



Pacific Partnership 2007: The First Dedicated United States Ship Humanitarian and Civic Assistance Mission

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Pacific Partnership 2007: The First Dedicated United States Ship Humanitarian and Civic Assistance Mission

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ABSTRACT

The U.S. Navy regularly conducts medical stability operations, and augments the existing medical capabilities on an ad hoc basis with the appropriate equipment and supplies to treat various host nation (HN) populations. This article documents the Pacific Partnership 2007 (PP07) stability operation. It emphasizes the Military Health System's need for patient encounter data, which would help objectively determine appropriate supplies and equipment, and simultaneously provide HNs with more effective medical care. PP07 recorded more than 45,000 patient encounters, trained 5,500 HN students, and provided 1,600 preventive medicine services. The different HNs will experience higher incidences of certain conditions, and these data show a large percentage of patients in the Pacific region present with musculoskeletal, HEENT, respiratory, and skin conditions. Over the long term, patient encounter data collection and analysis may be used to determine these missions' measure of effectiveness.

INTRODUCTION

In 2005, the Department of Defense Directive (DoDD) 3000.05 stated that stability operations were a “core mission” of the U.S. military. However, DoDD 3000.05 did not address the development of doctrine, training, or capabilities to effectively execute these missions. Since then, the Military Health System (MHS) and the U.S. Navy have been regularly conducting stability missions, and augmenting the existing medical capabilities on an ad hoc basis with the appropriate equipment and supplies to treat various host nation (HN) populations. In late 2009, an update to the DoDD 3000.05 assigned the DoD, “responsibility for the identification and development of DoD capabilities to support stability operations.” Additionally, a Military Health Support for Stability Operations instruction, DoDI 6000.16, was issued directing the military departments to “develop MSOs capabilities by organizing, equipping, and training medical personnel to effectively execute MSOs.” The first step toward developing these capabilities is understanding what was involved in previous missions.

This article documents the Pacific Partnership 2007 (PP07) stability operation as a resource to train medical providers for future missions. In addition, this article emphasizes the MHS’s need for patient encounter data, which would help to objectively determine appropriate supplies and equipment, and simultaneously provide the HNs with more effective medical care. In addition to combat operations, the MHS is expected to conduct medical stability operations (MSOs) across the range of military operations, but current deployable asset configurations provide only the active-duty population with sick call and injury treatment. Collection and analysis of humanitarian assistance (HA) patient encounter data will allow evidence-based equipment and supply set development to meet the full range of deployed medical services.

This article describes some of the defining features of PP07, and details specific data regarding the types of patients who were provided care. In the summer of 2007, USS *Peleliu* (LHA 5) visited six Pacific-region countries as a part of the Navy's ongoing Humanitarian and Civic Assistance (HCA) Pacific Partnership program. HCA programs were designed to help HNs build capacity and provide more medical care for their people. The ship made stops in the Philippines, Socialist Republic of Vietnam, Papua New Guinea, Federated States of Micronesia, Solomon Islands, and Marshall Islands. The *Peleliu* PP07 deployment followed two deployments of the hospital ship USNS *Mercy*, first in 2004 for the Banda Aceh tsunami disaster relief mission, and then in 2006 for planned HCA. The PP07 deployment was a proof-of-concept test to determine if a U.S. ship—specifically a Navy ship with substantial medical capabilities that was not a USNS hospital ship—could perform these missions.

At the invitation of the HNs, the PP07 team carried out the HCA mission, enabling the HNs to not only provide direct care, but also build capacity. A number of partner nations (PNs) and nongovernmental organizations (NGOs) cooperated in PP07 and were a vital part of the HCA team. The NGOs included Aloha Medical Mission, Project HOPE, East Meets West Foundation, and UCSD Pre-Dental Society. Canada, Japan, Republic of Korea, Malaysia, Singapore, Australia, New Zealand, India, Papua New Guinea, and Socialist Republic of Vietnam were PNs during the mission. The NGOs and PNs were well integrated into U.S. Navy shipboard life, and, similar to *Mercy's* response to the 2004 tsunami, the U.S. Navy learned to work with many disparate organizations.

Peleliu is a Landing Helicopter Assault vessel; an amphibious ship that usually carries U.S. Marines and equipment to their destination. On its flight deck there are typically an array of helicopters and Harrier jets. For this deployment, *Peleliu* carried four MH-53 helicopters. In the

well deck, there was the usual complement of two Landing Craft Utilities and one Landing Craft Air Cushioned vehicle. Because of its transport capability, *Peleliu*, like other ships of its class, has a unique capability to move large numbers of people and gear to and from shore while underway. This meant that numerous medical and engineering personnel were able to be placed ashore in remote locations. In addition to the people who were able to bivouac ashore, there were—at times—over 350 people and their gear moving to and from *Peleliu* daily.

The medical program had six components: Medical and Dental Civic Action Programs (MEDCAPS and DENCAPS, hereafter collectively referred to as MEDCAPS), surgical care, preventive medicine programs, veterinary care, biomedical repair, and education.

The medical department on board *Peleliu* consisted of approximately 30 people, including 2 physicians, a dentist, an independent duty corpsman, a medical administrator, and 24 corpsmen. A Fleet Surgical Team was also onboard with a general surgeon; a certified registered nurse anesthetist; nurses for the operating room (OR), intensive care unit (ICU), and ward; and a medical regulating officer to handle patient flow. The Fleet Surgical Team added 16 people to the medical department, for a total of 45 Navy medical personnel.

The 4-month deployment began in San Diego, California, with stops in Hawaii and Guam to pick up about 140 people from the various U.S. Armed Forces, NGOs, and PNs to augment the ship's medical crew. At different stops during the mission, NGO and PN personnel would swap out, and overall medical personnel numbers would fluctuate slightly. At any given location, there were between 180 and 220 medical personnel aboard *Peleliu*.

A summary of the PP07 capacity-building activities is found in Table I. Capacity-building activities included providing veterinary services, training, preventive medicine services, and medical equipment repair. The veterinary component is important since animals constitute

much of a village's wealth. The veterinary team and the preventive medicine team administered disease vector control. The preventive medicine team also provided industrial hygiene services, disaster response management training, water and sanitation projects, and education for public health officials. Training for HN medical personnel included lifesaving skills, nutrition, and prenatal care. Biomedical repair personnel fixed many of the medical machines they encountered, such as ventilators and laboratory equipment. For those that were not practical or cost-effective to replace, reports were provided detailing equipment replacement options.

Peleliu has four ORs. One was set aside for emergency resuscitations, which allowed the continuous use of three ORs throughout the various stops. Immediately following surgery, patients were transferred to the ICU for recovery, and then to the ward. Berthing areas were used to hold patients and their escorts before their surgery, and while awaiting ship-to-shore transport following recovery.

Medical providers performed surgeries in the Philippines, Papua New Guinea, Solomon Islands, and Marshall Islands. General, plastic, and ophthalmologic surgical services were offered. The most common surgical procedures were hernia repair (39%) and subtotal thyroidectomy (25%). These two accounted for over half the general surgical cases. Cataract surgery was performed on more than 50% of the eye surgical patients. Other eye surgeries corrected pterygium and strabismus. Pediatric surgical cases were mainly hernia repair and cleft palate/cleft lip repair.

Basic medical care, MEDCAP, was provided ashore at each location of the mission. PP07 MEDCAP mission data, consolidated from daily situation reports, are found in Table II. These data include patients from medical, dental, optometry, and immunization encounters.

When performing a MEDCAP, the advance teams set up locations in conjunction with the HN, and advertised their availability. When people arrived at the site, they registered and were sent to the appropriate clinical area: medical, dental, optometry, dermatology, or immunizations (if they just required immunizations). When registering, the patients were given a triplicate patient encounter form. For ease of use, the patient encounter form had check boxes with common diagnoses organized by anatomical regions and organ systems. Providers also had the option to check a box labeled “other” if the patient’s diagnosis was not listed on the form. In the space after the box, the diagnosis could be handwritten. MEDCAP patients may have been seen by one specialty, such as optometry, or by multiple specialties (e.g., medical and optometry) and, as such, could have multiple diagnoses documented on the form. After seeing the provider(s), the patients took the form to pharmacy or checkout, as appropriate.

At patient checkout, the triplicate copy was separated. The original and first copies were given to the patients after their names were placed on them. The original copy was for the patients to keep for themselves, and the copy was for their HN health department or physician. The PP07 team collected the bottom copy, which included the date of service but not the patient’s name.

The encounter forms were collected and analyzed by researchers at the Naval Health Research Center in San Diego. An optical character recognition (OCR) software program was used to read and recognize the form’s boxes that had been checked by providers and populate a corresponding database. Since the form was not originally developed with the intent to scan, the OCR software and scanning process was unable to capture some data elements, such as dental encounters and age. The Vietnam data are incomplete; many of those patient encounter forms could not be scanned because a different translated form was used. Additionally, there were

incomplete data that could not be used for the analysis. The form's optometry section documents treatments, not diagnoses. The procedure section tallies miscellaneous items such as minor procedures, sutures, wound care, measles immunizations, and prescriptions. The MEDCAP data presented here are the result of the scanned patient encounter forms.

The figure shows the number of diagnoses by specialty for all patients seen by PP07 medical providers. The most common diagnoses were in the musculoskeletal category, followed closely by pulmonary; ophthalmology; head, eyes, ears, nose, and throat (HEENT); and skin. While the optometry section had the largest number of patients seen, the form only captured treatment data such as reading glasses or eye medications. The procedures section also had a high encounter count. Prescriptions were the largest portion of the procedure section, since most individuals seen were given a prescription. However, not all patients who received a prescription had it documented on their form.

Musculoskeletal diagnoses were the most frequent overall, but they were not the most frequent at every location. Table III shows how diagnosis categories ranked by location. Musculoskeletal diagnoses were most common in Papua New Guinea, Solomon Islands, and Micronesia. HEENT diagnoses were most recurrent in the Marshall Islands, and pulmonary diagnoses were most frequent in the Philippines. Vietnam data are not available.

The following is a review of the treatments and most common diagnoses in the top six medical categories: optometry, musculoskeletal, ophthalmology, pulmonary, HEENT, and skin. This examination can be used to advise medical providers who may deploy to these locations on future missions.

Optometry data show that medical providers distributed reading glasses to 5,984 patients and distance glasses to 377 patients during the PP07 mission. Eye drops were given to 321

patients, and 128 patients were prescribed other eye medications. Almost 88% of optometry patients received reading glasses. The Marshall Islands (31.5%) and Philippines (41%) made up a large portion of the optometry patient population. Optometry services were not offered in Micronesia.

Table IV shows the frequency of other recorded conditions by location. Musculoskeletal conditions comprised 11% of the total patient diagnoses. Lower back pain, joint pain, and arthritis accounted for over 50% of the musculoskeletal diagnoses. On future patient encounter forms, arthritis, degenerative joint disease, and joint pain should be combined as a single diagnosis choice labeled joint pain. We combined those categories for the data shown in Table IV.

Ophthalmology diagnoses by location are displayed in Table V. The ophthalmology patient diagnoses may have been documented by either optometry or a medical provider. The most frequent diagnoses were presbyopia, cataract, and blurred vision.

Pulmonary diagnoses data are found in Table VI. Acute and chronic diseases of the pulmonary system constituted approximately 9% of all patient diagnoses. Cough was the main diagnosis in the pulmonary category, and was most frequent in the Philippines. The Philippines also had the highest number of pulmonary diagnoses compared with other locations. Upper respiratory infection, the second most common pulmonary diagnosis, was a choice in both the pulmonary and HEENT categories. This redundancy will be corrected on future patient encounter forms.

Table VII shows the specific HEENT conditions seen during PP07. Medical providers diagnosed over 2,000 HEENT patients during PP07, accounting for approximately 9% of all diagnoses. Medical providers diagnosed otitis media most frequently, and the Marshall Islands

had the largest incidence of this condition. In the HEENT category, the “other” box on the form was frequently marked. Common written diagnoses included ear wax impaction, headache, swollen lymph nodes, and pharyngitis. Headache should be added as a choice on future forms.

Skin-related conditions accounted for approximately 6% of all patient diagnoses (Table VIII). “Other” was the main diagnosis. Written skin disorders included cysts, burns, lipoma, and wounds. Medical providers listed tinea as the second most-common diagnosis. Papua New Guinea and the Solomon Islands had the highest tinea incidence.

CONCLUSIONS

PP07 successfully integrated NGOs and PNs into an HCA mission on a U.S. Ship. *Peleliu*'s capabilities enabled large quantities of people and gear to be carried ashore to perform their engineering and medical work in conjunction with the HN. PP07's various levels of effort data are presented to provide a brief look at the more common patient conditions recorded and types of activities performed during the mission. Overall, the services provided during PP07 were significant—more than 45,000 patient encounters were recorded, 5,500 HN students trained, and 1,600 preventive medicine services provided. The different HNs will experience higher incidences of certain conditions, and these data show that a large percentage of patients in the Pacific region present with musculoskeletal, HEENT, respiratory, and skin conditions. With this in mind, the proper supplies can be estimated prior to deployment to provide appropriate medical care. This is just one area where the availability of robust data can influence medical planning decisions and maximize an HCA mission's impact. PP07 was the first time the patient encounter form was successfully used on an HCA mission. Few HA missions have documented patient encounters in an accessible format with the level of detail required to plan future missions. Having a consistent, robust collection method would not only strengthen HA mission

planning and lead to better long-term results, but could also be helpful for disaster relief planning. There are plans to standardize the patient encounter form so OCR and scanning software can capture more data, including age, sex, and dental and optometry encounters. It would also provide the ability to document pharmacy activity, with mission-specific formulary information.

Over the long term, patient encounter data collection and analysis may be used to determine the measure of effectiveness of these missions. Evaluating the impact of the U.S. military's stability operations should be a priority. If the patient encounter form data were collected consistently, MSOs would be able to use aggregated data for advance medical staff planning and supply procurement, since the Pacific Partnership missions generally visit the same populations each year. Future improvements to the patient encounter form, provider training, and data collection in general will facilitate more effective planning for future HCA missions.

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TABLE I. Capacity-Building Activities Conducted During PP07

Capacity-building activities	Total
Veterinary patients seen	2,614
Veterinary immunizations given	1,793
Personnel trained	5,547
Preventive medicine services provided	1,609
Medical equipment repaired	83
Medical equipment evaluated	131

TABLE II. USS *Peleliu* Patient Encounters by Location

Location	Patient Encounters (No.)
Marshall Islands	11,956
Papua New Guinea	11,191
Philippines	10,642
Solomon Islands	5,201
Vietnam	4,310
Micronesia	2,034
Total	45,334

TABLE III. Diagnostic Categories in Rank Order by Location

Category	Marshall Islands	Papua New Guinea	Philippines	Solomon Islands	Micronesia
Musculoskeletal	2	1	3	1	1
Pulmonary	3	2	1	5	3
HEENT	1	4	2	3	4
Skin	4	3	4	2	2
Gastrointestinal	5	5		4	
Cardiovascular			5		5

HEENT, head, eyes, ears, nose, and throat.

TABLE IV. PP07 Musculoskeletal Diagnoses by Location

Musculoskeletal	Marshall Islands	Papua New Guinea	Philippines	Solomon Islands	Vietnam	Micronesia	Row Total	
	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	%	
Arthritis, joint pain, DJD	1,140	162	357	351	111	58	101	38.27
Lower back pain	998	245	295	248	124	19	67	33.50
Muscle pain	403	61	77	197	38	18	12	13.53
Sprain, strain, tendonitis	78	23	12	25	11	3	4	2.62
Other	308	52	66	78	53	11	48	10.34
Misc. ^a	52	9	13	21	2	1	6	1.75
Totals	2,979	552	820	920	339	110	238	100

DJD, degenerative joint disease. ^aContracture, fracture, gout, and osteoporosis.

TABLE V. PP07 Ophthalmology Diagnoses by Location

Ophthalmology	Papua							Row Total %
	Marshall Islands	New Guinea	Philippines	Solomon Islands	Vietnam	Micronesia		
	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>		
Vision loss ^a	422	24	78	243	63	12	2	18.47
Cataract	305	54	62	142	11	36		13.41
Conjunctivitis	121	37	14	59	5	3	3	5.19
Misc. ^b	106	11	8	78	5	2	2	4.57
Presbyopia	1,191	553	231	155	215	37		52.37
Pterygium	136	46	27	46	5	12		5.98
Totals	2,281	725	420	723	304	102	7	100

^aBlurred vision, vision disturbance, and visual loss. ^bForeign body, eye pain, and glaucoma.

TABLE VI. PP07 Pulmonary Diagnoses by Location

Pulmonary	Marshall	Papua	Philippines	Solomon	Vietnam	Micronesia	Row	
	Islands	New Guinea		Islands			Total	
	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	%	
Lung disorders ^a	396	56	62	243	20	9	6	17.18
Cough	796	93	104	500	33	41	25	34.52
Other	106	23	18	47	11	5	2	4.60
Pneumonia	183	29	40	99	12	2	1	7.94
URI/bronchitis	825	147	134	429	27	11	77	35.77
Totals	2,306	348	358	1,318	103	68	111	100

URI, upper respiratory infection. ^aAsthma, dyspnea, and reactive airway disease.

TABLE VII. PP07 HEENT Diagnoses by Location

HEENT	Marshall Islands	Papua New Guinea	Philippines	Solomon Islands	Vietnam	Micronesia	Row Total	
	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	%	
Upper resp disorders ^a	577	163	33	323	25	27	6	25.78
Misc. ^b	175	43	26	93	10	3		7.82
Goiter	158	1	1	152	3	1		7.06
Hypo/hyper- thyroidism	17	2	1	11	1			0.67
Other	610	162	68	259	33	28	60	27.26
Otitis externa/media	703	260	120	183	98	14	28	31.41
Totals	2,238	631	249	1,021	170	73	94	100

HEENT, head, eyes, ears, nose, and throat. ^aAsthma, sinusitis, and upper respiratory infection/viral syndrome.

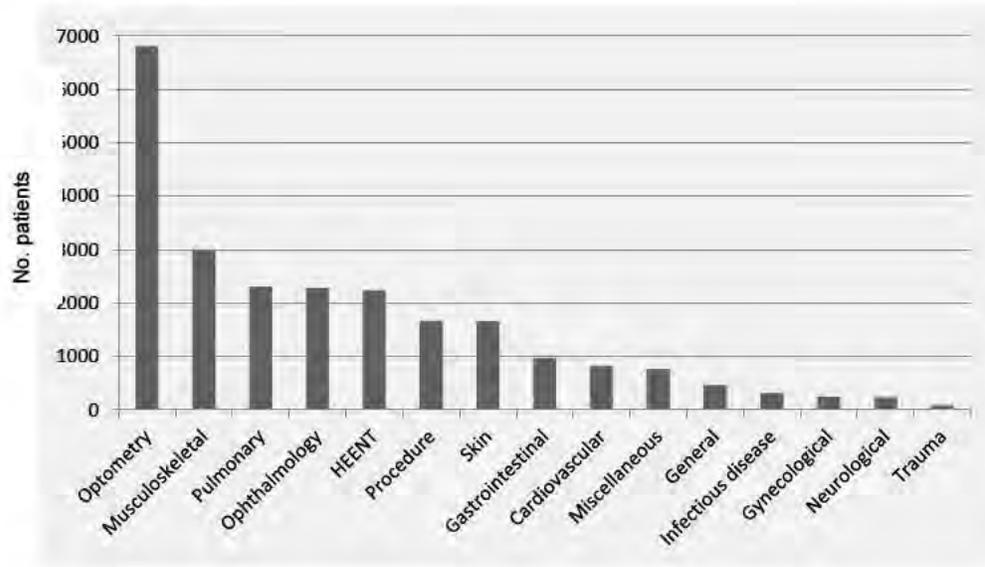
^bForeign bodies, hearing loss, and vertigo.

TABLE VIII. PP07 Skin Diagnoses by Location

Skin	Papua							Row Total %
	Marshall Islands	New Guinea	Philippines	Solomon Islands	Vietnam	Micronesia		
	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>		
Soft tissue								
disorders ^a	118	32	13	53	10	1	9	7.44
Dermatitis	215	22	9	96	18	5	65	10.23
Eczema/psoriasis	96	12	5	68	3	1	7	6.08
Impetigo	128	69	20	32	7			8.74
Other	415	52	43	253	51	4	12	27.51
Scabies	124	48	17	4	39	1	15	7.44
Tinea	439	52	151	36	109	1	90	23.82
Misc. ^b	91	16	7	53	13	1	1	6.14
Totals	1,664	320	269	606	256	14	199	100

^aAbscess and cellulitis. ^bFolliculitis, furunculosis, heat rash, insect bite, lice, pruritus, and warts.

FIGURE. Pacific Partnership 2007 diagnoses by specialty. HEENT, head, eyes, ears, nose, and throat.



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14. ABSTRACT The U.S. Navy regularly conducts medical stability operations, and augments the existing medical capabilities on an ad hoc basis with the appropriate equipment and supplies to treat various host nation (HN) populations. This article documents the Pacific Partnership 2007 (PP07) stability operation. It emphasizes the Military Health System's need for patient encounter data, which would help to objectively determine appropriate supplies and equipment, and simultaneously provide HNs with more effective medical care. PP07 recorded more than 45,000 patient encounters, trained 5,500 HN students, and provided 1,600 preventive medicine services. The different HNs will experience higher incidences of certain conditions, and these data show a large percentage of patients in the Pacific region present with musculoskeletal, HEENT, respiratory, and skin conditions. Over the long term, patient encounter data collection and analysis may be used to determine the measure of effectiveness of these missions.

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