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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

FOODBORNE AND WATERBORNE ILLNESS TRENDS, U. S. NAVY

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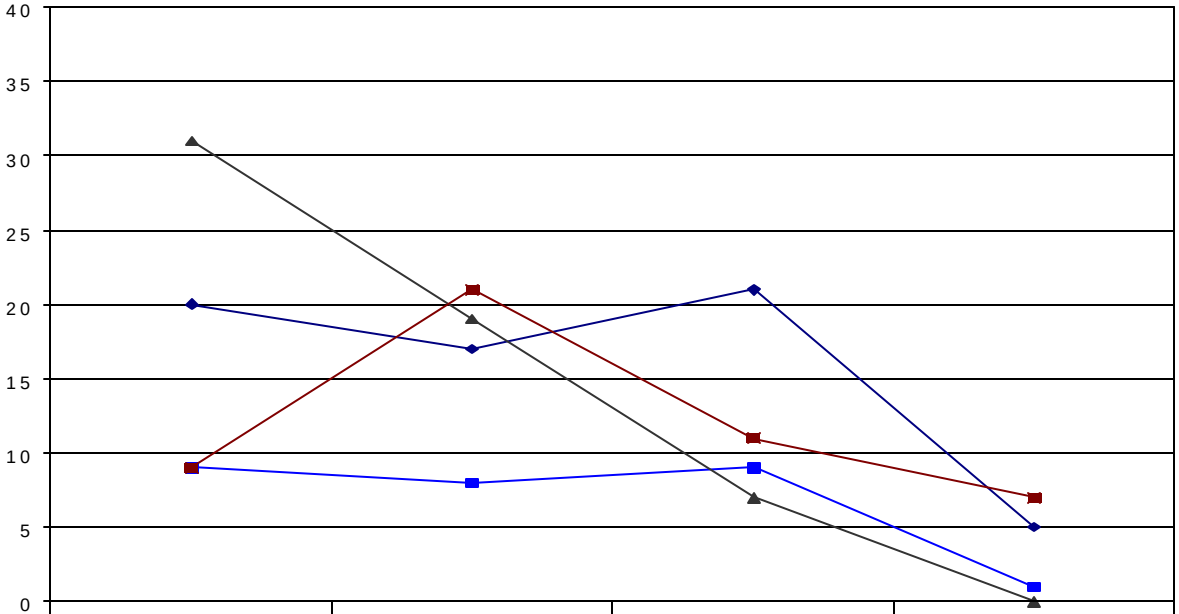
Of the ten most reported communicable diseases in the Navy from 1988-1997, four were enteric diseases and caused by organisms commonly transmitted through food and/or water. They are salmonellosis, shigellosis, hepatitis A, and giardiasis. The four year trend of these diseases is tracked utilizing data from the Navy Environmental Health Center, *Reported Communicable Diseases in Active Navy and Marine Corps Personnel: 10 Year Report, 1988-1997* for 1996 and 1997 and Naval Disease Reporting System (NDRS) for 1998 and 1999. Figure 1. shows a general and marked decline in numbers of active duty Navy reported cases for each of these diagnoses into 1999.

Figure 1. Reported Cases of Certain Enteric Diseases, U.S. Navy Active



	1996	1997	1998	1999
Salmonellosis	20	17	21	5
Shigellosis	9	8	9	1
Hepatitis A	31	19	7	0
Giardiasis	9	21	11	7

Naval Medical Surveillance Report

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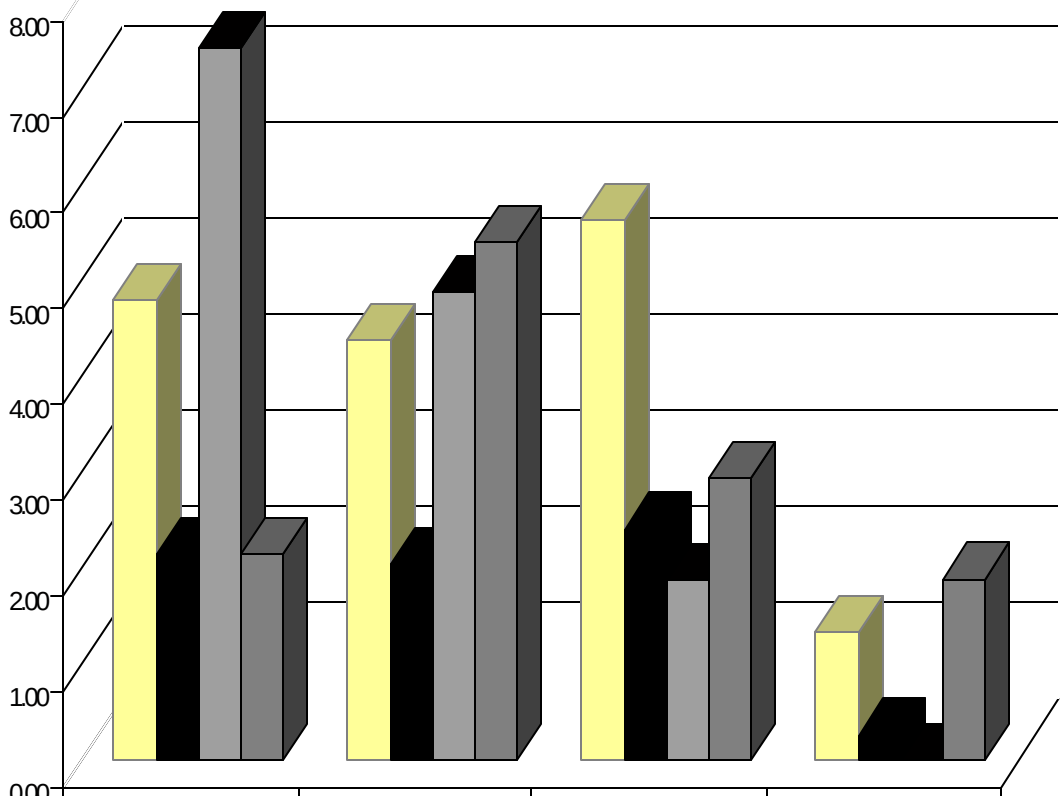
Views and opinions expressed are not necessarily those of the Department of the Navy

Note the sharp and continuous decline of Hepatitis A. There were no cases of Hepatitis A in active duty Navy members in 1999 reported through NDRS. While no direct conclusions can be drawn from this preliminary data observation, it is likely that the institution of the Hepatitis A vaccine for all active duty Navy personnel in 1996 contributed to this dramatic decline. Figure 2. shows the Incidence Rates per 100,000 amongst active duty Navy for each of these enteric diagnoses.

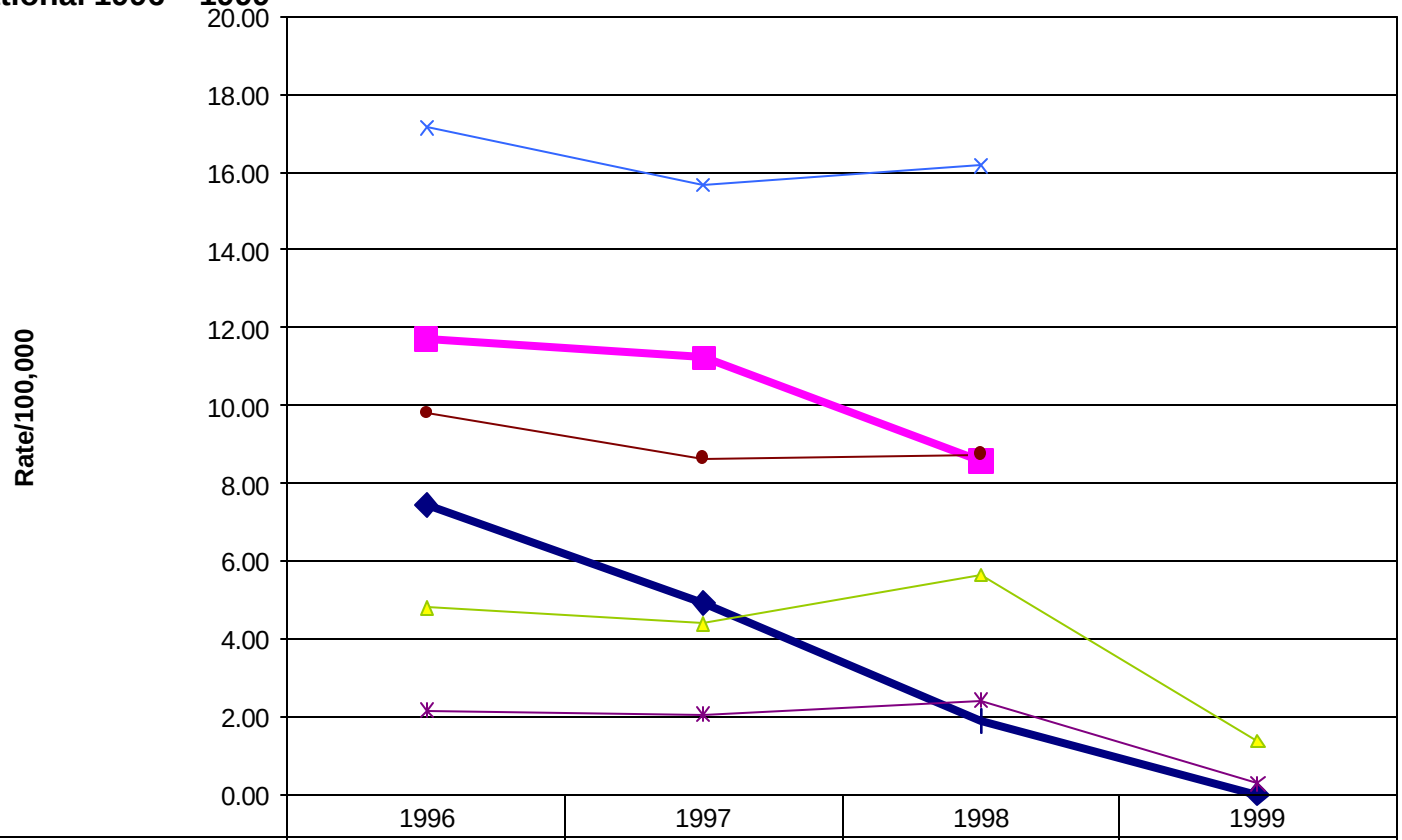
Figure 2. Incidence Rates per 100,000 for Certain Enteric Diseases, U.S. Navy Active Duty 1996-1999



	1996 (pop. 416,735)	1997 (pop. 387,774)	1998 (pop. 371,762)	1999 (pop. 368,889)
Salmonellosis	4.80	4.38	5.65	1.36
Shigellosis	2.16	2.06	2.42	0.27
Hepatitis A	7.44	4.90	1.88	0.00
Giardiasis	2.16	5.42	2.96	1.90

Figure 3. is a preliminary comparison with data from the general U.S. population showing similar trends with shigellosis and salmonellosis. However, in the general U.S. population hepatitis A data is markedly dissimilar. While the incidence of Hepatitis A is on a steady decline in the general population for the same period, the U. S. Navy downward trend is much sharper. Navy Environmental Health Center is analyzing the factors contributing to this and will present that analysis in a future report.

Figure 3. Incidence Rates per 100,000 of Certain Enteric Diseases U. S. Navy compared to National 1996 – 1999*



	1996	1997	1998	1999
Hepatitis A Navy	7.44	4.90	1.88	0.00
Hepatitis A National	11.70	11.22	8.59	
Salmonella Navy	4.80	4.38	5.65	1.36
Salmonella National	17.15	15.66	16.17	
Shigella Navy	2.16	2.06	2.42	0.27
Shigella National	9.80	8.64	8.74	

*** 1999 Report on U.S. Population was**

ANNUAL TB REPORT FOR 1999

The Navy Environmental Health Center (NEHC) receives annual reports of summary records of tuberculosis screening. This is mandated by BUMEDINST 6224.8. This is separate from the reporting system of suspected and confirmed cases of tuberculosis which are Reportable Medical Events. These are reported via NDRS according to BUMEDINST 6220.12A. The active duty members are screened yearly with intradermal Purified Protein Derivative (PPD) and the results reported yearly by a variety of record-keeping and reporting methods, similar to the discontinued Disease Alert Report program.

The four NEPMUs receive the reports from the operational units and military treatment facilities and forward these to NEHC. We present the results of the 1999 screening program in tables 1 through 7 and figures 1 and 2: first, the overall reports, then from each NEPMU, and finally, from the largest vessels. These tables contain a great deal of information, and are presented in detail so the reader can see data from the submitting unit level. A few figures highlight important percentages of the program: percent of personnel tested and positive PPD rate among those tested.

Table 1. Summary of 1999 Reports by NEPMUs

SHIP/Station	Total Personnel	Number Tested	New Reactors Identified	Reactors Placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
NEPMU2	188344	137045	1373	1261	4899	7	72.7	1	91.8
NEPMU5	128042	68314	1337	985	5275	11	53.4	1.96	73.7
NEPMU6	42791	18462	288	203	1643	6	43.1	1.56	70.5
NEPMU7	18476	11147	174	166	685	0	60.3	1.56	95.4
Summary	**377653**	**234968**	**3172**	**2615**	**12502**	**24**	**62.1**	**1.4**	**82.4**

Table 2. Details of 1999 Reports Sent to NEPMU2, Norfolk, VA

Ship/Station	Total Person-nel	Number Tested	New Reactors Identified	Reactors Placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
USS ARLEIGH BURKE (DDG 51)	282	265	0	0	17	0	93.97	0	0
USS ARTHUR W RADFORD (DD 968)	325	362	2	2	16	0	111.38	0.55	100
USS AUGUSTA (SSN 710)	142	141	0	0	10	0	99.3	0	0
USS AUSTIN (LPD 4)	352	290	0	4	34	0	82.39	0	0
USS BARRY (DDG 52)	304	219	15	0	15	0	72.04	6.85	0
USS BATAAN (LHD 5)	980	954	5	5	57	0	97.35	0.52	100
USS BOISE (SSN 764)	135	150	0	0	2	0	111.11	0	0
USS CARDINAL (MHC 60)	46	43	0	0	3	0	93.48	0	0
USS CARON (DD 970)	308	245	0	0	13	0	79.55	0	0
USS CARR (FFG 52)	196	189	2	2	5	0	96.43	1.06	100
USS CARTER HALL (LSD 50)	317	291	0	0	26	0	91.8	0	0
USS DEFENDER (MCM 2)	84	65	0	0	6	0	77.38	0	0
USS DEWERT (FFG 45)	220	207	1	1	13	0	94.09	0.48	100
USS DEYO (DD 989)	314	271	5	5	7	0	86.31	1.85	100
USS DONALD COOK (DDG 75)	322	158	0	0	19	0	49.07	0	0
USS DOYLE (FFG 39)	227	210	0	0	17	0	92.51	0	0
USS DWIGHT D EISENHOWER (CVN 69)	2999	2835	5	5	103	0	94.53	0.18	100
USS ENTERPRISE (CVN 65)	3240	2059	3	3	104	0	63.55	0.15	100
USS ESTOCIN (FFG 15)	205	233	3	3	13	0	113.66	1.29	100
USS GEORGE WASHINGTON (CVN 75)	3500	2455	6	6	90	0	70.14	0.24	100
USS GONZALEZ (DDG 66)	304	259	0	0	15	0	85.2	0	0
USS GRAPPLE (ARS 53)	101	33	0	0	9	0	32.67	0	0
USS GUARDIAN (MCM 5)	88	66	0	0	9	0	75	0	0
USS GUNSTON HALL (LSD 44)	300	300	8	8	11	0	100	2.67	100
USS HALYBURTON (FFG 40)	215	213	0	0	9	0	99.07	0	0
USS HAMPTON (SSN 767)	139	0	0	0	7	0	0	0	0
USS HARRY S TRUMAN (CVN 75)	2984	2559	8	8	142	0	85.76	0.31	100
USS HAWES (FFG 53)	207	187	2	1	17	0	90.34	1.07	50
USS HAYLER (DD 997)	310	294	2	2	14	0	94.84	0.68	100
USS HELENA (SSN 725)	142	140	0	0	2	0	98.59	0	0
USS INCHON (MCS 12)	678	510	4	4	38	0	75.22	0.78	100
USS JACKSONVILLE (SSN 699)	141	104	0	0	5	0	73.76	0	0
USS JOHN HANCOCK (DD 981)	292	223	1	1	26	0	76.37	0.45	100
USS JOHN L HALL (FFG 32)	203	203	1	1	9	0	100	0.49	100
USS KAUFFMAN (FFG 59)	200	191	0	2	7	0	95.5	0	0
USS KENTUCKY (BLUE) (SSBN 737)	154	144	0	0	2	0	93.51	0	0
USS KENTUCKY (GOLD) (SSBN 737)	165	156	0	0	8	0	94.55	0	0
USS KINGFISHER (MHC 56)	52	47	0	0	5	0	90.38	0	0
USS KLAKRING (FFG 42)	216	187	1	1	9	0	86.57	0.53	100
USS L MENDEL RIVERS	138	138	0	0	3	0	100	0	0
USS LAJOLLA (SSN 710)	162	143	8	0	8	0	88.27	5.59	0
USS MAHAN (DDG 72)	303	291	0	0	11	0	96.04	0	0
USS MAINE (GOLD) (SSN 755)	164	156	6	2	4	0	95.12	3.85	33
USS MARYLAND (BLUE) (SSBN 738)	154	146	0	0	8	0	94.81	0	0
USS MARYLAND (GOLD) (SSBN 738)	165	161	0	0	4	0	97.58	0	0
USS MIAMI (SSN 755)	133	136	3	0	3	0	102.26	2.21	0
USS MINNEAPOLIS (SSN 708)	144	142	0	0	2	0	98.61	0	0

Table 2. Details of 1999 Reports Sent to NEPMU2, Norfolk, VA (continued)

Ship/Station	Total Person-nel	Number Tested	New Reactors Identified	Reactors Placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
USS MONTEREY (CG 61)	352	338	1	1	22	0	96.02	0.3	100
USS MONTPELIER (SSN 765)	140	148	0	0	2	0	105.71	0	0
USS MOUNT WHITNEY (LCC 20)	534	494	0	0	0	0	92.51	0	0
USS NASSAU (LHA 4)	993	804	9	9	60	0	80.97	1.12	100
USS NEWPORT NEWS (SSN 750)	150	114	0	0	5	0	76	0	0
USS NIMITZ (CV N 68)	2800	2507	4	4	138	0	89.54	0.16	100
USS NORFOLK (SSN 714)	140	124	3	3	3	0	88.57	2.42	100
USS NORMANDY (CG 60)	238	521	1	1	15	0	218.91	0.19	100
USS OAK HILL (LSD 51)	328	311	0	1	25	0	94.82	0	0
USS O'BANNON (DD 987)	320	220	5	4	13	0	68.75	2.27	80
USS ORIOLE (MHC 55)	52	48	0	0	3	0	92.31	0	0
USS PELICAN (MHC 53)	52	43	0	0	1	0	82.69	0	0
USS PENNSYLVANIA (BLUE) (SSBN 735)	158	158	0	0	3	0	100	0	0
USS PENNSYLVANIA (GOLD) (SSBN 735)	154	154	0	0	0	0	100	0	0
USS PETERSON (DD 969)	341	317	0	5	24	0	92.96	0	0
USS PONCE (LPD 15)	356	521	4	4	21	0	146.35	0.77	100
USS PORTER (DDG 78)	310	317	1	1	19	0	102.26	0.32	100
USS RAMAGE (DDG 61)	298	272	2	2	23	0	91.28	0.74	100
USS RHODE ISLAND (BLUE) (SSBN 740)	166	136	1	1	4	0	81.93	0.74	100
USS RHODE ISLAND (GOLD) (SSBN 740)	158	158	0	0	6	0	100	0	0
USS ROBIN (MHC 54)	54	51	1	1	3	0	94.44	1.96	100
USS ROSS (DDG 71)	300	266	1	1	15	0	88.67	0.38	100
USS SAN JACINTO (CG 56)	349	317	3	3	15	0	90.83	0.95	100
USS SEATTLE (AOE 3)	545	281	0	7	24	0	51.56	0	0
USS SEAWOLF (SSN 21)	136	124	3	1	2	0	91.18	2.42	33
USS SENTRY (MCM 3)	85	82	0	0	3	0	96.47	0	0
USS SHREVEPORT (LPD 12)	379	379	3	3	5	0	100	0.79	100
USS SIMPSON (FFG 56)	199	199	1	0	13	0	100	0.5	0
USS SPRUANCE (DD 963)	330	170	2	2	19	0	51.52	1.18	100
USS STEPHENS W GROVES (FFG 29)	174	164	0	0	8	0	94.25	0	0
USS STOUT (DDG 55)	280	253	2	2	24	0	90.36	0.79	100
USS SUPPLY (APE 6)	470	177	4	4	27	0	37.66	2.26	100
USS TENNESSEE (BLUE) (SSBN 734)	164	79	2	2	6	0	48.17	2.53	100
USS TENNESSEE (GOLD) (SSBN 734)	164	147	0	0	5	0	89.63	0	0
USS THE SULLIVANS (DDG 68)	306	290	1	1	16	0	94.77	0.34	100
USS THEODORE ROOSEVELT (CVN 71)	2850	2535	12	12	130	0	88.95	0.47	100
USS THOMAS S GATES (CG 51)	347	320	1	1	9	0	92.22	0.31	100
USS TICONDEROGA (CG 47)	328	313	15	15	9	0	95.43	4.79	100
USS TRENTON (LPD 14)	355	355	1	1	21	0	100	0.28	100
USS UNDERWOOD (FFG 36)	244	199	2	2	17	0	81.56	1.01	100
USS VELA GULF (CG 72)	365	344	1	1	21	0	94.25	0.29	100
USS WASP (LHD 1)	1018	1805	22	22	200	2	177.31	1.22	100
USS WHIDBEY ISLAND (LDS 41)	291	240	4	4	24	0	82.47	1.67	100
USNS BIG HORN (AO 198)	105	41	0	0	18	0	39.05	0	0
AMBULATORY CARE CENTER GROTON CT	993	993	20	20	23	0	100	2.01	100
AMBULATORY CARE CENTER, NEW ORLEANS	2986	936	8	8	22	0	31.35	0.85	100
AMPHIBIOUS SQUADRON – 6	156	156	1	1	2	0	100	0.64	100

Table 2. Details of 1999 Reports Sent to NEPMU2, Norfolk, VA (continued)

Ship/Station	Total Person-nel	Number Tested	New Reactors Identified	Reactors Placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
BMC AMPHIBIOUS BASE LITTLE CREEK VA	6117	2232	20	17	40	0	36.49	0.9	85
BMC ATLANTA GA	224	102	10	1	9	0	45.54	9.8	10
BMC INDIAN HEAD MD	175	165	1	1	9	0	94.29	0.61	100
BMC KEY WEST, FL	1379	818	20	16	63	0	59.32	2.44	80
BMC NAF WASHINGTON DC	27	26	0	0	1	0	96.3	0	0
BMC NAS JRB FORT WORTH	4945	314	2	2	19	0	6.35	0.64	100
BMC NAVAL AIR STATION BRUNSWICK ME	4200	2105	9	0	27	0	50.12	0.43	0
BMC NAVAL AIR STATION OCEANA	14400	5131	59	40	271	0	35.63	1.15	68
BMC NAVAL COMPUTER & TELECOMMUNICATION STATION ME	90	26	0	0	0	0	28.89	0	0
BMC NAV SECURITY GRP WINTER HARBOR,ME	285	249	0	0	3	0	87.37	0	0
BMC NAVAL STATION NORFOLK	13000	8863	125	125	331	0	68.18	1.41	100
BMC NSA MID-SOUTH MILLINGTON TN	1908	154	0	0	15	0	8.07	0	0
BMC PENSACOLA FL	139	167	3	3	5	0	120.14	1.8	100
BMC PHILADELPHIA	27	0	0	0	4	0	0	0	0
BMC SUGAR GROVE WV	5	5	0	0	0	0	100	0	0
BMC WASHINGTON NAVY YARD, DC	55	53	0	0	2	0	96.36	0	0
HMM-261	475	175	1	1	9	0	36.84	0.57	100
MCM ROTATIONAL CREW DELTA	86	84	4	2	2	0	97.67	4.76	50
MCM ROTATIONAL CREW GOLF	82	79	0	0	3	0	96.34	0	0
MCRD BEUFORT, SC	21909	21405	241	241	136	0	97.7	1.13	100
MOBILE CONSTRUCTION BATTALION 133	638	438	2	2	30	0	68.65	0.46	100
MOBILE CONSTRUCTION BATTALION 74	605	419	1	1	24	0	69.26	0.24	100
MOBILE CONSTRUCTION BATTALION ONE	600	541	12	10	25	0	90.17	2.22	83
MOBILE DIVING & SALVAGE UNIT 2	136	150	0	0	7	0	110.29	0	0
NAVAL AIR ENGINEERING CENTER LAKEHURST	254	60	0	0	18	0	23.62	0	0
NAVAL AIR STATION PATUXENT RIVER MD	2953	2848	17	17	22	0	96.44	0.6	100
NAVAL AMBULATORY CARE CENTER PORTSMOUTH NH	122	194	2	1	7	0	159.02	1.03	50
NAVAL CONSTRUCTION BATTALION CENTER GULFPORT MS	3400	1334	6	6	20	0	39.24	0.45	100
NAVAL MEDICAL CENTER BETHESDA MD	4211	3428	65	62	97	5	81.41	1.9	95
NAVSURFWARFCEN CRANE DIVISION	56	16	2	1	3	0	28.57	12.5	50
NBC NAVAL WEAPONSTA YORKTOWN	741	180	3	3	5	0	24.29	1.67	100
NH BEAUFORT, SC	330	865	2	2	7	0	262.12	0.23	100
NH CHARLESTON, SC	386	366	1	1	26	0	94.82	0.27	100
NH CHERRY POINT, NC	4170	2217	27	27	27	0	53.17	1.22	100
NH CORPUS CHRISTI, TX	3034	2502	60	41	29	0	82.47	2.4	68
NH GUANTANAMO BAY CUBA	1028	985	29	1	188	0	95.82	2.94	3
NH JACKSONVILLE	9594	6116	73	73	245	0	63.75	1.19	100
NH KEFLAVIK	1796	810	7	7	18	0	45.1	0.86	100
NH PENSACOLA, FL	4253	3645	41	40	23	0	85.7	1.12	98
NH PORTSMOUTH, VA	3258	1964	15	15	221	0	60.28	0.76	100
NH ROOSEVELT ROADS	2688	2319	15	15	69	0	86.27	0.65	100
SEAL TEAM FOUR	244	238	1	1	15	0	97.54	0.42	100
SUBMARINE BASE KINGS BAY GA	2640	1006	5	5	27	0	38.11	0.5	100
US NAVL MEDCLINIC LONDON	918	369	3	3	28	0	40.2	0.81	100
2ND FSSG, NC	4262	4368	57	53	147	0	102.49	1.3	93
2ND MARDIV, NC	10152	9802	102	102	254	0	96.55	1.04	100
2ND MAW CHERRY POINT	5390	4993	55	55	152	0	92.63	1.1	100
2ND MEF, NC	2333	1768	21	21	41	0	75.78	1.19	100
3/6 22ND MEU	1118	1095	7	7	23	0	97.94	0.64	100
Summary	**185603**	**134881**	**1358**	**1238**	**4772**	**7**	**72.67**	**1.01**	**91**

Table 3. Details of 1999 Reports Sent to NEPMU5, San Diego, CA

Ship/Station	Total Personnel	Number Tested	New Reactors Identified	Reactors Placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
USS ALABAMA (BLUE) (SSBN 731)	162	0	0	0	0	0	0.00	0.00	0
USS ALASKA (BLUE) (SSBN 731)	146	1	1	0	1	0	0.68	100.00	0
USS ALASKA (GOLD) (SSBN 732)	150	150	1	1	3	0	100.00	0.67	100
USS BOXER (LHD 4)	1054	1047	7	1	118	0	99.34	0.67	14
USS BREMERTON (SSN 698)	143	138	0	0	6	0	96.50	0.00	0
USS BRIDGE (AOE 10)	461	422	0	0	0	0	91.54	0.00	0
USS BUNKER HILL (CG 52)	369	350	0	0	0	0	94.85	0.00	0
USS CAMDEN (AOE 2)	520	471	6	2	49	0	160.58	1.27	33
USS CARL VINSON (CVM 70)	2950	2051	38	38	196	1	70.00	1.85	100
USS CLEVELAND (LPD 7)	360	417	6	6	40	0	115.83	1.44	100
USS COMSTOCK (LSD 45)	309	309	0	0	0	0	100.00	0.00	0
USS CONSTELLATION (CV 64)	2819	1243	15	11	240	0	44.09	1.21	73
USS CORONADO (AGF 11)	505	465	4	4	51	0	92.08	0.86	100
USS COWPENS (CG 63)	352	329	24	3	20	0	93.47	7.29	13
USS DECATUR (DDG 73)	320	288	17	3	11	0	90.00	5.90	18
USS DOLPHIN (AGSS 555)	48	30	0	0	13	0	62.50	0.00	0
USS DUBUQUE (LPD 8)	393	345	0	0	2	0	87.79	0.00	0
USS DULUTH (LPD 6)	365	370	49	6	43	0	101.37	13.24	12
USS FITZGERALD (DDG 62)	295	5	0	0	0	1	1.69	0.00	0
USS FLORIDA (BLUE) (SSBN 728)	160	152	3	0	3	0	95.00	1.97	0
USS FLORIDA (GOLD) (SSBN 728)	167	160	0	0	7	0	95.81	0.00	0
USS FORD (FFG 54)	209	164	0	0	15	0	78.47	0.00	0
USS GEORGIA (GOLD) SSBN 729)	163	159	0	0	4	0	97.55	0.00	0
USS HARPERS FERRY LSD 49)	317	0	0	0	0	0	0.00	0.00	0
USS HEWITT (DD966)	316	36	36	1	0	0	11.39	100.00	3
USS HIGGINS (DDG 76)	340	1	37	1	34	0	0.29	3700.00	3
USS HOUSTON (SSN 713)	137	133	0	0	4	0	97.08	0.00	0
USS INGRAHAM (FFG 61)	221	171	26	2	24	0	77.38	15.20	8
USS JEFFERSON (SSN 759)	143	110	0	0	2	0	76.92	0.00	0
USS JOHN A. MOORE (FFG 19)	170	152	0	0	18	0	89.41	0.00	0
USS JOHN C. STENNIS (CVN 74)	2316	1820	6	6	164	0	78.58	0.33	100
USS JOHN PAUL JONES (DDG 53)	315	283	0	0	24	0	89.84	0.00	0
USS LAKE CHAPLAIN (CG 57)	361	300	2	2	19	0	83.10	0.67	100
USS LAKE ERIE (CG 70)	360	302	4	4	37	0	83.89	1.32	100
USS MCCLUSKY (FFG 41)	208	192	2	2	16	0	92.31	1.04	100
USS MICHIGAN (SSBN 727)	158	167	0	0	4	0	105.70	0.00	0
USS MICHIGAN (BLUE) (SSBN 727)	159	92	0	0	10	0	57.86	0.00	0
USS MICHIGAN (GOLD) (SSBN 727)	158	167	0	0	0		105.70	0.00	0
USS MILIUS (DDG 69)	273	1	1	0	22	0	0.37	100.00	0
USS MOUNT VERNON LSD 39)	300	210	2	2	33	0	70.00	0.95	100
USS OGDEN (LPD 5)	370	317	0	0	25	0	85.68	0.00	0

Table 3. Details of 1999 Reports Sent to NEPMU5, San Diego, CA (continued)

Ship/Station	Total Personnel	Number Tested	New Reactors Identified	Reactors Placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
USS OHIO (BLUE) (SSBN 726)	166	165	2	0	1	0	99.40	1.21	0
USS OHIO (GOLD) (SSBN 726)	154	166	1	0	4	0	107.79	0.60	0
USS OLDENDORF (DD 972)	338	338	3	1	3	0	100.00	0.89	33
USS PEARL HARBOR (LSD 52)	335	306	0	0	29	0	91.34	0.00	0
USS PELELIU (LHA 5)	1056	640	7	0	136	0	60.61	1.09	0
USS RUSHMORE (LSD 47)	314	246	4	2	40	0	78.34	1.63	50
USS SHILOH (CG 67)	370	320	1	1	31	0	86.49	0.31	100
USS SIDES (FFG 14)	182	144	0	0	10	0	79.12	0.00	0
USS SQUALL (PC 7)	28	24	0	0	4	0	85.71	0.00	0
USS STETHEM (DDG 67)	293	264	29	3	29	0	90.10	10.98	10
USS TARAWA (LPA 1)	1068	101	18	18	52	0	9.46	17.82	100
USS THACH (FFG 43)	222	180	0	0	17	0	81.08	0.00	0
USS VALLEY FORGE (CG 50)	331	296	4	4	31	0	89.43	1.35	100
USS ZEPHYR (PC 8)	29	16	0	5	4	0	55.17	0.00	0
USNS JOHN ERICSSON (TAO 194)	92	0	0	0	0	0	0.00	0.00	0
USNS FLINT (AE 32)	171	127	1	1	74	1	74.27	0.79	100
USNS GUADALUPE (AO 200)	90	5	0	0	20	0	5.56	0.00	0
USNS GUDALUPE (AO 200)	90	5	0	0	0	0	5.56	0.00	0
USNS KILAUEA (AE 26)	151	150	0	0	58	0	99.34	0.00	0
USNS KISKA (AE 35)	151	42	0	0	31	0	27.81	0.00	0
USNS NIAGARA FALLS (AFS 3)	180	186	0	0	66	0	103.33	0.00	0
USNS OBSERVATION ISLAND (AGM 23)	66	35	2	0	12	0	53.03	5.71	0
USNS PECOS (AO 97)	89	0	1	1	29	0	0.00	0.00	100
USNS RAPPAHANNOCK (AO 204)	94	48	0	0	18	0	51.06	0.00	0
USNS SAN JOSE (AFS 7)	192	0	0	0	75	0	0.00	0.00	0
USNS SPICA (ARS 9)	188	0	0	0	71	0	0.00	0.00	0
USNS TIPPECA (FF 1075)	98	0	0	0	66	0	0.00	0.00	0
USNS WALTER S. DIEHL (AO 193)	103	66	0	0	34	0	64.08	0.00	0
USNS YUKON (AO 202)	104	34	0	0	10	0	32.69	0.00	0
ARCO (ARDM 5)	118	104	0	0	14	0	88.14	0.00	0
BMC MCRD	1800	445	232	219	64	0	24.72	52.13	94
BMC BANGOR	2,363	1,304	14	13	96	0	55.18	1.07	93
BMC BARSTOW	280	236	6	6	12	0	84.29	2.54	100
BMC CHINA LAKE	708	413	3	3	12	0	58.33	0.73	100
BMC EVERETT	5,964	677	11	0	37	1	11.35	1.62	0
BMC INDIAN ISLAND	11	9	0	0	2	0	81.82	0.00	0
BMC KEYPORT	27	1	0	0	0	0	3.70	0.00	0
BMC MCAS MIRAMAR	1212	1112	79	79	99	0	91.75	7.10	100
BMC NAS NORTH ISLAND	14178	8019	28	25	36	2	56.56	0.35	89
BMC NASNI	14,178	4,019	28	25	360	2	28.35	0.70	89
BMC NAVSTA 32ND	5200	2202	46	42	622	0	42.35	2.09	91

Table 3. Details of 1999 Reports Sent to NEPMU5, San Diego, CA (continued)

Ship/Station	Total Personnel	Number Tested	New Reactors Identified	Reactors Placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
BMC NTC SAN DIEGO	1800	277	28	28	78	1	15.39	10.11	100
BMC PUGET SOUND	428	86	1	1	10	0	20.09	1.16	100
CONST BATTALION 1	450	309	3	3	27	0	68.67	0.97	100
CSSD-16 YUMA	91	51	0	0	9	0	56.04	0.00	0
EOD MOBILE UNIT 11	120	108	0	0	12	0	90.00	0.00	0
EOD MOBILE UNIT 17	34	45	0	0	4	0	132.35	0.00	0
EOD MOBILE UNIT 7	35	33	0	0	2	0	94.29	0.00	0
MCB BATTALION 4	612	560	52	8	0	0	91.50	9.29	15
MCB BATTALION 5	630	580	0	0	50	0	92.06	0.00	0
NAS POINT MUGU	1251	441	2	2	35	0	35.25	0.45	100
NAVHOSP 29 PALMS	2654	75	43	43	195	1	2.83	57.33	100
NAVHOSP BREMERTON	567	368	5	4	41	1	64.90	1.36	80
NAVHOSP CAMPENDLETON	773	496	2	0	99	0	64.17	0.40	0
NAVHOSP LEMOORE	8500	5325	35	35	60	0	62.65	0.66	100
NAVHOSP OAK HARBOR	6097	2502	89	89	141	0	41.04	3.56	100
NAVMECTR SAN DIEGO	3078	2016	15	0	214	0	65.50	0.74	0
NH BMC BRIDGE PORT	210	188	4	4	11	0	89.52	2.13	100
SAN CLEMENTE ISLAND	172	83	0	0	25	0	48.26	0.00	0
SEAL TEAM ONE	245	210	8	0	7	0	85.71	3.81	0
SUBRON 5	36	36	0	0	1	0	100.00	0.00	0
1ST MAR DIVISION	15880	13533	200	190	360	0	85.22	1.48	95
1st TRANSSPTBN	1125	352	18	3	17	0	31.29	5.11	17
22 AREA GAS CAMPENCA	5709	1270	4	4	97	0	22.25	0.31	100
3RD MAW	5568	3358	21	21	188	0	60.31	0.63	100
Summary	128042	68314	1337	985	5281	11	53.35	1.96	74

Table 4. Details of 1999 Reports Sent to NEPMU6, Pearl Harbor, HI

Ship/Station	Total Person-nel	Number Tested	New Reactors Identified	Reactors Placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
USS ASHEVILLE (SSN 758)	123	0	0	0	4	0	0	0	0
USS BELLEAU WOOD (LHA 3)	1123	928	16	15	138	0	82.64	1.72	94
USS CHANCELLORSIVILLE (CG 62)	350	271	0	0	5	0	77.43	0	0
USS CURTIS WILBUR (DDG 54)	306	276	1	1	31	0	90.2	0.36	100
USS CUSHING (DD 985)	340	330	1	1	37	0	97.06	0.3	100
USS FORT MCHENRY (LSD 43)	290	206	0	0	34	0	71.03	0	0
USS GARY (FFG 51)	202	124	0	0	21	0	61.39	0	0
USS GERMANTOWN (LSD 42)	359	182	1	1	41	0	50.7	0.55	100
USS GREENEVILLE (SSN 772)	130	140	0	1	1	0	107.69	0	0
USS HONOLULU (SSN 718)	134	133	0	0	2	0	99.25	0	0
USS JUNEAU (LPD 10)	393	0	0	0	38	0	0	0	0
USS KAMEHAMEHA (SSN 642)	140	136	0	0	4	0	97.14	0	0
USS KITTY HAWK (CV 63)	3071	1244	8	8	386	0	40.51	0.64	100
USS LAKE ERIE (CG 70)	360	302	4	4	37	0	83.89	1.32	100
USS LOUISVILLE (SSN 724)	133	138	3	0	3	0	103.76	2.17	0
USS OKANE (DDG 77)	331	293	2	2	24	0	88.52	0.68	100
USS PORT ROYAL (CG 73)	355	326	2	2	27	0	91.83	0.61	100
USS REUBEN JAMES (FFG 57)	199	175	0	0	24	0	87.94	0	0
USS SALVOR (ARS 52)	107	98	0	0	9	0	91.59	0	0
USS SAN FRANCISCO (SSN 711)	146	142	0	0	4	0	97.26	0	0
USS VANDEGRIFT (FFG 48)	211	187	2	2	29	0	88.63	1.07	100
USS VINCENNES (CG 49)	366	325	43	4	32	0	88.8	13.23	9
USNH GUAM (LPH 9)	508	320	160	87	60	4	62.99	50	54
BRMEDCLINIC CHINHAE	161	103	0	0	12	0	63.98	0	0
BRMEDCLINIC IWAKUNI	2567	2090	40	40	75	0	81.42	1.91	100
BRMEDCLINIC SASEBO	430	320	3	3	55	0	74.42	0.94	100
MUDSU ONE	141	121	2	2	18	0	85.82	1.65	100
NAVMEDLCINIC PEARL	28471	8847	195	113	224	1	31.07	2.2	58
NMCBSEVEN	655	291	3	1	19	0	44.43	1.03	33
Summary	**42791**	**18462**	**489**	**288**	**1643**	**6**	**43.14**	**2.65**	**59**

Table 5. Details of 1999 Reports Sent to NEPMU7, Sigonella, IT

Ship/Station	Total Person-nel	Number Tested	New Reactors Identified	Reactors Placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
USS BATTAAN (LHD-5)	980	954	5	5	57	0	97.35	0.52	260
USS BELLEAU WOOD (LHA-3)	1123	928	16	15	138	0	82.64	1.72	94
USS EMORY S. LAND (AS-39)	1150	1106	4	4	40	0	96.17	0.36	100
USS LASALLE (AGF 3)	435	338	3	3	19	0	77.70	0.89	100
USS SPRUANCE (DD-963)	330	170	2	2	19	0	51.52	1.18	100
AS 39 SITE COMPONENT, LAMADDALENA IT	176	165	2	2	11	0	93.75	1.21	100
BRMEDCLINIC SOUDA BAY	350	301	3	3	14	0	86.00	1.00	100
BRMEDCLINIC ST MAWGAN	286	115	2	2	5	0	40.21	1.74	100
COMPHIBRON-6	156	156	1	1	2	0	100.00	0.64	100
COMSIXTHFLT	231	68	2	2	0	0	29.44	2.94	100
HMM-261	475	175	10	10	0	0	36.84	5.71	100
US NSA, BAHRAIN	1284	631	36	34	44	0	49.14	5.71	94
USNAVMEDCLINICS, UK	918	369	3	3	28	0	40.20	0.81	100
USNH NAPLES	4000	1514	17	14	25	0	37.85	1.12	82
USNH ROTA	3005	2110	34	24	234	0	70.22	1.61	71
USNH SIGONELLA	2459	952	27	27	26	0	38.71	2.84	100
3/6 BLT; 22ND MEU	1118	1095	7	7	23	0	97.94	0.64	100
Summary	18476	11147	174	166	685	0	60.33	1.56	91

Table 6. Details of 1999 Reports Received From Aircraft Carriers

SHIP	Total Person-nel	Number Tested	New Reactors Identified	Reactors placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
USS CARL VINSON (CVN 70)	2950	2051	38	38	196	1.00	70.00	1.85	100
USS CONSTELLATION (CV 64)	2819	1243	15	11	240	0	44.09	1.21	73
USS DWIGHT D EISENHOWER (CVN 69)	2999	2835	5	5	103	0	94.53	0.18	100
USS ENTERPRISE (CVN 65)	3240	2059	3	3	104	0	63.55	0.15	100
USS GEORGE WASHINGTON (CVN 73)	3500	2455	6	6	90	0	70.14	0.24	100
USS HARRY S TRUMAN (CVN 75)	2984	2559	8	8	142	0	85.76	0.31	100
USS JOHN C. STENNIS (CVN 74)	2316	1820	6	6	164	0	78.58	0.33	100
USS JOHN F. KENNEDY (CV 67)	2741	2164	15	15	127	0	78.95	0.69	100
USS KITTY HAWK (CV 63)	3071	1244	8	8	386	0	40.51	0.64	100
USS NIMITZ (CVN 68)	2800	2507	4	4	138	0	89.54	0.16	100
USS THEODORE ROOSEVELT (CVN 71)	2850	2535	12	12	130	0	88.95	0.47	100

Table 7. Details of Reports received from Amphibious Vessels

SHIP	Total Person-nel	Number Tested	New Reactors Identified	Reactors Placed on INH	Old Reactors	Active Cases	% Tested	% Reactors Identified	% Reactors Placed on INH
USS BATAAN (LHD 5)	980	954	5	13	57	0	97.35	0.52	260
USS BELLEAU WOOD (LHA 3)	1123	928	16	15	138	0	82.64	1.72	94
USS BOXER (LHD 4)	1054	1047	7	1	118	0	99.34	0.67	14
USS KEARSARGE (LHD 3)	1184	1096	108	20	88	0	92.57	9.85	19
USS NASSAU (LHA 4)	993	804	9	9	60	0	80.97	1.12	100
USS PELELIU (LHA 5)	1056	640	7	0	136	0	60.61	1.09	0
USS TARAWA (LHA 1)	1068	101	18	18	52	0	9.46	17.82	100
USS WASP (LHD 1)	1018	1805	22	22	200	2	177.31	1.22	100

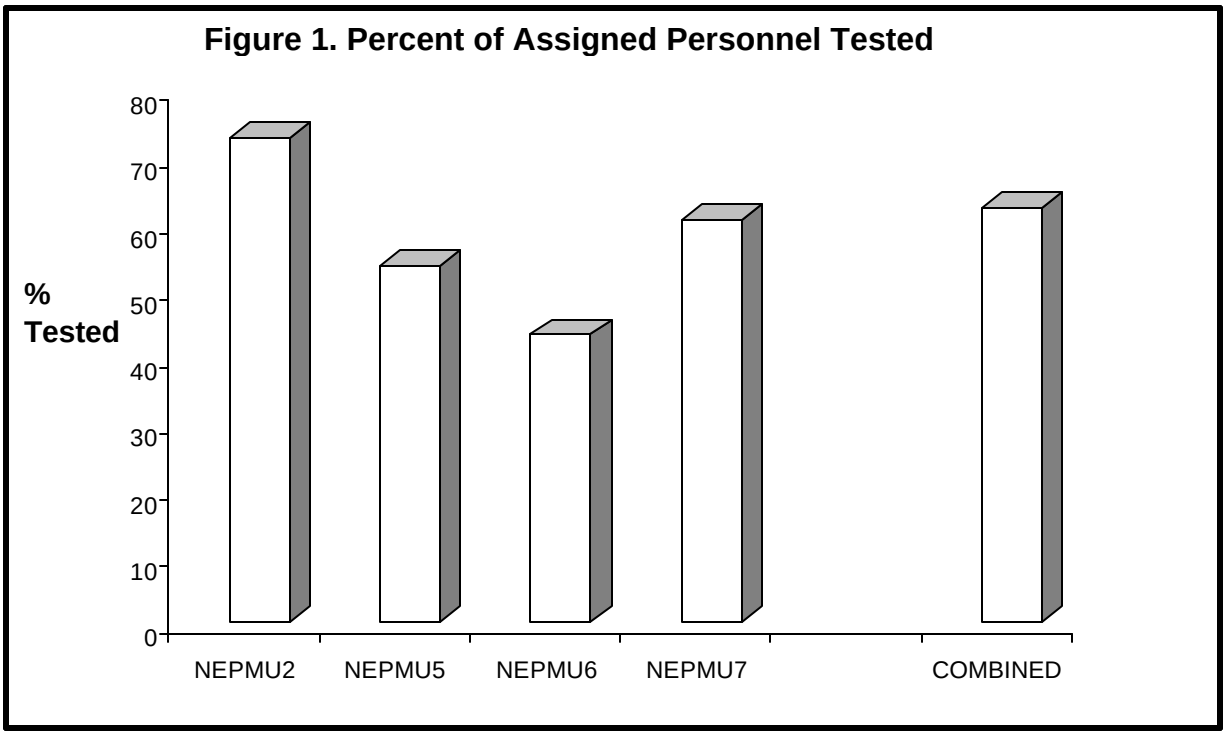


Figure 1. Percent of Assigned Personnel Tested
% Tested
80
70
60
50
40
30
20
10
0
NEPMU2
NEPMU5
NEPMU6
NEPMU7
COMBINED

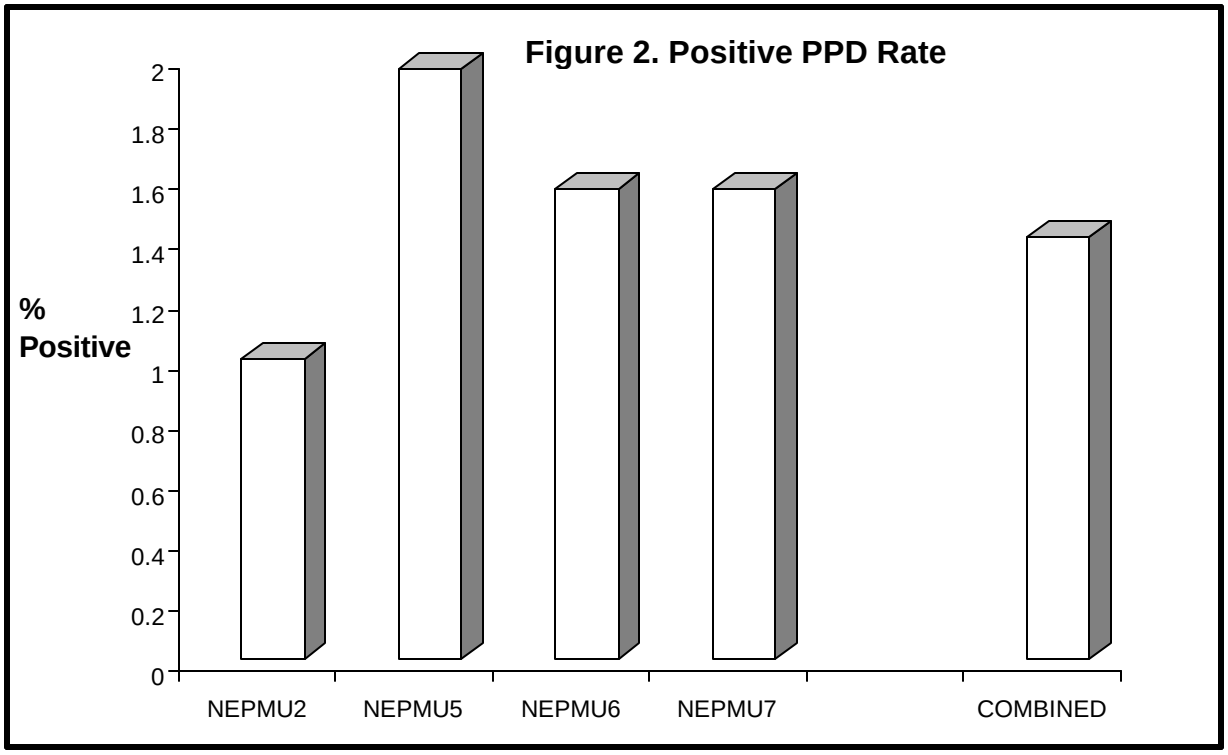


Figure 2. Positive PPD Rate
% Positive
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
NEPMU2
NEPMU5
NEPMU6
NEPMU7
COMBINED

CASE REPORT

INTERESTING CASE REPORT OF SACROILIAC TUBERCULOSIS

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The tuberculosis (TB) screening and prevention program in Navy Medicine is of paramount importance in maintaining an operationally ready Navy-Marine Corps team. A TB outbreak aboard ship during operational commitments has the potential to be detrimental to the overall mission. This was the case during the 1998 Mediterranean deployment of the USS WASP (LHD 1) Amphibious Ready Group and the 26th Marine Expeditionary Unit with resultant 27.8% Purified Protein Derivative (PPD) conversion rate and 17 reported cases of active TB. The following case report involves an active duty member from the USS WASP who developed sacroiliac joint (SIJ) TB that was treated at the Naval Medical Center Portsmouth, Virginia. The diagnosis, course, and treatment will be correlated with recent recommendations on classification and treatment of SIJ TB.

A 40-year-old male presented to the Orthopedic Spine Clinic with a 2 month history of insidious onset of right low back/buttock/hip pain and complaints of fever, night sweats and 5-10 lbs weight loss. He had a history of PPD conversion in the past year and his travel history included the aforementioned Mediterranean deployment. He denied trauma, cough, bowel or bladder symptoms, and radiculopath. Physical examination was significant for positive right SIJ provocative tests and FABER test with normal neurovasular evaluation. Plain films showed findings consistent with right-sided sacroiliitis with slight lost of the SIJ cortical lines. A bone scan confirmed this with increased uptake at right SIJ. A MRI was then obtained that revealed a right iliopsoas abscess with extension into the right SIJ, sacral ala, and iliac bone. A CT guided aspiration of the SIJ was then performed which was AFB positive with cultures growing *Mycobacterium tuberculosis.* A four drug regimen including isoniazid, ethambutol, pyrazinamide, and rifampin was started after the aspiration was performed. The patient's previous symptoms remained unchanged and a repeat MRI one month later revealed increased size of the iliopsoas abscess with extension and apparent compression of the L5 nerve root. Physical examination confirmed this with a new weakness (4/5) in distal L5 innervated muscles when compared to the contralateral side. Due to the progression of the abscess and onset of neurological deficits, the patient was taken to the operating room where an SIJ curettage, illiopsoas abscess decompression, and arthrodiesis was performed. At the 6 month follow-up appointment, the patient has a slightly antalgic gait, not neurological deficits, no systemic symptoms, and has returned to work.

Review of the literature reveals a limited number of reports on SIJ TB. In the United States, 20% of diagnosed new cases of TB are associated with extrapulmonary disease with bone and joint involvement accounting for 3-5% of all TB. TB of the SIJ accounts for approximately 10% of skeletal TB. IT has been noted that SIJ TB who reports an

insidious onset of buttock pain or radicular pain isolated to the SIJ with weight bearing. Systemic symptoms include fever, night sweats, and weight loss. The first radiographic changes consist of blurring and loss of cortical margins along with widening of the joint space followed by erosions and sclerosis. Increased uptake is demonstrated on gallium and bone scans as noted early in this case. CT provides excellent bony detail and is helpful in percutaneous drainage of abscesses and acquisition of biopsy material. MRI may be advantageous due to its intrinsic high contrast resolution and multiplanar capabilities allowing the surgeon to plan for operative procedures. The ultimate diagnosis of TB depends on the recognition of *Mycobacterium tuberculosis* on histological study and/or culture. Therefore, SIJ aspiration and biopsy are essential for early diagnosis and prompt treatment.

Until recently, there has been no classification system for SIJ TB that could help in determining a therapeutic plan. In a recent study, authors classified SIJ TB into four types based on extent of disease by evaluating the therapeutic mode. The patient in this case would have been classified as the type 4 due to SIJ lesion with abscess formation. The recommended treatment for this type is curettage, arthrodesis, and chemotherapy. The authors found that the mean time to healing in a type 4 was 20.8 months with healing defined as no pain or tenderness at the lesion site, no pain with walking, normal ESR, disappearance of abscess, clearance and sclerosis of the joint margins, and fusion of the SIJ.

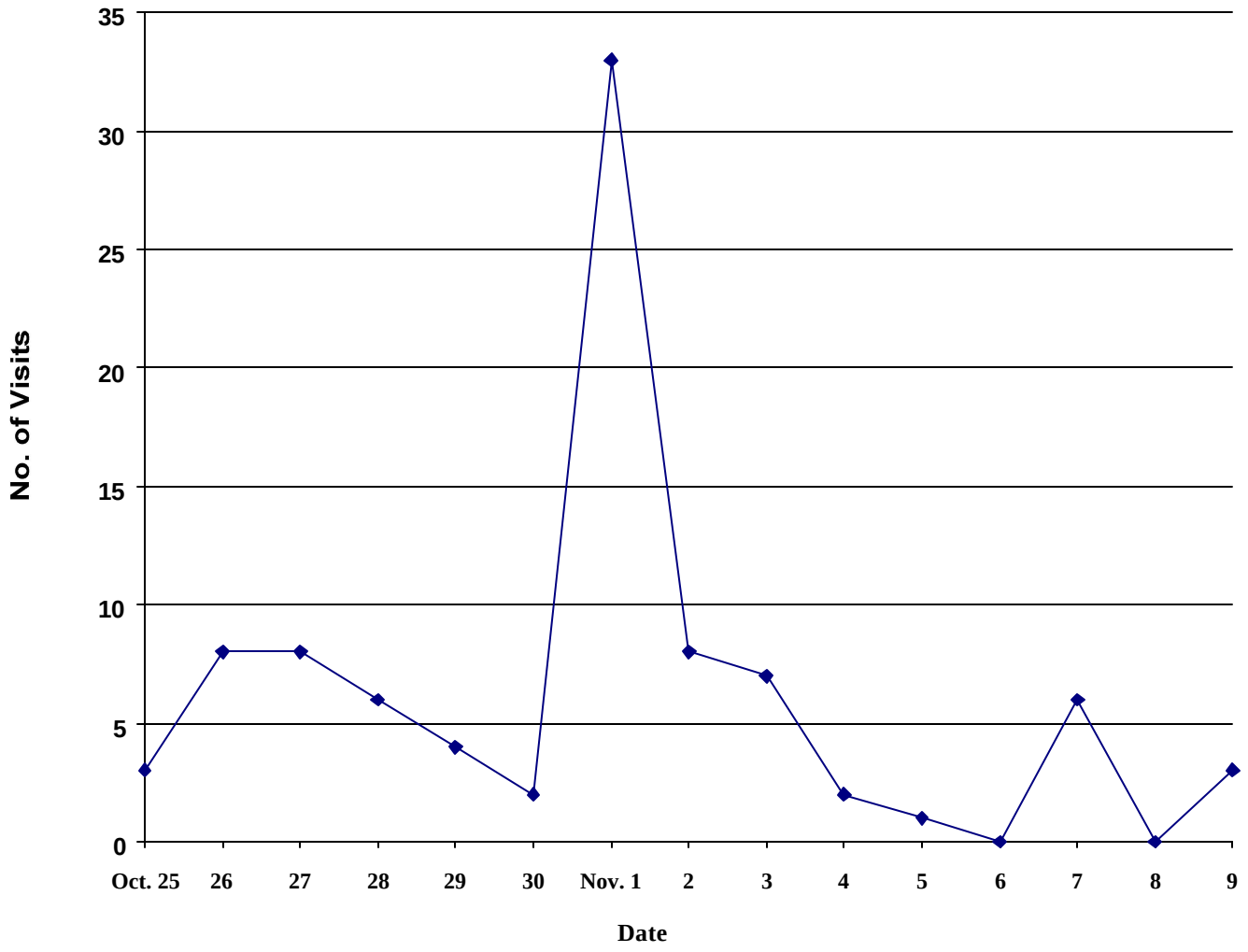
The case presented appears to correlate well with the recent study of SIJ TB with healing already becoming evident. The authors of the study present a useful classification and treatment regiment for SIJ TB, which will require further prospective studies in the future. The presentation of this case, in retrospect, highlights the importance of the proper management and application of the TB screening and prevention program in the Navy. Lack of attention to detail in the program and delays in the diagnosis of TB in a shipboard environment can be devastating to the crew and the mission at hand.

OUTBREAKS

GASTROENTERITIS UNDERWAY

In the Fall of 1999, while enroute to the South West Asian theater, several vessels of a battle group made a scheduled port call in Phukat, Thailand. Shortly after leaving port, all the vessels, two destroyers and a frigate, experienced an epidemic of gastroenteritis. The following data were taken from the SAMS Sick call log of the USS John Paul Jones (DDG 53), collected by us during a site visit in December, 1999. This data was acquired using the "import SAMS data" function of the Naval Disease Reporting System version 3.0. The magnitude of the epidemic is apparent when placed in context of a total ships company of just under 300 sailors. Similar incidence rates are reported from the other two vessels, though their sick call log data is not available at this time. The 33 visits on November 1 represent 11% of the ship's company. These cases were distributed through all departments and ranks. Approximately one half required intravenous rehydration. They were all SIQ for at least 24 hours. Figure 1. displays the epidemic curve.

Figure 1. Sick Call Visits for Gastroenteritis After Port Visit



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