson	A	09/28/98	08/21/98	Y	M	102.5	3
Ft. Jackson	A	09/28/98	08/03/98	Y	M	102.4	4
Ft. Jackson	A	10/05/98	09/10/98	Y	M	101.0	5
Ft. Jackson	A	10/19/98	08/27/98	Y	F	102.9	2
Ft. Jackson	A	10/20/98	09/21/98	Y	F	101.9	4
Great Lakes	A	10/27/98	10/24/98	N	M	101.0	0
MCRD S.D.	A	10/28/98	10/06/98	Y	M	103.2	10
Ft. Jackson	A	11/02/98	09/22/98	Y	M	104.0	3
Great Lakes	A	11/03/98	11/01/98	N	M	100.6	0
MCRD S.D.	B	11/04/98	09/22/98	Y	M	102.5	4
Great Lakes	A	11/09/98	10/30/98	N	M	100.7	0

* More than 2 weeks elapsed between influenza vaccination and illness.
Note: Ft. Jackson switched from the 1997-8 to the 1998-9 influenza vaccine on 5 October 1998

Figure 2. Adenovirus Infection Rates at Military Training

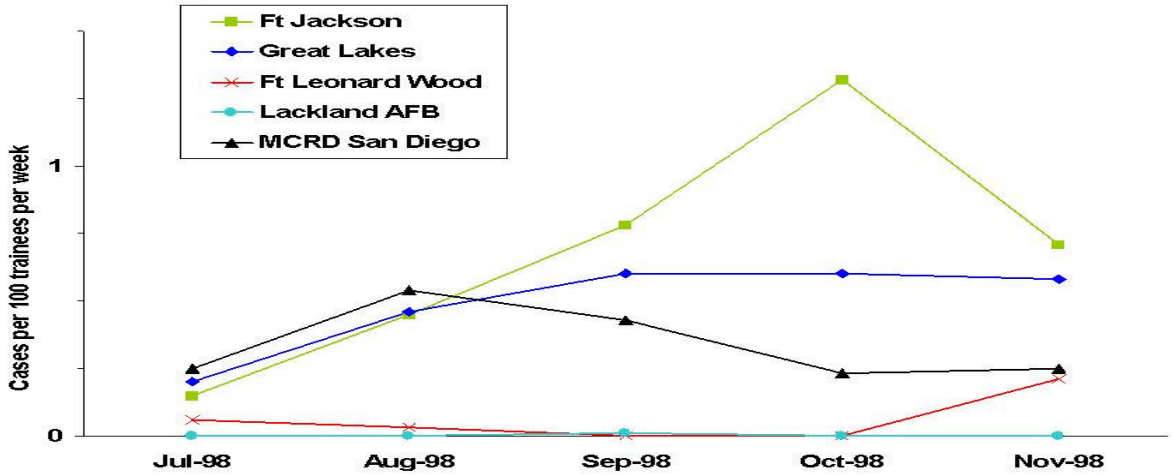
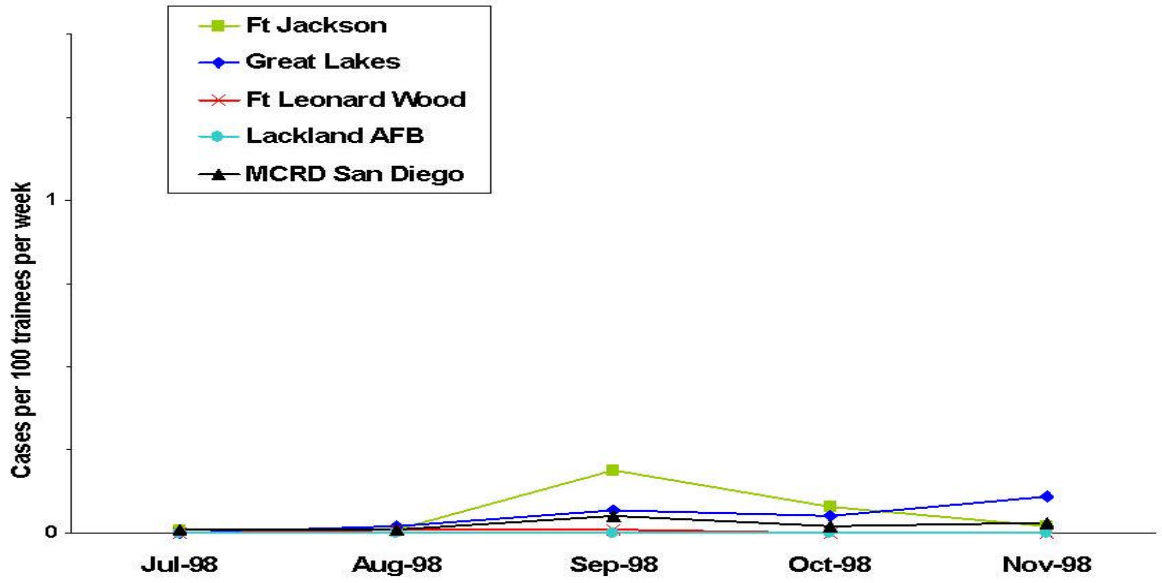


Figure 3. Influenza Infection Rates at Military Training Camps



COMMUNICABLE DISEASES

Trends of Lyme Disease in Active Duty USN/USMC Personnel from 1987-1997

Lyme Disease (LD) has emerged as the leading cause of arthropod-borne human diseases in the United States in recent years, accounting for about 50% of all diseases reported to CDC in this category.[1] For the military, it is a potentially serious threat to our personnel not only in the Mid-Atlantic and New England areas where it is endemic in the United States, but also in several regions in Europe, Australia, and Asia where we commonly deploy troops.

In the period, 1987-1997, 223 cases of LD were reported for Active Duty USN and USMC personnel through the Disease Alert Reports (DARs) (Figure 4). Ninety-three percent of these cases were in males (Figure 5). Race data were not available for eight of the cases, but of the remaining 215 cases, 94% were Caucasians, 4% Blacks, and 2% Hispanics (Figure 6). Age specific disease frequencies were tabulated in three age groups for the 219 cases with age data available. The highest frequency was in the 18-30 year age group and the lowest was in the 41-50 age group (Figure 7).

The 55 cases in Marine Corps personnel in 1993 reflects two small outbreaks of LD associated with training exercises at Marine Corps bases in Quantico, Virginia and Camp LeJeune, North Carolina (40%), in June of that year. The majority of these personnel (78%) reported that they did not use personal protective measures. Of those that did, only single agents like “Deep Woods Off,” Permanone, or DEET were utilized.

Cases were reported from 13 States that have been grouped in four regions. The state identification data was missing in the reports of

12 cases. Of the remaining 211, 45% were from the Southeast, 35% from the Mid-Atlantic, 16% from New England, and 4% from the pacific regions. The predominant number of the cases were from North Carolina (40%), followed by Virginia (29%) (Figure 8).

Emerging infections are a problem of increasing national and international concern. These diseases present well-documented challenges to military readiness because of the threat they pose to the health of our forces. The lack of effective programs to monitor and control animal reservoirs and arthropod vectors of such infections point to a great need to improve our medical surveillance systems. The recent development of two different types of vaccine against LD is an encouraging development in this fight against emerging infections. However, there are no effective vaccines against other tick-borne diseases that are also of military relevance. The best means of meeting the complex challenge of successful long-term prevention and/or control of these diseases is by combining integrated vector control measures with the use of personal protective measures and improved medical surveillance.

Reference

1. *MMWR*, Vol. 38, No. 39 October 6, 1989, P.668-9

Figure 4. Reported Cases of Lyme Disease, USN/USMC, 1987-1997

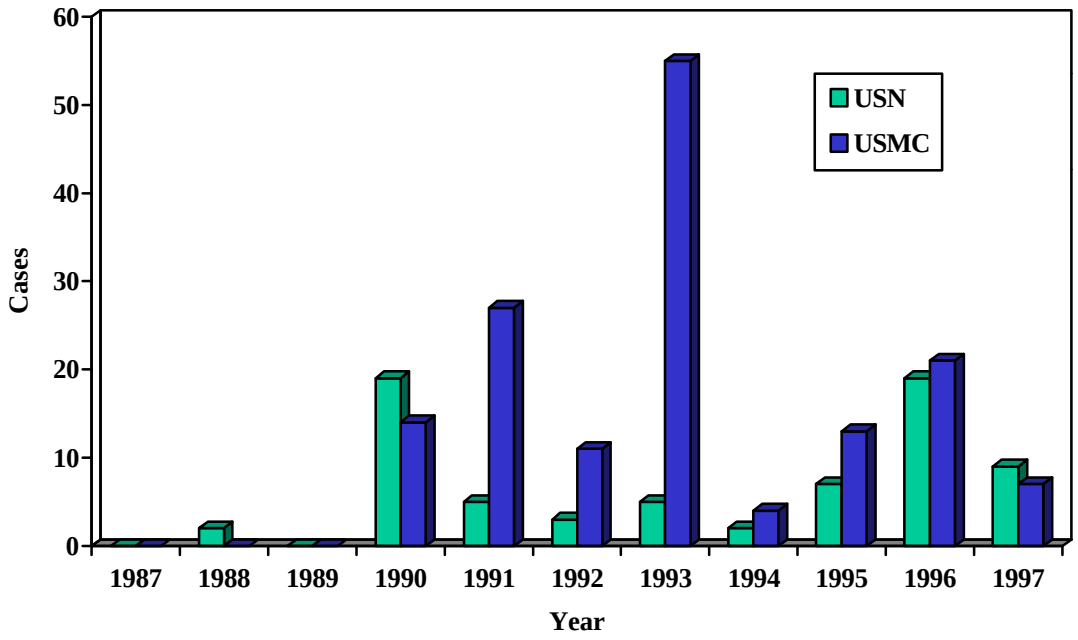


Figure 5. Reported Cases of Lyme Disease by Sex, USN/USMC, 1987-1997

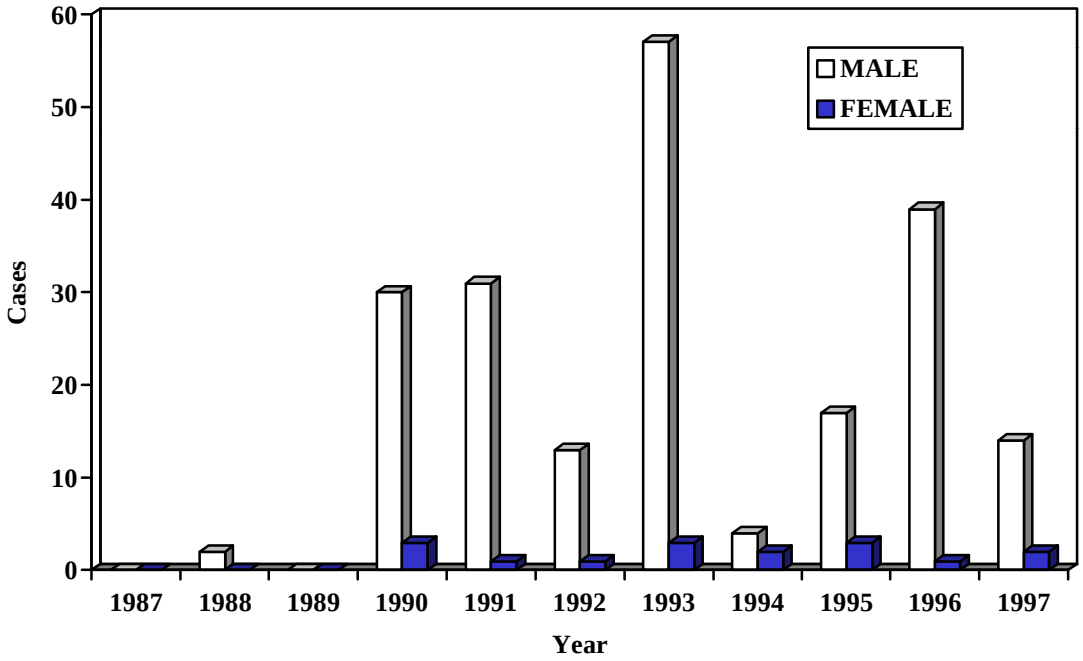


Figure 6. Reported Cases of Lyme Disease by Ethnicity, USN/USMC, 1987-1997

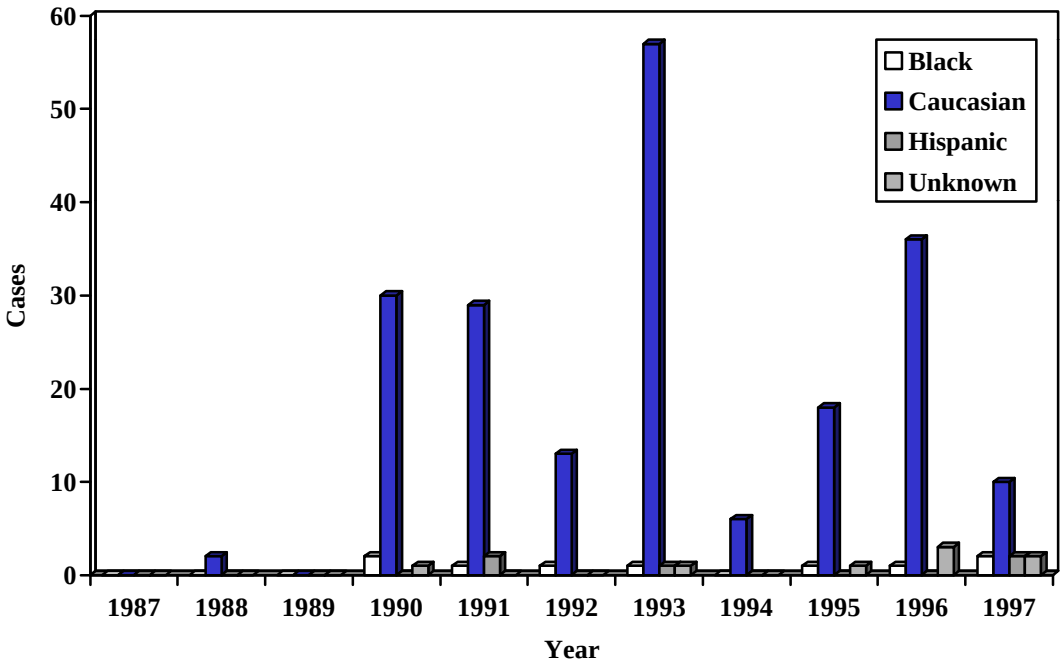


Figure 7. Reported Cases of Lyme Disease by Age, USN/USMC, 1987-1997

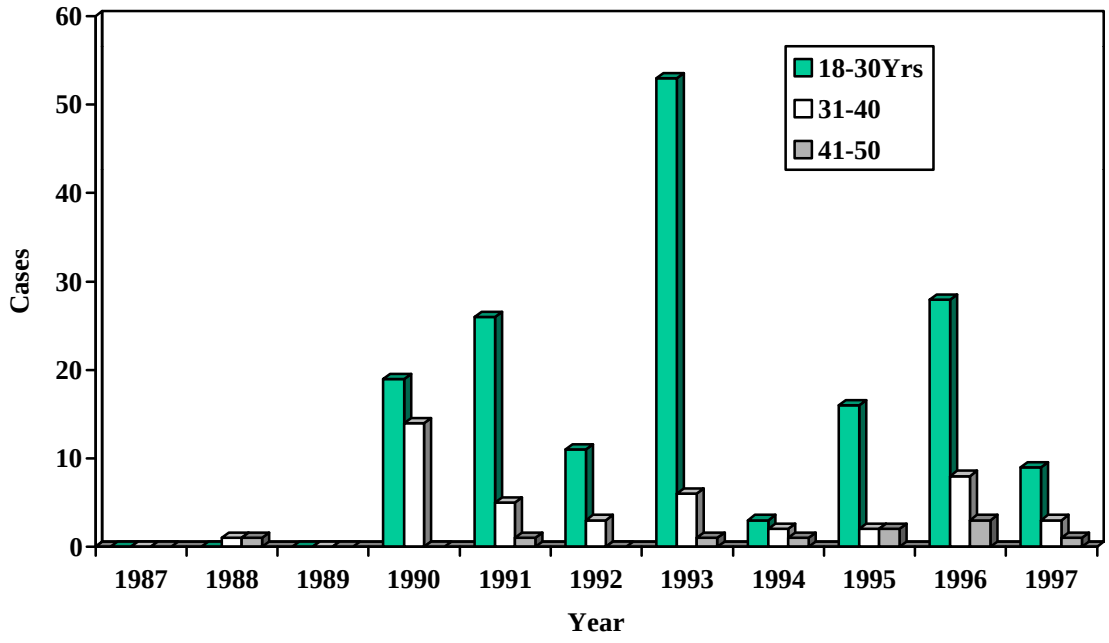
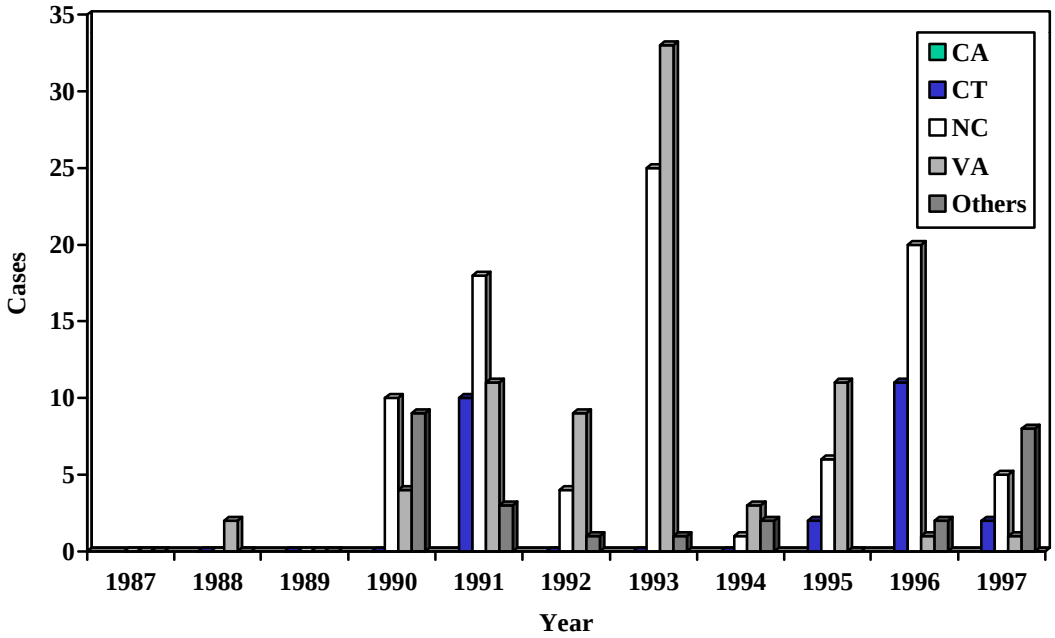


Figure 8. Reported Cases of Lyme Disease by States, USN/USMC



Guillian-Barre Syndrome (GBS) in the Defense Medical Epidemiologic Database (DMED)

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Table 6 provides details on GBS from the Defense Medical Surveillance System's Standard Inpatient Data Record (DMSS-SIDR). This information adds to the discussion of GBS begun in a previous issue (NMSR, Vol 1, Nos. 3 and 4).

Starting with 1989, DMSS-SIDR provides a means of standardizing inpatient data records generated by the Composite Health Care System (CHCS) at Army, Navy, and Air Force Medical Centers and Clinics (MTFs). Each service independently validates SIDR data prior to releasing it to the Defense Medical Information System (DMIS) and the Corporate Executive Information System (CEIS). Because of CHCS' wide use within DOD, SIDR does not rely on passive surveillance efforts and is considered the single most complete source of inpatient information.

Focusing on primary discharge diagnosis ICD-9-CM 357.0, or acute infective polyneuritis, the table below lists the following by service and year: (1) incidence and prevalence, along with several denominators useful in computing point estimates; and (2) severity of illness for both first hospitalization and for follow-up hospitalizations, based on number of respective cases undergoing select ICD-9 procedures: plasmapheresis [99.71], immune globulin injection [99.14], physical therapy [93.1, 93.2, 93.38, 93.39, 93.0], mechanical ventilation [96.70-96.72], respiratory therapy [93.90-93.99]; and on median bed days, sick days, and ICU days. Within the International Classification of Diseases, 9th Revision (October 1, 1996), the "inflammatory and toxic neuropathy" category lists 10 different related conditions, one of which being code 357.0, or acute infective polyneuritis. This condition includes Guillain-Barre syndrome and postinfectious polyneuritis, reflecting the significant overlap between the two.[1] Short of a record review, one is hard pressed to comment on how accurately the DMSS hospitalization data captures true Guillain-Barre occurrences. Interestingly, data indicates that starting in 1993 there has been a sharp decrease in the number of follow-up hospitalizations for sailors with GBS in the face of a stable incidence rate, perhaps indicating that the management of the condition has improved considerably beginning that year.

Limited information (1997 onwards) is available from the Standard Ambulatory Data Record (SADR) upon request. DMSS-SADR contains 38 of the 67 data elements that comprise the original ADS version 2.1. SADR became a functional entity in mid 1996 by collecting data from actual outpatient records at MTFs via either CHCS, ADS, or CIW-A (Provider Work Station).

For more details, please feel free to contact the author at marisd@wrsmtp-ccmail.army.mil

Reference

1. "The spectrum of antecedent infections in Guillain-Barre syndrome: a case-control study," Jacobs B.C., Rothbarth P.H., van der Meche F.G., Herbrink P., Schmitz P.I., de Klerk M.A., van Doorn P.A., *Neurology*, 1998 Oct; 51(4): 1110-5.

Table 6. Healthcare Burden and Severity of Illness Associated With a Primary Discharge Diagnosis ICD-9-CM 357.0, Among Navy and Marine Corps Personnel, SIDR (Jan 1990 – Dec 1997)

	1990		1991		1992		1993		1994		1995		1996		1997		*Total*
	N	MC	N	MC	N	MC	N	MC	N	MC	N	MC	N	MC	N	MC	*1990 - 1997*
Health care burden																	
First hospitalizations (incidence), ICD-9-CM 357.0	17	6	9	6	6	4	6	2	8	5	8	2	13	2	2	2	***98***
Follow-up hospitalizations (prevalence), ICD-9-CM 357.0	7	3	7	5	6	2	1	0	2	3	3	2	4	2	1	0	***48***
All hospitalizations (prevalence), ICD-9-CM 357.0	24	9	16	11	12	6	7	2	10	8	11	4	17	4	3	2	***146***
Total first hospitalizations, all ICD-9-CM primary discharge diagnoses codes																	
Total all hospitalizations, all ICD-9-CM primary discharge diagnoses codes																	***0***
Troop strength, person years	582,269	198,780	573,216	200,282	545,965	191,131	513,935	182,953	478,202	177,480	443,545	175,717	418,769	174,003	394,123	173,931	***5424301***
Troop strength, end FY	579,417	196,652	570,262	194,040	541,886	184,529	509,950	178,379	468,662	174,158	434,617	174,639	416,735	174,883	395,564	173,906	***5368279***
Severity of illness, first hospitalization																	
No plasmapheresed	5	1	2	0	1	1	0	0	0	0	0	0	4	0	0	0	***14***
No given γ - globulin	0	0	0	0	0	0	0	0	1	2	0	1	0	0	1	1	***6***
No on mechanical ventilation	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	***3***
No who received respiratory therapy	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	***1***
No who received physical therapy (only categories with entries listed)																	
Diagnostic physical therapy	7	3	1	2	0	1	1	0	2	1	1	1	2	0	0	1	***23***
Other physical therapy	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	***2***
Bed days at reporting MTF, Median (Range)	8 (1-104)	7.5 (0-38)	2 (1-50)	9.5 (1-44)	6 (0-17)	13.5 (3-56)	3 (1-75)	2.5 (2-3)	6 (2-40)	2 (1-63)	9.5 (1-22)	3 (1-5)	7 (2-49)	21.5 (11-32)	13 (9-17)	12.5 (6-19)	***7 (0-104)***
Sick days at reporting MTF, Median (Range)	8 (1-104)	14.5 (0-67)	3 (1-50)	17.5 (1-71)	6 (0-17)	13.5 (3-56)	3 (1-76)	2.5 (2-3)	6 (2-40)	2 (1-63)	9.5 (1-22)	3 (1-5)	10 (2-49)	21.5 (11-32)	13 (9-17)	12.5 (6-19)	***7 (0-104)***
ICU days at reporting MTF, Median (Range)	2 (0-57)	0 (0-38)	0 (0-24)	0 (0-0)	2.5 (0-9)	1 (0-17)	0 (0-1)	0 (0-0)	0 (0-0)	0 (0-9)	0 (0-2)	0 (0-0)	0 (0-7)	0 (0-0)	4.5 (0-9)	0 (0-0)	***0 (0-57)***
Severity of illness, follow-up hospitalizations																	
No plasmapheresed	1	1	3	2	0	0	0	0	1	0	0	1	1	0	0	0	***10***
No given γ - globulin	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	***1***
No on mechanical ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	***0***
No who received respiratory therapy	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	***1***
No who received physical therapy (only categories with entries listed)																	
Diagnostic physical therapy	1	0	3	0	0	1	0	0	0	0	0	1	0	0	0	0	***6***
Other physical therapy	0	1	0	0	0	0	0	0	0	0	0	0	2	1	0	0	***4***
Bed days at reporting MTF, Median (Range)	8 (1-98)	13 (0-37)	21 (1-121)	2 (1-8)	3.5 (1-65)	6.5 (4-9)	7 (7-7)	0 (0-0)	4 (1-7)	5 (0-12)	4 (1-13)	11 (8-14)	9 (3-26)	37 (5-69)	1 (1-1)	0 (0-0)	***7 (0-121)***
Sick days at reporting MTF, Median (Range)	8 (1-98)	13 (0-37)	21 (1-121)	2 (1-8)	8 (1-65)	13 (4-22)	7 (7-7)	0 (0-0)	4 (1-7)	12 (5-55)	4 (1-13)	11 (8-14)	9 (3-83)	66.5 (35-98)	31 (31-31)	0 (0-0)	***8.5 (0-121)***
ICU days at reporting MTF, Median (Range)	0 (0-1)	0 (0-0)	0 (0-8)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1)	0 (0-0)	0 (0-0)	0 (0-0)	***(0-8)***

Immunization Rates Among Military Beneficiaries in Virginia

Over the past six years NEHC staff from the Preventive Medicine and Health Promotion Directorates participated in regional and state consortia to enhance immunization rates among our beneficiaries. (Further information on these activities can be provided via e-mail at www.prevmed.nehc.navy.mil). Part of this effort was a population survey for the State of Virginia, which was conducted by the Center for Pediatric Research (Norfolk, VA) and the Virginia Department of Health Division of Immunization (Richmond, VA). The purpose of the study was to examine recent time trends in immunization coverage rates, identify high risk areas and populations, and evaluate the implementation of selected intervention strategies. A house-to-house survey across the state yielded the information contained in Tables 7 through 10 and Figures 9 through 12. The sampling used was probability proportionate to size (PPS), multi-stage cluster sampling, which resulted in a sample representative of the population of the State of Virginia. A copy of the full report from which the tables are excerpted is available from the Center for Pediatric Research, 855 Brambleton Avenue, Norfolk, VA 23510-1001 (telephone 757-668-6435).

Table 7. Percent of Children with Immunizations Up-to-Date (95% Confidence Interval) at 12 months by Insurance Type

Vaccine	No Insurance (N=55)	Medicaid (N=116)	CHAMPUS (N=140)	Private (N=97)
3 DTP, 2 Polio*	74.5 (61.9, 87.2)	69.8 (59.4, 80.2)	75 (67.0, 83.0)	90.8 (88.3, 93.3)
3 DTP, 2 Polio, 2 Hib	74.5 (61.9, 87.2)	69.8 (59.4, 80.2)	70.7 (61.6, 79.9)	88.6 (85.5, 91.7)
3 DTP, 2 Polio, 2 Hib, 2 HBV	70.9 (57.2, 84.6)	68.1 (58.4, 77.8)	70.7 (62.5, 78.9)	87.1 (84.0, 90.2)

*Differences among types of insurance were significant (p<.001)

Figure 9. Percent of Children with Immunizations Up-to-Date at 12 months by Insurance Type

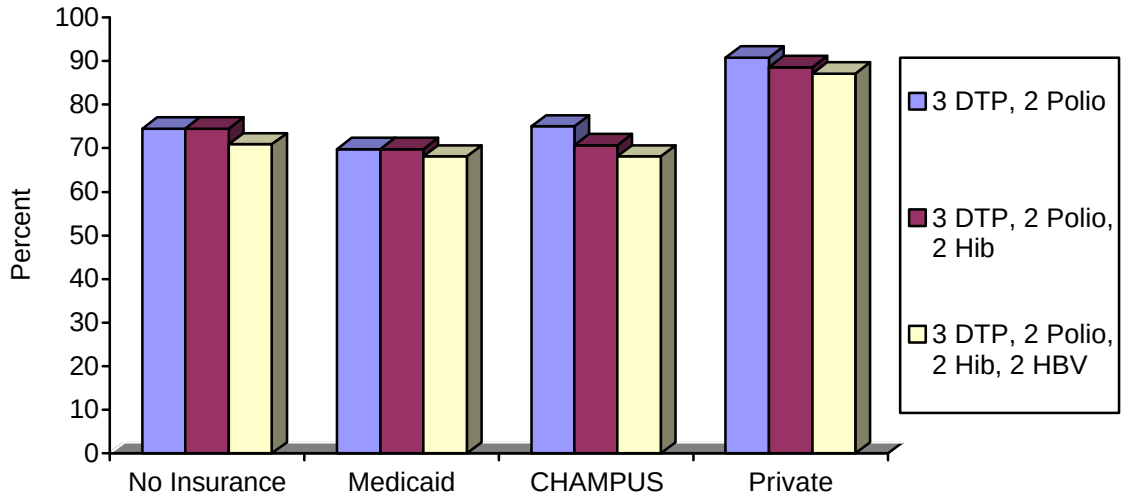
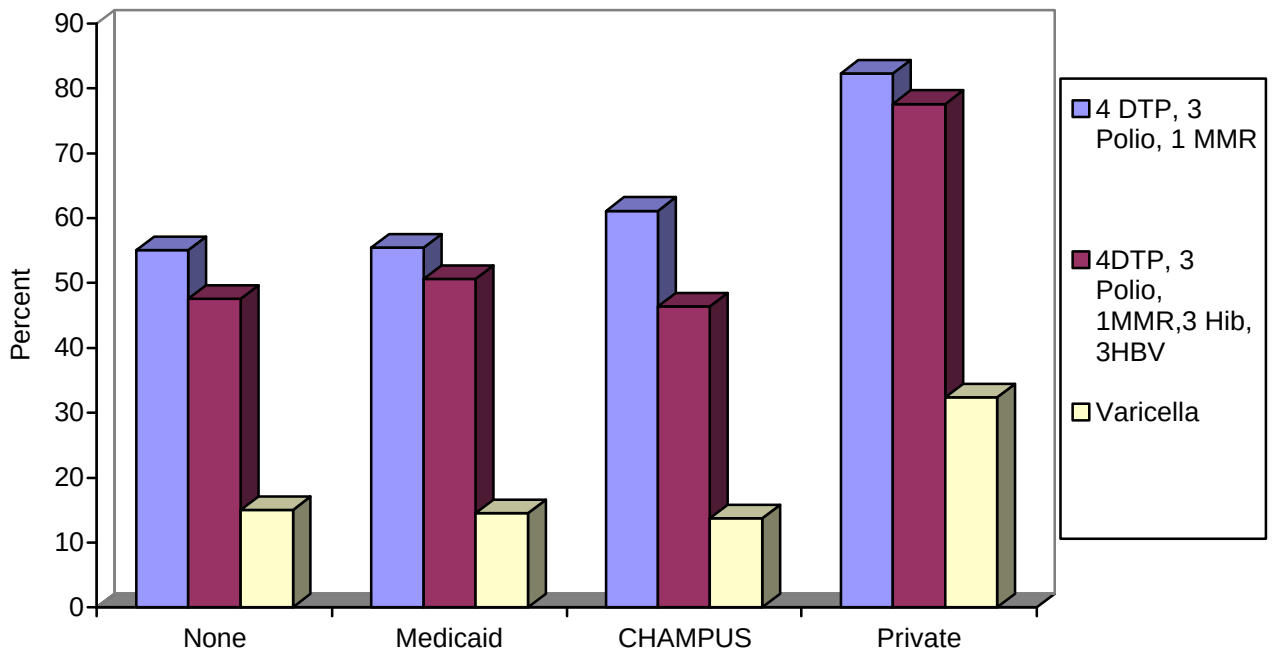


Table 8. Percent of Children with Immunizations Up-to-Date (95% C.I.) at 24 Months, by Insurance Type

Vaccine	No Insurance (N=40)	Medicaid (N=83)	CHAMPUS (N=95)	Private (N=407)
4DTP, 3 Polio, 1MMR*	55.0 (37.7, 72.3)	55.4 (42.3, 68.6)	61.1 (52.3, 69.8)	82.3 (78.3, 86.3)
4 DTP, 3 Polio, 1MMR, 3 Hib, 3 HBV	47.5 (28.9, 66.1)	50.6 (37.2, 64.0)	46.3 (35.0, 57.7)	77.6 (73.3, 81.9)
Varicella*	15 (3.0, 27.0)	14.5 (5.3, 22.6(	13.7 (4.0, 23.4)	32.4 (27.0, 37.9)

*Differences among types of insurance were significant (p<.001)

Figure 10. Percent of Children With Immunizations Up-to-Date at 24 Months, by Insurance Type



The following data present immunization rates by type of usual immunization provider, which may be different from insurance type, selected rates at 12 and 24 months.

Table 9. Percent of Children With Immunizations Up-to-Date (95% C.I.) at 12 Months, by Type of Usual Immunization Provider

Vaccine	All private (N=650)	Health Dept (N=102)	Military Clinic (N=104)	Hospital/ Community Clinic (N=32)
3DTP, 2 Polio*	88.9 (86.2,91.7)	82.4 (73.6,91.1)	70.2 (58.9, 81.5)	53.1 (36.1, 70.1)
3 DTP, 2 Polio, 2 Hib	86.9 (83.9, 90.0)	82.4 (73.6,91.1)	66.3 (53.4, 79.3)	50.0 (32.5,67.5)
3 DTP, 2 Pollio, 2 Hib, 2 HBV	84.9 (81.8,88.0)	80.4 (70.7,90.0)	67.3 (55.1, 79.5)	50.0 (32.5, 67.5)

*Differences among provider types were significant (p<.001)

Figure 11. Percent of Children With Immunizations Up-to-Date at 12 Months, by Type of Usual Immunization Provider

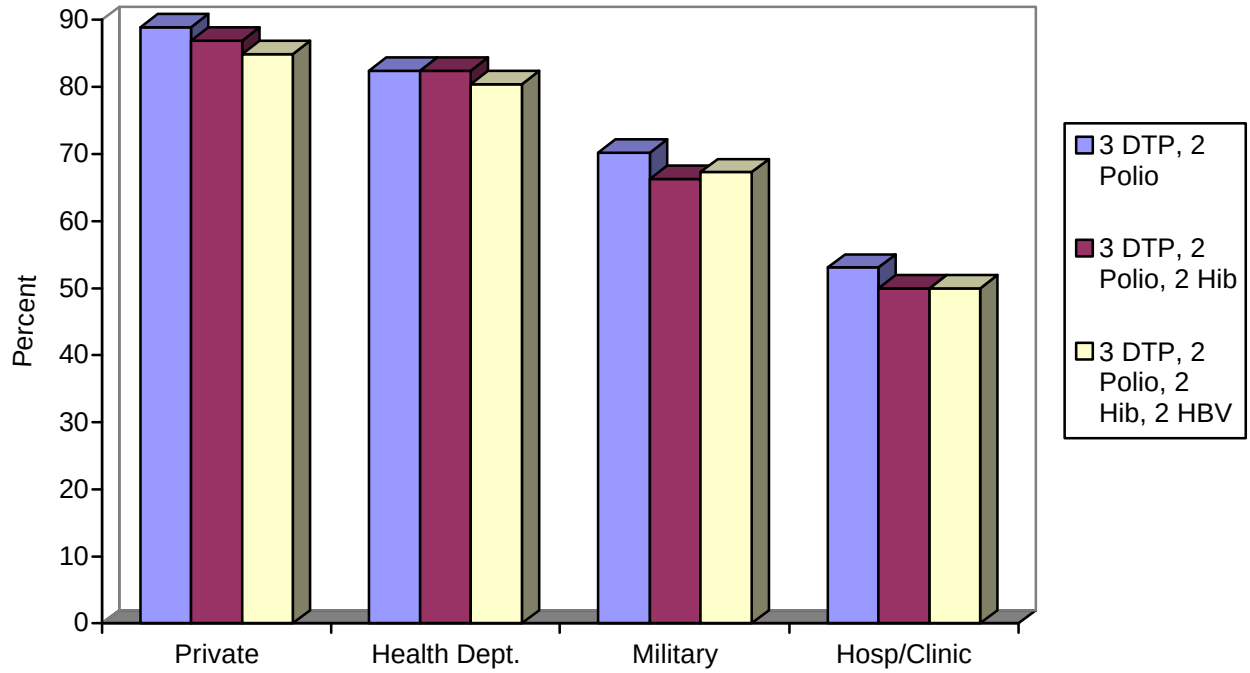
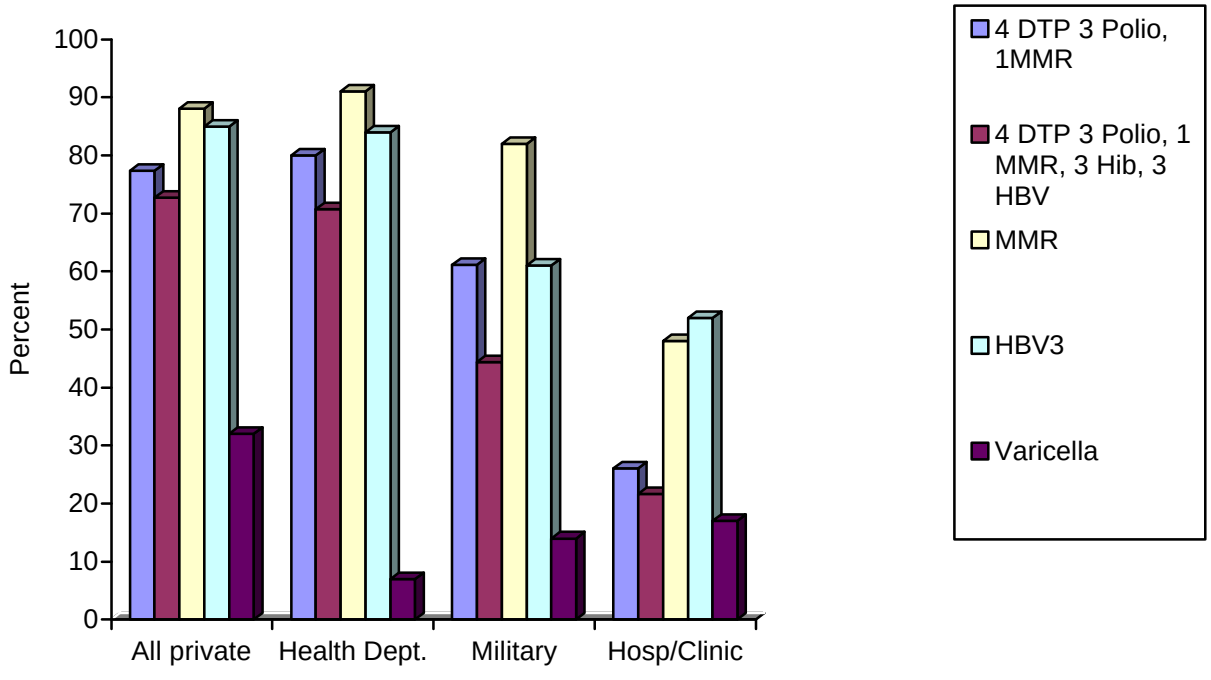


Table 10. Percent of Children With Immunizations Up-to-Date (95% C.I.) at 24 Months, by Type of Usual Immunization Provider

Vaccine	All private (N=440)	Health Dept (N=75)	Military Clinic (N=72)	Hosp./Community Clinic (N=23)
4 DTP, 3 Polio, 1 MMR*	77.3 (73.2, 81.3)	80.0 (70.0, 90.0)	61.1 (46.6, 75.7)	26.1 (7.7, 44.4)
4 DTP, 3 Polio, 1 MMR, 3 Hib, 3 HBV	72.7 (68.8, 76.7)	70.7 (59.9,81.4)	44.4 (30.0, 58.8)	21.7 (4.8, 38.7)
MMR	88.0 (85.2, 93.0)	90.7 (83.2, 98.1)	81.9 (71.4, 92.5)	47.8 (26.6, 69.1)
HBV #3	85.2 (81.7, 88.7)	84.0 (74.3, 93.7)	61.1 (47.1, 75.2)	52.2 (29.0, 75.3)
Varicella*	32.5 (27.5, 37.5)	6.7 (0.6, 12.8)	13.9 (6.2, 21.5)	17.4 (0.0, 35.5)

*Differences among provider types were significant (p<.001)

Figure 12. Percent of Children With Immunizations Up-to-Date at 24 Months, by Type of Usual Immunization Provider



HEALTH PROMOTION

A Comparison of Tobacco Cessation Programs at Several Medical Treatment Facilities (MTFs)

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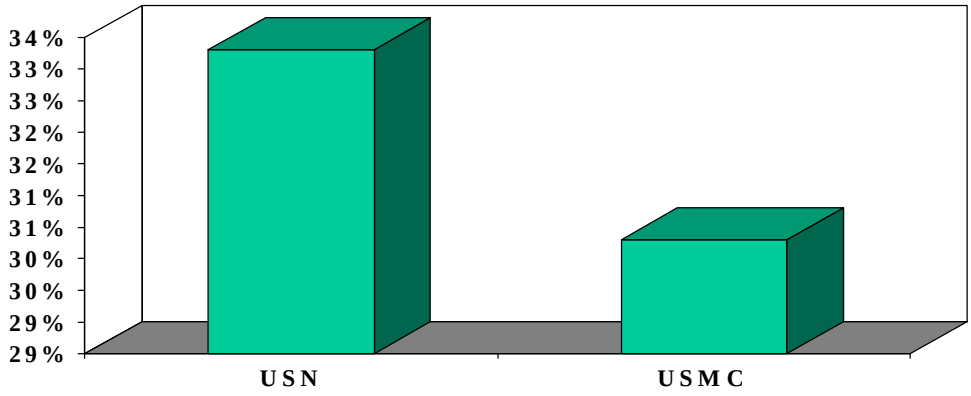
Tobacco use continues to be a serious problem in the Navy and Marine Corps with the most recent data indicating an overall 33.3% rate of smokers in the Navy, and 30.3% among the Marines (Figure 13), and smokeless prevalence rates of 30.6% in the Marines and 21.2% in the Navy.[1]

Navy hospitals and clinics provide tobacco cessation programs to active duty and beneficiaries, and most make services available for civilian employees (97%) and for reservists (87%) (Figure 14).[2] The primary cessation program offered is the American Cancer Society *Fresh Start* program at 67% of facilities, while half of the sites have developed a specialized tobacco intervention program for their population (Figure 15). Nicotine replacement therapy (NRT) is available as one component of a comprehensive cessation program at most facilities (93%). NRT patches are the preferred treatment choice at most locations (90%) over nicorette, and the nicotine gum is available at 50% of clinics/hospitals. Each medical facility has special requirements for the use of NRT. Another tobacco cessation aid, Zyban, is generally available at most of the clinic/hospital pharmacies (72%) surveyed (Figure 16).

The Navy tobacco cessation programs are coordinated by the Health Promotion Program at the hospital and clinic. All locations offer cessation classes at the medical facility, while some provide programs at the command or the worksite, and even in other locations such as Family Service Centers, community centers, base housing, and libraries.

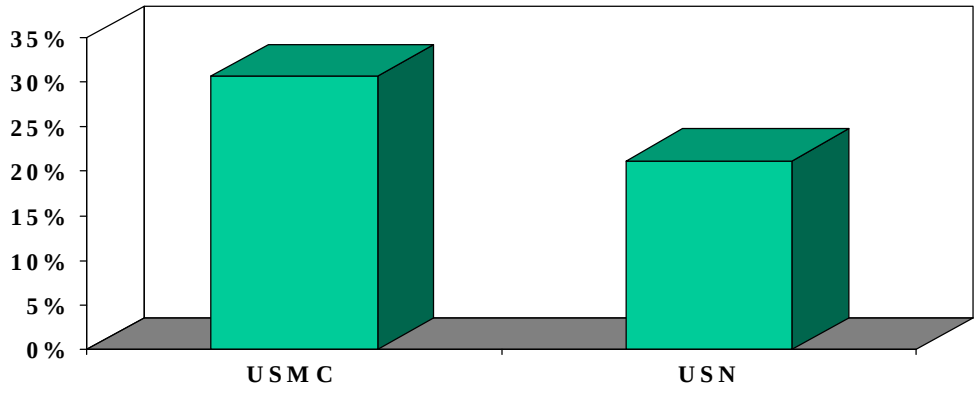
Most clinics and hospitals (89%) report that they participate with the Tobacco Put Prevention Into Practice campaign. Health care providers give motivational counseling and brief advice to patients to quit smoking. All medical facilities participate with the American Cancer Society Great American/Navy Smoke out Day, held the third Thursday of each November.

Figure 13. Military Smokers USN/USMC-1995



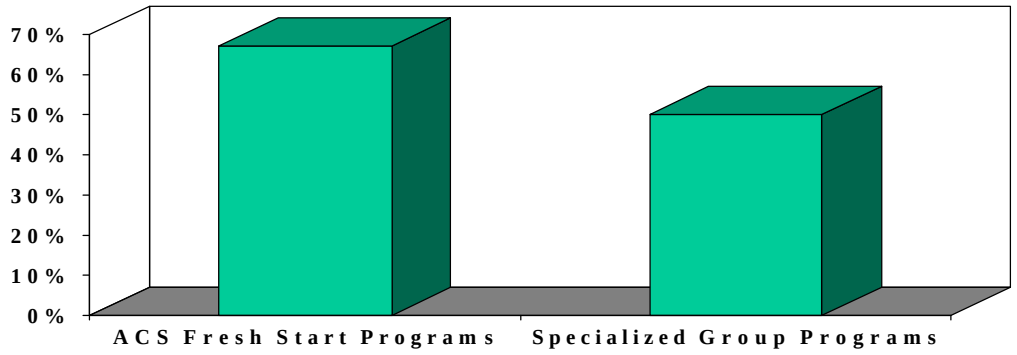
Source: 1995 DoD Survey of Health Related Behaviors Among Military Personnel

Figure 14. Smokeless Tobacco Users USN/USMC-1995



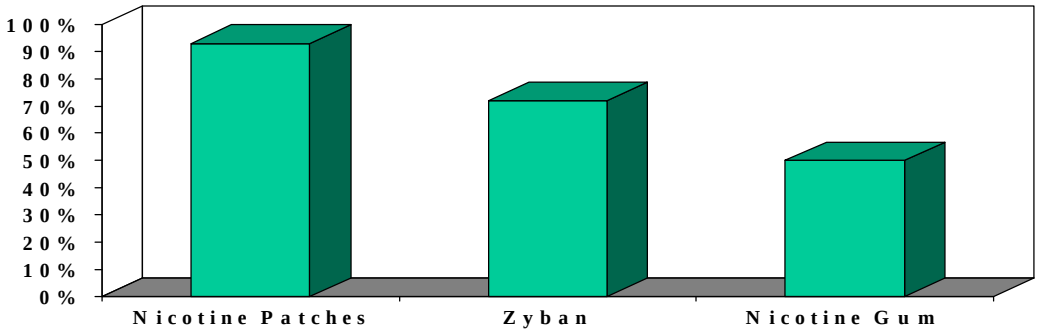
Source: 1995 DoD Survey of Health Related Behaviors Among Military Personnel

Figure 15. MTF Tobacco Cessation Programs



Source: 1998 Survey of Navy Tobacco Cessation Programs

Figure 16. Pharmacological Aids Availability



Source: 1998 Survey of Navy Tobacco Cessation Programs

References

1. Bray, R.M. et al (1995). 1995 Department of Defense Survey of Health Related Behaviors Among Military Personnel.
2. Long, M.A. (1999). 1998 Survey of Navy Tobacco Cessation Programs.