Overview of Preparedness in the U.S. Insular Areas: Territories, Commonwealths, and Freely Associated States

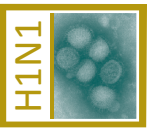
The United States has strategic and economic pacts with two jurisdictions in the Atlantic Ocean and six in the Pacific Basin. Jointly referred to as insular areas, they include territories, commonwealths, and freely associated states. The pacts between the United States and these islands include the provision of federal assistance. CDC's Public Health Emergency Preparedness (PHEP) cooperative agreement provides funding for preparedness activities to health departments on these islands, many of which face diverse challenges related to their isolated geographical locations and socioeconomic conditions.

The U.S. insular areas receiving PHEP preparedness funding are the territories of American Samoa, Guam, and U.S. Virgin Islands; the commonwealths of the Northern Mariana Islands and Puerto Rico; and the three

Micronesia residents queue up to receive H1N1 vaccines in fall 2009. Public health workers traveled for two weeks by boat to deliver the first vaccine shipments to the dispersed islands.

Photo source: Ministry of Health, Yap, Federated States of Micronesia

Guam Responds to the 2009 H1N1 Influenza Pandemic



The 2009 H1N1 influenza pandemic provided a real world opportunity for Guam to activate its plans to receive medical assets from CDC's Strategic National Stockpile. Guam has limited laboratory capacity for confirming infectious diseases such as H1N1 pandemic influenza, but plans to increase that capacity. In the future, Guam may be able to serve as a reference laboratory for the broader Pacific region as well as its own growing population. Guam's population is expected to increase exponentially with the planned relocation of 40,000 U.S. Marines and their dependents from Okinawa to Guam, where the central U.S. military base in the Pacific is located.

Source: CDC, Office of Public Health Preparedness and Response, Division of State and Local Readiness (2009)

freely associated states of the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau.[47]

These areas also received funding specifically for pandemic influenza preparedness through the pandemic influenza supplement in 2006-2008 and, more recently, through the Public Health Emergency Response grant in response to the 2009 H1N1 influenza pandemic.

Preparedness Challenges and Focus

Public health preparedness efforts in the insular areas differ from the U.S. mainland due to their isolation. Methods for communicating about preparedness range from word of mouth and distributing flyers door-to-door to the use of telephones, cell phones with solar chargers, and HAM radios. Internet connectivity is limited and costly. PHEP funds are used primarily for building and maintaining basic capabilities. The current focus is on obtaining equipment, planning, and exercising emergency response plans, with some emphasis on training.

A Range of Surveillance Systems

Disease surveillance and reporting methods in the islands range from well developed, electronic systems connected to CDC's secure Epidemic Information Exchange (*Epi-X*) system and the Health Alert Network (HAN) to more basic, paper-based systems that can be effective in smaller, more remote island communities where electricity may not be available. As of July 2009, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands all responded to HAN test messages within the target time of 30 minutes. The ability of public health staff to receive urgent emerging health information helps ensure that local problems are contained and national events are detected sooner.

Limited Laboratory Capability

Laboratory capability – the ability to analyze biological and chemical specimens – is very limited in the islands. Challenges include large travel distances, slow or little communication between the islands, difficulties in transporting specimens, and lack of training and resources. Another important challenge is the lack of physical infrastructure to support laboratory requirements such as controlled environments and stable power sources. Most of the islands send specimens for confirmatory testing to reference laboratories in the United States and Australia, a practice that is time-consuming; receiving results can take from a week to more than a month.

Improved Planning for Emergencies

PHEP cooperative agreement funding has been instrumental in supporting the development and exercising of emergency response plans for all insular areas. This has resulted in greater preparedness of the public health workforce as well as the communities they serve.

As with states and localities, insular areas receiving PHEP funding are required to report on exercising and improving their response plans. Table 10 presents FY 2008 data submitted by the eight U.S. insular areas. (For a fuller explanation of these data points, see appendix 1.)

Table 10: Public Health Preparedness Activities in U.S. Insular Areas; 2007-2008

	Activating the Emergency Operations Center (EOC)			Notifying Emergency Operations Center Staff			Assessing Response Capabilities through After Action Reports/Improvement Plans (ARR/IPs)		
	EOC activated as part of a drill, exercise, or real incident*	Pre-identified staff reported to the EOC within the target time of 2.5 hours	Conducted at least one unannounced activation	Pre-identified staff notified to fill all eight Incident Command System core functional roles due to a drill, exercise, or real incident*	Pre-identified staff acknowledged notification within the target time of 60 minutes	Conducted at least one unannounced notification outside of normal business hours	AAR/IPs developed following an exercise or real incident*	AAR/IPs developed within target time of 60 days	Re-evaluated response capabilities following approval and completion of corrective actions identified in an AAR/IP
American Samoa	1 time	1 out of 1 times	Yes	1 time	0 out of 1 times	No	4	4 out of 4 times	Yes
Guam	2 times	2 out of 2 times	Yes	2 times	2 out of 2 times	Yes	2	2 out of 2 times	Yes
Marshall Islands	3 times	3 out of 3 times	Yes	2 times	2 out of 2 times	Yes	2	2 out of 2 times	Yes
Micronesia	1 time	1 out of 1 times	Yes	0 times	0 out of 0 times	No	3	3 out of 3 times	No
N.Mariana Islands	2 times	2 out of 2 times	Yes	2 times	2 out of 2 times	No	2	2 out of 2 times	No
Puerto Rico	4 times	3 out of 4 times	Yes	4 times	4 out of 4 times	No	9	9 out of 9 times	Yes
Palau	0 times	0 out of 0 times	No	2 times	2 out of 2 times	Yes	4	3 out of 4 times	Yes
U.S.Virgin Islands	2 times	2 out of 2 times	Yes	2 times	2 out of 2 times	Yes	4	4 out of 4 times	Yes

**Minimum of 2*
Source: CDC, OPHPR (DSLR)

Preparing Children for Emergencies in Palau

In the Republic of Palau, residents feel strongly that they must pass the skills and culture of their traditional heritage to future generations, and preparing for emergencies is no exception. One of the activities funded by the PHEP cooperative agreement is an annual summer camp conducted by the Ministry of Health called Ak Ready ("Are You Ready"). In this camp, children aged 8-12 are taught how to prepare for public health emergencies that threaten their health and their island. Children learn from elders traditional Palauan resiliency strategies, such as how to make baskets from leaves, how to make spears for fishing, how to build a canoe, and how to catch rainwater for drinking. Learning these skills enhances the children's confidence in being able to survive during and after a disaster while learning cultural skills that can be handed down to future generations.

Photo source: Ministry of Health, PW (Palau)

Snapshots of Island Preparedness

American Samoa

American Samoa consists principally of five volcanic islands and two coral atolls covering some 76.2 square miles. (An atoll is an island of coral that encircles a lagoon.) It is located approximately 2,300 miles southwest of Hawaii and about 2,700 miles northeast of Australia. The capital of American Samoa is Pago Pago.

- Emergency plans and equipment funded by the PHEP cooperative agreement supported critical response operations following the tsunami that struck the shores of American Samoa in fall 2009.
- To compensate for the lack of formal public health training available in American Samoa, the Department of Health is working to provide practical training in basic epidemiology and public health for the existing and future workforce, the majority of whom are now recruited from clinical programs.

Guam

The U.S. territory of Guam is the largest and southernmost of the Mariana Islands in the Micronesian region of the western Pacific. It encompasses 212 square miles and is located some 3,800 miles southwest of Honolulu and 1,500 miles south of Tokyo. Hagatna is the capital of Guam.

- PHEP funding supported the development of emergency response plans used to prepare the public health community and the public for a predicted strike by super typhoon Melor on Guam and the Northern Mariana Islands in fall 2009. Super typhoons have winds of at least 115 mph (185 km/h).
- Guam is planning to upgrade their current laboratory to a BSL-2 facility for work involving agents of moderate potential hazard to personnel and the environment. The establishment of this laboratory will eliminate the traditional week-long wait for confirmatory results from California.

Republic of the Marshall Islands (RMI)

The RMI is part of the larger geographic region known as Micronesia, or "Little Islands," and is made up of 29 coral atolls, each comprising many smaller islets, and 5 single islands. The total land area of the approximately 1,225 islands and islets is about 70 square miles, which are spread across a sea area of over 750,000 square miles. RMI's capital, Majuro, lies some 2,300 miles southwest of Honolulu and nearly 2,000 miles southeast of Guam.

- Due to the lack of electricity in some areas and a recent energy crisis in the capital, RMI adopted the use of solar power as a main power source for communications equipment, lighting, and water treatment, in not only remote island atolls but within the main capital as well.
- Emergency plans, training, and equipment funded by the PHEP cooperative agreement has supported critical response operations following the many events hitting RMI on an annual basis. Of particular note in 2009 were floods, the H1N1 pandemic influenza response, and the tsunami warning.

Snapshots of Island Preparedness

Federated States of Micronesia (FSM)

The FSM is a grouping of 607 small islands in the Western Pacific lying just above the Equator and about 2,500 miles southwest of Hawaii. While the country's total land area amounts to only 270 square miles, it occupies more than one million square miles of the Pacific Ocean, and spans over 1,700 miles from east to west. The FSM capital, Palikir, is located on the island of Pohnpei.

- In fall 2009, public health workers traveled for two weeks by boats to deliver the first shipment of H1N1 vaccine to the dispersed islands.
- FSM is focusing on training for first responders and obtaining a better radio communication system for emergencies, including the use of solar-powered systems on remote islands where electricity is unavailable for regular use.

Commonwealth of the Northern Mariana Islands (CNMI)

Located just north of Guam, the CNMI is a 300-mile archipelago consisting of 14 islands, with a total land area of 183.5 square miles. The principal inhabited islands are Saipan (the capital), Rota and Tinian; the northern islands are largely uninhabited. Saipan is 3,300 miles from Honolulu; 5,625 from San Francisco; 1,272 miles from Tokyo; and 3,090 miles from Sydney.

- CNMI is working toward enhancing surveillance by increasing the workforce and implementing an electronic disease reporting system.
- Emergency response plans supported by the PHEP cooperative agreement enabled the CNMI public health community to prepare their workforce and the public for a threatened strike by super typhoon Melor in fall 2009. Super typhoons have winds of at least 115 mph (185 km/h).

Republic of Palau

The Palau archipelago consists of more than 500 islands in the Pacific Ocean stretching over 150 miles, with a total land area of 188 square miles. Only eight of the islands are permanently inhabited. The capital of Palau, Koror, lies 3,997 miles west/southwest of Honolulu; 813 miles south of Guam; and 530 miles from Manila.

- Palau is working to address gaps in emergency preparedness knowledge and skills identified for health care workers, emergency response personnel, staff, volunteers, and targeted populations in the general public.
- The public health community in Palau is using geographic information system coordinates to identify vulnerable populations.

Snapshots of Island Preparedness

Puerto Rico

Puerto Rico consists of one main island and several smaller islands with a total land area of 3,435 square miles between the Atlantic Ocean and the Caribbean Sea. It is located approximately 1000 miles southeast of Florida and 50 miles west of the U.S. Virgin Islands. The capital of Puerto Rico is San Juan.

- Puerto Rico is planning to establish a biological (BSL-2 and 3) and chemical (Level 2) emergency laboratory to serve its own population and those of its Caribbean neighbors.
- Puerto Rico uses global positioning and geographic information systems to ensure better preparedness for identified special populations such as the elderly, children, and tourists. In addition, Puerto Rico has developed an electronic reporting system for emergency management that is compliant with CDC's Public Health Information Network.

U.S. Virgin Islands (USVI)

The USVI are located between the Atlantic Ocean and the Caribbean Sea, some 1100 miles southeast of Florida and 50 miles east of Puerto Rico. USVI consists of 4 larger islands and some 50 smaller islands for a total of about 133 square miles. The USVI capital, Charlotte Amalie, is located on the island of St. Thomas.

- The USVI are conducting trainings in the National Incident Management System and the National Response Plan.
- In fall 2009, H1N1 vaccination campaigns were conducted in all schools on the islands of St. Thomas, St. Croix, and St. John.