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NAVAL MEDICAL SURVEILLANCE REPORT

N M S R

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Data in the NMSR are provisional, based on reports and other sources of data available to the Navy Environmental Health Center. Notifiable conditions are classified by date of report. Only cases submitted as confirmed are included.

COMMUNICABLE DISEASE**ACTIVE DUTY SYPHILIS CASES REPORTED USN/USMC, 1987-1999**

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Introduction:

The United States has seen a dramatic decline in syphilis cases in the last decade.¹ The purpose of this paper is to review the disease patterns of reported cases of this disease in active duty Navy and Marine Corps personnel. US Navy and Marine Corps units report diseases of interest to four Navy Environmental and Preventive Medicine Units (NEPMU-2 in Norfolk, VA, NEPMU-5 in San Diego, CA, NEPMU-6 in Pearl Harbor, HI and NEPMU-7 in Naples, Italy (until 1995)² and then Sigonella, Italy) worldwide. These "Disease Alert Reports" (later renamed "Medical Event Reports") are collated annually by the Navy Environmental Health Center in Norfolk, Virginia. The specific diseases to be reported are dictated by a Navy Bureau of Medicine and Surgery Instruction.³ Syphilis is among the most commonly reported sexually transmitted diseases in this reporting system.² It is a disease of interest because of the potentially long latency where transmission can occur asymptotically, the severe consequences of untreated syphilis, and the potential for infection to unborn children. Syphilis has been proposed as a barometer of the health of a community, which potentially could be extrapolated to the military health care beneficiary population.⁴

Material and Methods:

Computerized records from the Navy Environmental Health Center were reviewed dating back to the first automated records in 1987 to 1999. Each year of data was analyzed for descriptive characteristics of active duty Navy and Marine Corps personnel such as age, sex, rank, and ICD-9 classification of reported syphilis. Records were collated over the study period to look for trends such as total number of reported cases, geographic area of reported cases and the characteristics described above in the annual analyses. Electronic

data files for each year were reviewed for common data fields that could be merged. Once merged, duplicated records were identified either from, 1) initial and final reporting, 2) submission of reports by more than one NEPMU or 3) reports that occurred in more than one annual report file, which could not be identified until all annual files were merged.

Subjects

A total of 2383 records were located at the Navy Environmental Health Center in annual data files from 1987-99. 213 records involved family members, 40 had incomplete information, 2 were foreign nationals and 150 were duplicates by both family member prefix and social security numbers. Military member records included 42 reports of other service members, and 50 military retirees. The following analysis was limited to the remaining 1886 active duty Navy and Marine Corps reports.

Results

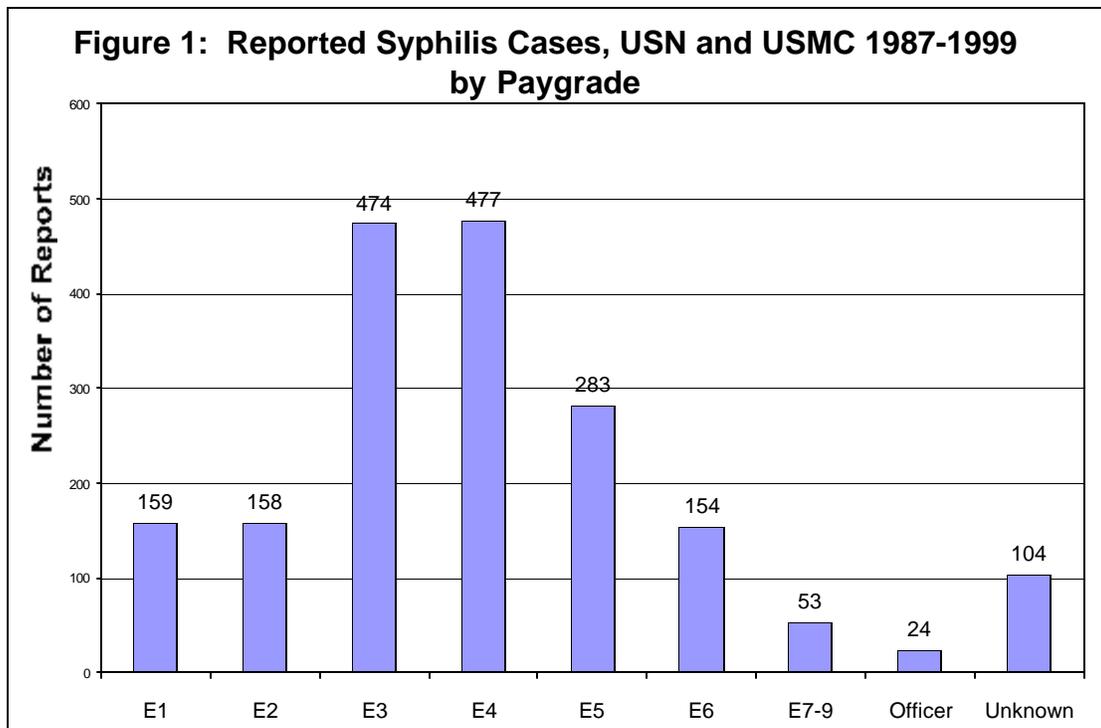
The data that was collected and analyzed involves cases of syphilis and HIV as reported by the respective NEPMUs for 1886 service members between the years 1987 and 1999. The subjects were all active duty male and female Sailors, Marines and officers as reported by the NEPMUs. Data was analyzed according to paygrade of the subject (Figure 1). There were 104 cases in which the paygrade of the individual was not reported. Figure 1. shows that reported cases of syphilis are greatest among the rates E3 and E4 by a factor of at least twice that of nearly all other categories. Figure 2. showed the number of cases that each NEPMU reported. It was assumed that each NEPMU reported cases that occurred within their respective areas, and that the number of cases reported by the NEPMU is a direct correlation of the number of cases that occurred within the region.

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A frequency distribution of records was run to identify duplicate social security numbers. Duplicate records were reviewed and the record was retained at the cognizant NEPMU. Figure 2 demonstrates that the

Eastern United States is the region that has the largest number of reported syphilis cases, and has more cases than all other areas combined.

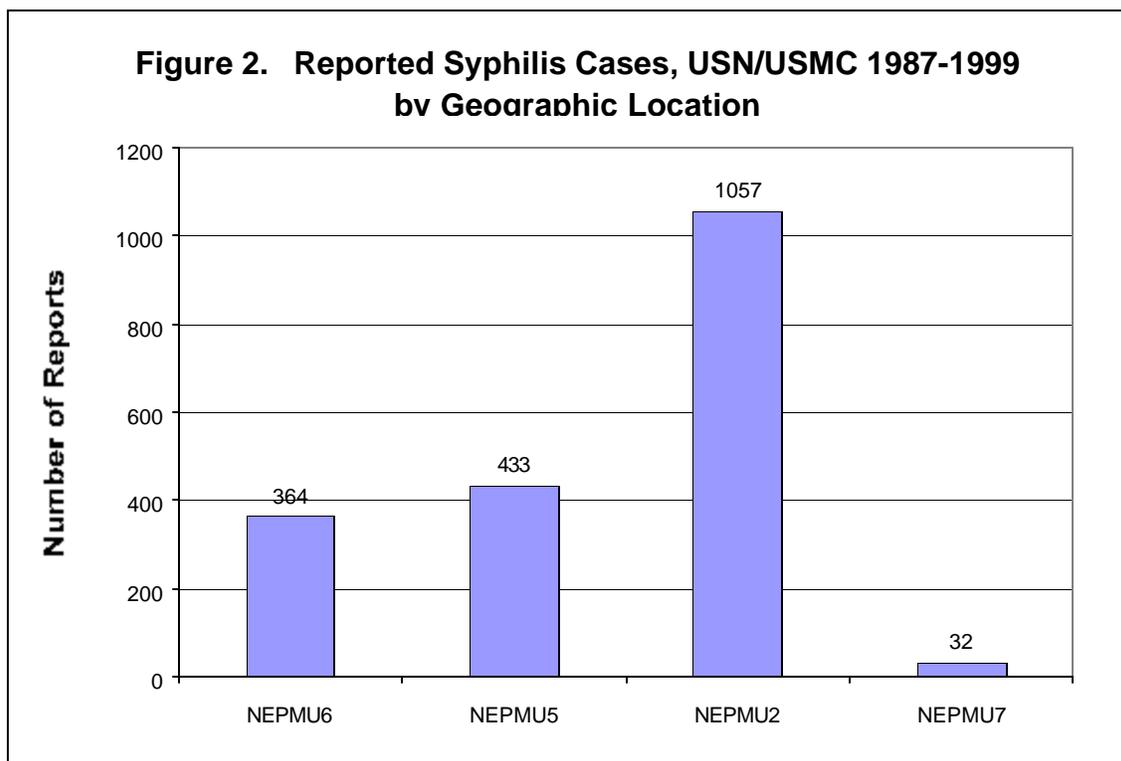


Figure 3 is a comparison of the distribution by gender of the syphilis cases that were reported for each year. It demonstrates that the number of reported syphilis cases is higher among men

than among women in each year for which data was analyzed. Males accounted for 70-95% of the total reported cases in each year.

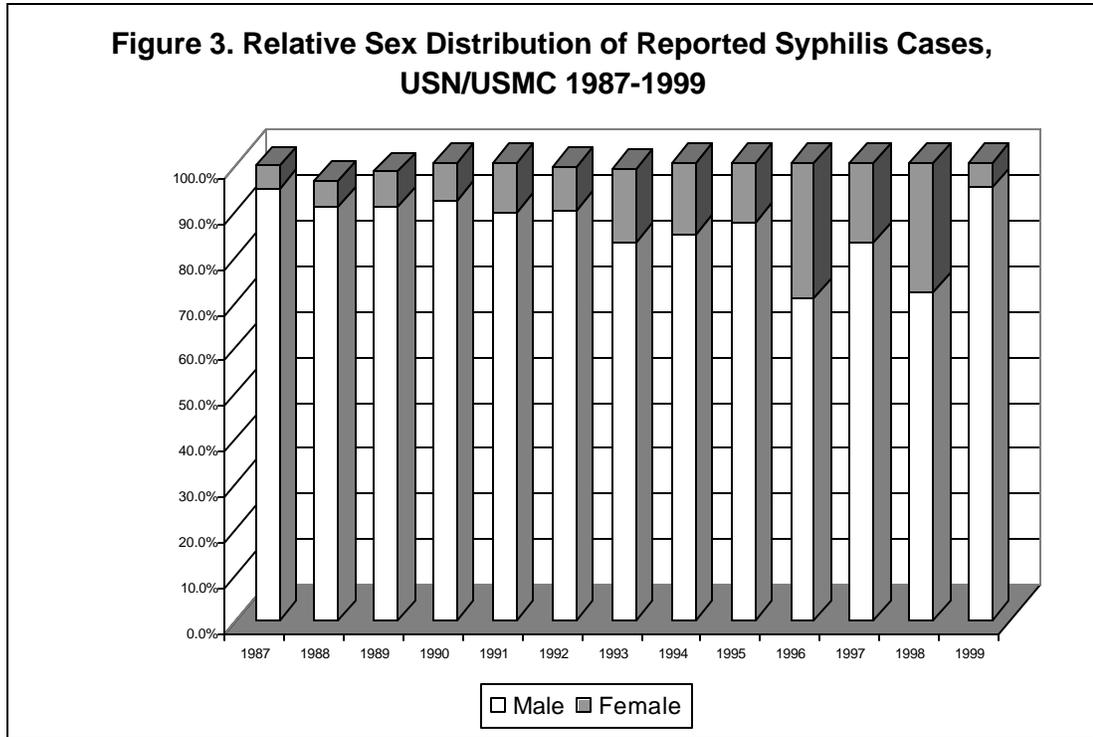


Figure 4. shows the distribution of reported cases by ethnic group.

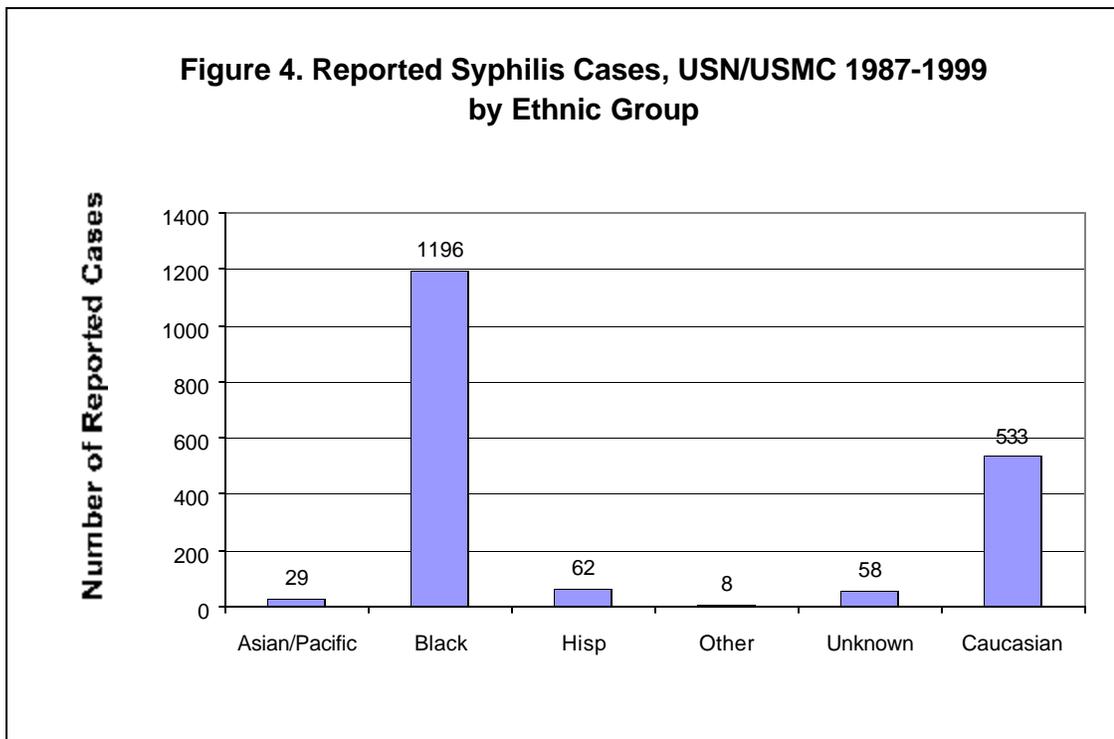
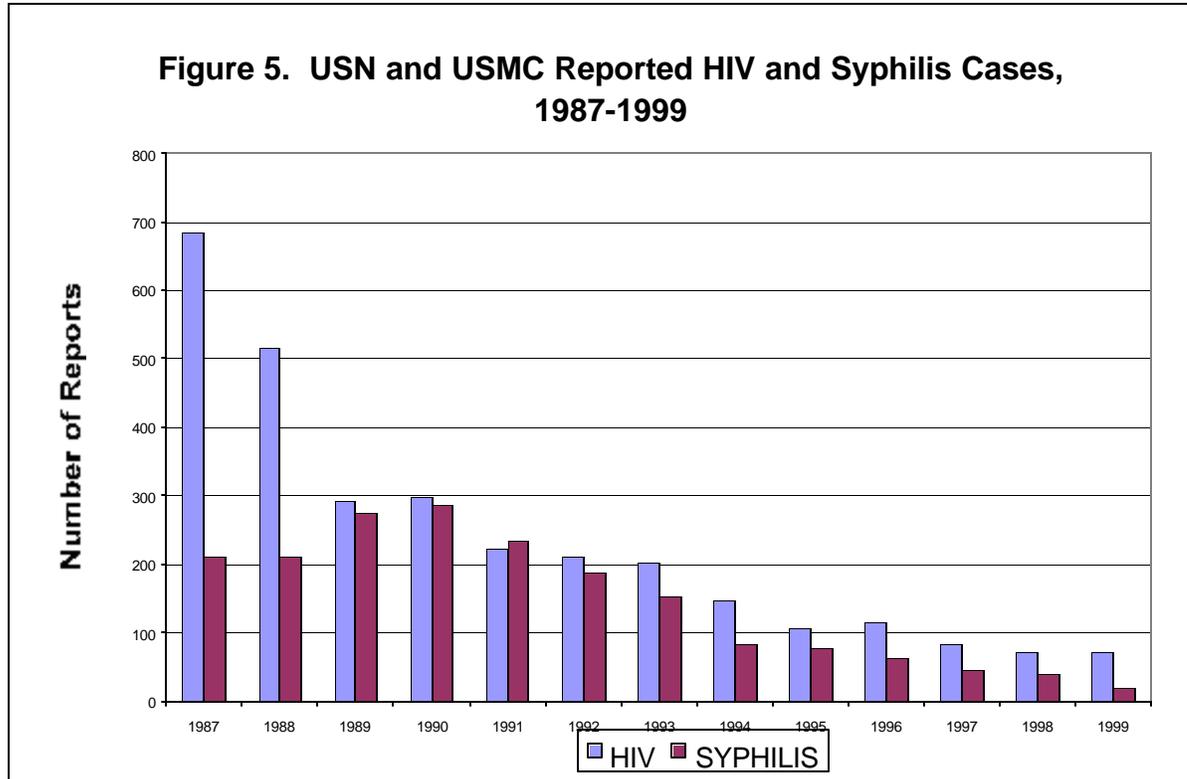


Figure 5. is a comparison of the number of cases of HIV and syphilis for each of the reporting years. It shows the general decline in reported cases of HIV for each year in

which data was gathered. Reported cases of syphilis showed a parallel trend with the exception of an initial rise during the first two years.



Discussion

The United States Surgeon General has proposed a bold national health goal, the elimination of syphilis in the United States.⁵ It is valuable for the military, and for the naval service in particular, to analyze the feasibility of contributing to this goal. Demographic information about active duty persons seen in a military clinic or sick call who are determined to have syphilis, are reported to local civilian public health officials in the United States as well as to military preventive health services. It is valuable to determine the geographic areas and demographic risk factors in which cases of syphilis are highest so that limited resources can be effectively allocated. Similarly, it is beneficial to military health providers to have knowledge of those personnel that are most likely to be at risk for syphilis so that targeted prevention and training efforts can be effectively accomplished.

The data that was received in this time period included over 2,000 patients seen and evaluated for syphilis. Of those, 1886 are active duty officers, Sailors and Marines. The disparate proportion of active duty cases when compared to dependents

suggests a significant under-reporting of family members using this reporting system as described in another study.⁶ It is also possible that in such cases, the family member chose to seek treatment at a private medical or public health facility, which also would not appear in this data-base. It is also important to note the timing of STD screening for active duty members. Typically, screening occurs on entry to the service during the entrance physical, at periodic physicals performed for health maintenance, and finally, in association with case finding as a result of symptomatology or a desire for treatment. Currently the Navy and Marine Corps have an annual requirement for STD awareness training.⁷ Previous history of a STD is a consistent indicator of future high-risk behavior for contracting another STD including infection with the HIV virus.⁸ Additional training could be most efficient if it were targeted at specific high-risk populations identified by demographic factors such as rank and sex, with particular emphasis on non-judgmental and culturally appropriate education programs designed for high risk groups such as STD patients. (continued on p. 8)

NAVAL DISEASE REPORTING SYSTEM (NDRS)**SUMMARY OF 2001 DATA**

Tables 1 and 2 display the Medical Event Reports (MERs) received at Navy Environmental Health Center (NEHC) as of 31 Mar 2001. Interested readers may calculate rates by dividing

the frequencies by estimated mid-year strength of 371,319 for USN and 172,177 for USMC as of January 2001. (Table 1 shows active duty only. Table 2 shows non active duty beneficiaries.)

Table 1. Reportable Medical Events, Combined Navy & Marine Corps Active Duty, Case Frequencies, 01 Jan – 31 Mar, 2001

Disease	Total	USN	USMC	Disease	Total	USN	USMC
Amebiasis*	1	1	0	Lyme Disease	2	2	0
Anthrax*	0	0	0	Malaria (specify type) *1	1	1	0
Biological warfare agent exposure	0	0	0	Measles*	0	0	0
Bites, rabies vaccine & human rabies immune	0	0	0	Meningitis (aseptic, viral)	3	3	0
Bites, venomous animal	1	0	1	Meningitis (bacterial other than Meningococcus)	1	1	0
Botulism*	2	2	0	Meningococcal disease*	1	1	0
Brucellosis	0	0	0	Mumps	0	0	0
Campylobacteriosis*	1	1	3	Occupational exposure to blood borne pathogens	0	0	0
Carbon Monoxide poisoning*	0	0	0	Onchocerciasis	0	0	0
Chemical warfare agent exposure	0	0	0	Pertussis*	0	0	0
Chlamydia	438	329	109	Plague*	0	0	0
Cholera	0	0	0	Pneumococcal pneumonia	4	0	4
Coccidioidomycosis	1	0	1	Poliomyelitis*	0	0	0
Cold injuries	0	0	0	Psittacosis (Ornithosis)	0	0	0
Cryptosporidiosis*	0	0	0	Q Fever*	0	0	0
Cyclospora*	0	0	0	Rabies, clinical human*	0	0	0
Dengue fever*	0	0	0	Relapsing fever	0	0	0
Diphtheria	0	0	0	Rift Valley fever	0	0	0
E. Coli 0157:H7 infection*	0	0	0	Rocky-Mountain Spotted Fever	3	3	0
Ehrlichiosis	0	0	0	Rubella*	0	0	0
Encephalitis*	0	0	0	Salmonellosis*	0	0	0
Filariasis	0	0	0	Schistosomiasis	0	0	0
Giardiasis	2	2	0	Shigellosis*	0	0	0
Gonorrhea	162	133	29	Smallpox*	0	0	0
Haemophilus influenza, type b	1	0	1	Streptococcal disease, Group A	0	0	0
Hantavirus infection*	0	0	0	Syphilis	2	2	0
Heat injuries	1	0	1	Tetanus	1	1	0
Hemorrhagic fever*	0	0	0	Toxic shock syndrome	0	0	0
Hepatitis, A (acute, symptomatic only)	0	0	0	Trichinosis	0	0	0
Hepatitis, B (acute, symptomatic only)	2	2	0	Trypanosomiasis	0	0	0
Hepatitis, C (acute, symptomatic only)	1	1	0	Tuberculosis, pulmonary active*	1	1	0
Influenza (confirmed)	20	0	20	Tularemia*	0	0	0
Lead poisoning	0	0	0	Typhoid fever*	0	0	0
Legionellosis*	0	0	0	Typhus*	0	0	0
Leishmaniasis	0	0	0	Urethritis (non gonococcal)	45	14	31
Leprosy (Hansen's disease)	0	0	0	Varicella	0	0	0
Leptospirosis*	0	0	0	Yellow fever	0	0	0
Listeriosis	0	0	0				

*Reportable within 24 hours

Table 2. Reportable Medical Events, Combined Navy & Marine Corps Beneficiaries, Case Frequencies, 1 Jan - 31 Mar, 2001

Disease	Total	USN	USMC	Disease	Total	USN	USMC
Amebiasis*	0	0	0	Lyme Disease	9	4	5
Anthrax*	0	0	0	Malaria	3	1	2
Biological warfare agent exposure	0	0	0	Measles*	0	0	0
Bites, rabies vaccine & human rabies immune	42	41	1	Meningitis (aseptic, viral)	26	16	10
Bites, venomous animal	0	0	4	Meningitis (bacterial other than Meningococcus)	12	10	2
Botulism*	0	0	0	Meningococcal disease*	4	4	0
Brucellosis	0	0	0	Mumps	1	1	0
Campylobacteriosis*	17	15	2	Occupational exposure to blood borne pathogens	0	0	0
Carbon Monoxide poisoning*	0	0	0	Onchocerciasis	0	0	0
Chemical warfare agent exposure	0	0	0	Pertussis*	2	2	0
Chlamydia	484	323	161	Plague*	0	0	0
Cholera	0	0	0	Pneumococcal pneumonia	7	6	1
Coccidioidomycosis	7	6	1	Poliomyelitis	0	0	0
Cold injuries	0	0	0	Psittacosis (Ornithosis)	0	0	0
Cryptosporidiosis*	0	0	0	Q Fever*	0	0	0
Cyclospora*	0	0	0	Rabies, clinical human*	0	0	0
Dengue fever*	0	0	0	Relapsing fever	0	0	0
Diphtheria	0	0	0	Rift Valley fever	0	0	0
E. Coli 0157:H7 infection*	1	1	0	Rocky-Mountain Spotted Fever	0	0	0
Ehrlichiosis	0	0	0	Rubella*	3	3	0
Encephalitis*	0	1	0	Salmonellosis*	50	43	7
Filariasis	0	0	0	Schistosomiasis	1	1	0
Giardiasis	15	15	0	Shigellosis*	3	3	0
Gonorrhea	85	67	18	Smallpox*	0	0	0
Haemophilus influenza, type b	12	10	2	Streptococcal disease, Group A	12	8	4
Hantavirus infection*	0	0	0	Syphilis	4	4	0
Heat injuries	0	0	0	Tetanus	0	0	0
Hemorrhagic fever*	0	0	0	Toxic shock syndrome	0	0	0
Hepatitis, A (acute, symptomatic only)	3	2	1	Trichinosis	0	0	0
Hepatitis, B (acute, symptomatic only)	3	2	1	Trypanosomiasis	3	2	1
Hepatitis, C (acute, symptomatic only)	0	0	1	Tuberculosis, pulmonary active*	14	12	2
Influenza (confirmed)	1	1	0	Tularemia*	0	0	0
Lead poisoning	1	1	0	Typhoid fever*	1	1	0
Legionellosis*	0	1	0	Typhus*	0	0	0
Leishmaniasis	0	0	0	Urethritis (non gonococcal)	0	0	0
Leprosy (Hansen's disease)	0	0	0	Varicella	0	0	0
Leptospirosis*	1	1	0	Yellow fever*	0	0	0
Listeriosis	1	1	0				

*Reportable within 24 hours

(continued from p.8)

A reemphasis of reporting requirements assists the eradication effort by elevating each case to the level of sentinel events. The model of electronic reporting and aggressive case finds, interviewing and targeted education has been very successful in reducing the incidence of syphilis in areas of high fleet concentration such as San Diego.⁹

Conclusion

Analysis of active duty Navy and Marine Corps disease alert and medical event reports from 1987-99 demonstrated a decline in syphilis with a number of cases persisting in areas demarcated by factors such as geography, rank and race. An intensive and coordinated effort by the Navy will be required to push this trend of declining incidence to complete eradication.

Acknowledgments

The authors wish to thank the personnel of the Preventive Medicine Directorate of the Navy Environmental Health Center, the four NEPMUs and multiple contributors of these reports serving with the fleet and the Fleet Marine Force.

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ANTHRAX VACCINE IMMUNIZATION PROGRAM (AVIP)

ANTHRAX VACCINE ADVERSE EVENT REPORTING SYSTEM (VAERS) UPDATE

Table 1 displays the total Anthrax VAERS reports submitted through 31 March 2001. The

source of this data is the Army Medical Surveillance Activity (AMSA).

Table 1. Cumulative Data (date 28 Aug 1998 - 31 Mar 2001)							
Service	VAERS Report		Classification			Systemic Reaction	Cum. Totals
	Required		Local Reaction				
	Yes	No	Mild	Moderate	Severe		
USA	13	102	14	23	13	65	115
USN	4	69	6	7	8	52	73
USAF	30	411	30	48	30	333	441
USMC	2	26	1	6	2	19	28
USCG	0	1	0	1	0	0	1
Excludes 4 ODS/DS VAERS Reports on Anthrax and Non-DoD Reports							

CHRONIC DISEASE AND INJURY

TOBACCO ADDICTION CASE STUDY-TREATING A HARD CORE SMOKER

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Introduction

Annually about 80% of smokers say they want to quit, and 30 to 40% report they have made a quit attempt. The latest Navy and Marine Corps data suggests that tobacco remains a serious problem as 34.9% of the Marines are smokers and 30.6% of the Navy smoke.¹ The use of cigars is alarmingly high in both services as well- 42% among Marines and 31.3% in the Navy.¹

According to surveys nicotine dependence treatment (tobacco cessation) services and programs are offered to active duty, reservists and eligible beneficiaries by the Navy Medical Treatment Facilities Health Promotion Departments.² The usual course of treatment is a group class of 4 to 5 sessions addressing behavior change combined with some type of adjunctive medications i.e.(nicotine replacement therapy- patch, gum or Zyban). Sometimes a group program is not an option for someone due to their schedule, prior unsuccessful quit attempts, and/ or personality, behavior and addiction issues.

This case study describes a comprehensive individual nicotine treatment program (behavioral, pharmacological, psychological and hypnosis) of an active duty member referred for tobacco cessation counseling.

Method

The client is a 35 year old white male, E-6, with a twenty year history of tobacco addiction. At the patients' request he had been referred to assess the possibility of individual counseling. He had participated twice in the Health Promotion Tobacco cessation group programs, with (Nicotine Replacement Therapy) NRT and relapsed during the first class and had remained tobacco free for only two months following completion of the second group. His history revealed that he had made several other serious quit attempts during the past two years. He reported that his wife and two children wanted him to quit, that his PCP (Primary Care Provider) had encouraged him to quit; and that he wanted to quit primarily for personal, family and health reasons. The

service member was requesting counseling, hypnosis and Zyban to help with quitting.

The client was evaluated using the DoD core recommended assessment components-obtaining his tobacco use history, prior quit attempts, his level of nicotine dependence, possible co-morbidity factors, and his motivation to quit via the Stages of Change and his self-efficacy.³ The assessment indicated that he was severely addicted to nicotine (@30+ cigarettes daily), no co-morbid psychiatric or medical conditions, that he was in the action stage of change and believed that he would be successful in quitting. His Primary Care Physician completed the medical screening for his treatment participation and for his medication prescription. A treatment plan was developed with cognitive and behavioral strategies including - goal setting, skills and coping training, stress management, relapse prevention and management, educational and health effects of tobacco, exercise, and nutrition. The client agreed to a quit date and established a quit plan that included brand switching, contingency contracting, and social support. Individual treatment of four sessions was provided which also included hypnosis using the hypnotherapy approach suggested by Dr. Ray Sampson.⁴ Per the dosing guidelines for Zyban, he was prescribed 8 weeks of medication to manage the withdrawal symptoms of nicotine.

A psychotherapeutic relationship was established to deal with his nicotine addiction and the related psychological issues of quitting.⁵ The psychological interventions dealt overall with the cognitive aspects of change and coping; and specifically with his past and potential barriers and high risk factors that could affect his abstinence such as his urges to smoke, negative feelings, discomfort and distress, and living without tobacco. Each of these issues was addressed with specific adaptive coping skills training. Another therapeutic issue addressed was the immediate benefits of quitting vice losing and giving up something (smoking) important.

The client reported that he followed the regimen agreed upon in his contract and treatment plan. Follow-up was done at one, three and six months after completion of

individual treatment via - phone contact with was assessed using the DoD recommended 7 day point prevalence metric- by asking have you used any tobacco products, even a little, in the last 7 days?³ At each of the three follow-up intervals (one month, three months and six months), the self and significant other reports were consistent that the client was tobacco free.

Discussion

The individual treatment approach was judged to be a success based upon the client being tobacco free for six months. Advantages to this approach was that it was individualized and tailored to the clients specific issues and needs and he received a wide variety and combination of cognitive, behavioral, pharmacological and hypnotherapy treatments. This counseling approach appeared to be more effective than the prior group interventions based upon the outcome of abstinence. However there are several limitations to this case study. One it is impossible to differentiate what specific or combination of treatment factors and or other issues contributed to the positive outcome. Another limitation is staffing- as one on one/individual treatment is labor intensive and may not be

him, his spouse and a co-worker. The outcome available in all Navy medical clinic locations, and staff may lack expertise in this area. The expense of this approach- individual provider time plus Zyban may be considered costly in some circles. Another potential limiting factor may have been his willingness and readiness to quit smoking, and thus he may have quit regardless of the type of interventions utilized. Nevertheless, this individual treatment approach proved to be effective in this case, and merits further exploration and clinical use in the Navy.

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GLOBAL SURVEILLANCE OF EMERGING DISEASES

A SENTINEL CIVILIAN CASE OF ENDEMIC YELLOW FEVER IN THE UPPER AMAZON BASIN

The Provincial Health Director of Napo province, Ecuador, recently alerted us to an indigenous case of yellow fever in the Upper Amazon Basin.. This case occurred in the province in which NEHC has had ongoing GEIS activities in association with a clinic at Mondana on the Napo River. The Health Director provided the following case report of yellow fever, just diagnosed the week before. This case is significant in that it was certainly acquired in the immediate region of the clinic (the Chontapunta town visited by the patient is less than an hour by boat from Mondana Clinic.) It is a good review of the clinical presentation of yellow fever and a reminder that this arthropod-borne virus is a real and present danger to our Forces operating in the Amazon. Our Force should remain adequately protected through yellow fever Vaccination under BUMEDINST 6230.15, Immunizations and Chemoprophylaxis, 1 November 1995.

The index case was a 36 Year old male from the mountain town of Ambato who was well when he visited his father in Napo Province from 4 through the 10 of August, 2000. The patient had never been vaccinated against yellow fever or hepatitis. On the 19th of August after he returned home, he presented to his hometown clinic with fever, headache, nosebleed, icteric sclera, "Black" emesis, melena, hepatosplenomegaly (no petechiae, ecchymosis, myalgia, diarrhea, delerium, coma, oligosuria or bradycardia). He was diagnosed with "Hepatitis, Icteric Syndrome," and given supportive treatment. As he did not improve, he was transferred on 3 September, 2000, to the regional hospital in Tena where the following blood test results were obtained:

Bilirubin total: 18.18 (Direct 12.03, Indirect 6.15)
 Sed rate: 54 mm/h
 SGOT: 259, SGPT: 341; Platelets: 229,000
 PTT: 44 seconds, PT: 15 seconds
 Hep B antigen: Negative
 VDRL: Negative

On 5 September, a serological sample was sent from the referral hospital to the reference laboratory at the Ministry of Health in Quito. The reference laboratory also routinely screens samples for viral hepatitis, leptospirosis, bartonellosis, and falciparum malaria.

On 5 September the family members removed SB from the hospital in Tena, since he seemed to be improving and it was a hardship to be so far from his hometown. He remained stable, but continued to manifest icterus, liver pain and fever. He was readmitted to the hospital in his home province with a diagnosis of cholecystitis on 15 September. He seemed to improve spontaneously, and as of the time of the epidemiological interview with family members on Sept 19, he was recovering.

On 13 September, 2000, the reference laboratory reported a positive yellow fever result and referred the case immediately to the State Health Department for investigation. A second confirmatory serum sample was requested from the patient on 19 September. The Health Director visited the patient and family members in Ambato on 19 September, a few days before he met with the NMSR Editor in Quito on unrelated issues. He shared this case report with us, and we pass it on to you for your information and thought.

Editors Note - *This case is important because of its occurrence in a strategically important sentinel site region of the Upper Amazon Basin. It is well documented both in its diagnosis and location. This region of the Amazon is not only a sentinel site area for Global Emerging Infections Surveillance but also of increasing strategic importance to our national security as a result of the recently Congressionally approved Plan Colombia. Although occurring in a civilian Ecuadorian, this case is important because it incontrovertibly demonstrates the presence of yellow fever transmission in this area. It also demonstrates to professional capability of our Ecuadorian health partners in the public health investigation and management of yellow fever.*

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