

Assistance for Emergency Health

Abstract: The public health agencies of Pacific island nations have the responsibility of maintaining health during national emergencies. Assistance for completion of this task is available to the Pacific islands in the form of technical, informational, educational and humanitarian aid. Assistance for Pacific island preparedness and response may originate from local, jurisdictional, regional and international levels. The Internet also now offers many useful resources for disaster education, collaboration and aid. This article discusses mechanisms and resources that Pacific island health officials may utilize to promote emergency health within their own jurisdictions.

Antonio Rivera*

I. Introduction

Assistance for Emergency Health

Assistance for emergency health is available to Pacific public health and medical agencies from groups at the local, regional and international level. This assistance may be categorized as follows:

- Technical: assessments, consultations and capacity-building
- Informational: internet search engines, journals, list-servers, email, media
- Educational: schools, distance learning, workshops, conferences
- Humanitarian: food, water, shelter, medical care, pharmaceuticals, money, human resources, logistical support and communications

II. Local assistance

Local assistance during an emergency comes from our neighbors ... from the next home, the next village, the next island, and the next nation. This type of assistance is usually the first to arrive after a disaster and in many cases will have a remarkable impact upon the final health outcome of the disaster victims. There are good examples of this cooperation and *working together* among jurisdictions that Pacific island nations may also benefit from knowing.

*Medical College of Georgia, Augusta, GA, USA. Contact: Mark Keim, MD, International Emergency and Refugee Health Branch, Centers for Disease Control & Prevention, 4770 Buford Highway, MS-F38, Atlanta, GA USA 30341-3724

During the 1970's Los Angeles and other cities in California began to grow into large suburbs comprised of separate and independent city and county jurisdictions. Also during this time the area was prone to wildfire. The state soon experienced a phenomenon where wildfires, (ignoring political boundaries as they are known to do), would cross jurisdictions and thus *necessitate* that jurisdiction emergency responders work together to battle the blaze. They were successful. There is a saying that, "All disaster response is local". Local people are most successful when they work together.

So, along with fighting the fire, these local jurisdictions also developed a series of successful methods and approaches for emergency response that are now used throughout the entire U.S., and in many areas of the world. Examples of these successful methods of helping your neighbor include the following:

1. The Incident Command (or Management) System: A system for organizing activities and managing staff to *work together* during an emergency response.
2. Mutual Aid Agreements: pacts made by jurisdictions in advance of a disaster committing to help each other and *work together*.
3. Memorandums of Understanding: pacts made between jurisdictions and other groups in advance of a disaster that describe *how* they will help each other and *work together*.

III. Mutual aid agreements and memorandums of understanding

Local agreements

There are many opportunities for jurisdictions to develop Memorandums of Understanding (MOU's) and/or Mutual Aid Agreements (MAA's) that may occur on a local level. These agreements establish in advance the roles and responsibilities that may be expected among both governmental and non-governmental partners. These agreements may be formed between various sub-national agencies on a state or local level. They may also include agreements between the jurisdictional government and private firms or merchants. Table 1 is a list of examples of private firms and

Table 1. Examples of private firms and groups that may be included within MAA's and MOU's

Local & regional medical, nursing & hospital societies
Private health clinics
Private mental health agencies
Private family service agencies
Hazardous material information services
Poison control information services
Non - governmental charitable organizations, (i.e. Red Cross, Peace Corps, etc)
Private funeral homes
Veterinarians
News media
Heavy construction companies & equipment operators
Refrigeration companies
Water tanker companies
Power plants, utility services, pipeline companies
Portable lavatory suppliers
Radio supply & repair services
Churches
Amateur radio clubs
Hardware stores
Grocery stores
Local charities and community service groups
Local & regional medical, nursing & hospital societies
Private health clinics
Private mental health agencies
Private family service agencies

groups that may be included within these MAA's & MOU's.

Regional agreements

The constitution of the Federated States of Micronesia says that the Pacific Ocean serves to link the island nations rather than separate them. This statement illustrates the valuable asset of good neighbors that Pacific islanders may call upon when faced with disaster. This good neighbor policy is not only limited to the natural goodwill among Pacific island peoples but also reflects the common economic, cultural and family ties that also exist here.

In times of disaster, it's expected that neighbors help neighbors. This expectation may best be planned for and detailed in advance of the event in the form of MAA's and MOU's. This promotes regional relationships and serves to facilitate a more cost-effective sharing of common resources. Pacific regional public health, emergency management and medical organizations have already served as an effective network for emergency health collaborations. These organizations may also serve as platforms for re-

gional cooperation in both preparedness and response efforts.

International agreements

In the case of a major disaster involving this jurisdiction, there are multiple national governments and international non-governmental organizations, NGO's, that would likely respond with assistance. Other nations that may come to offer support and assistance include New Zealand, Australia, France, Taiwan, USA, and Japan. NGO's and International Organizations that may likely respond to a disaster within the jurisdiction may include WHO, Red Cross, Peace Corps and the United Nations, among others. The efficiency of this external assistance may be facilitated and amplified by planning in advance for the process. MAA's and MOU's provide a mechanism for the time sensitive activation and coordination of such humanitarian assistance efforts.

IV. Resources for information, education and communication

In order to work together, neighbors must be able to learn and share valuable information. They must be able to find aid and communicate their needs to this source for assistance. The internet offers a uniquely valuable tool for Pacific public health agencies to gain this information and education, as well as communicate that knowledge with our peers and our constituents. The Secretariat of the Pacific Community's PACNET and the CDC's Pacific Emergency Health Initiative PEHI-NET offer Pacific islanders with an easy access to information and communication resources specifically designed for prevention and control of Pacific island health emergencies. The internet is also now blossoming with a nearly endless list of disaster and emergency-related websites. These contain a broad scope of information and training opportunities to aid in developing emergency in disaster health.

Provided below is a list of websites that contain valuable references from which Pacific island public health and medical workers may also gain additional information and potential resources. While the list is extensive, it is not meant to be all-inclusive. The list does manage to provide general as well as specific information on a variety of topics and should provide an adequate entry point into the virtual realm of public health and emergency management.

Note: all sites are prefixed with http://

V. Internet resources for disaster management and assistance

This list is also available on the PHD site.

United Nations agencies

UN Headquarters

www.un.org/

UN System

www.unsystem.org

UN Office for the Coordination of Humanitarian Affairs (UNOCHA)

www.reliefweb.int/ocha_ol

ReliefWeb: Home page

www.reliefweb.int

UN International Decade for Natural Disaster Reduction (IDNDR) Conference

www.quipu.net:1998

UNDHA Online

156.106.192.130/dha_ol

UN High Commissioner for Refugees (UNHCR)

www.unhcr.ch

www.unhcr.ch/news/newswire/newswire.htm

UN International Children's Emergency Fund (UNICEF)

www.unicef.org

UN Population Fund (UNFPA)

www.unfpa.org

World Health Organization (WHO) Home Page

www.who.ch

E-mail directory

www.who.ch/dir/Email_Dir.html

Program list

www.who.ch/programmes/WHOProgrammes.html

Center for Health Development

www.who.or.jp

Outbreaks (WHO/EMC)

www.who.int/emc/index.html

The Weekly Epidemiological Record (WHO/EMC)

www.who.int/wer/

Pan American Health Organization (PAHO) Home Page

www.paho.org

Disaster/Humanitarian Assistance

www.helid.desastres.net

Food and Agricultural Organization (FAO). Economic and Social Department - Food and Nutrition

www.fao.org/reliefoperations

U.S. Government

USAID Home Page

www.info.usaid.gov

Humanitarian Response

www.info.usaid.gov/hum_response

OFDA Home Page

www.info.usaid.gov/ofda

Field Operations Guide

www.usaid.gov/hum_response/ofda/fog/ifrhome

US State Department Policy - Population, Refugees and Migration

www.state.gov/www/global/prm/index.html

Services

www.state.gov/www/services.html

General Accounting Office

www.gao.gov

Center for Medicare & Medicaid Services

www.hcfa.gov

CDC Home Page

www.cdc.gov

CDC - Bioterrorism

www.bt.cdc.gov

CDC - Emergency Health

dev.nceh.cdc.gov/edphs/default.htm

Health Informatics

inside.nceh.cdc.gov/hio

Department of Health and Human Services (DHHS)

www.os.dhhs.gov

Federal Emergency Management Agency (FEMA)

www.fema.gov

Project Impact: Building a Disaster Resistant Community

www.fema.gov/about/im_steps.htm

FEMA index

fema.gov/fema

Department of Defense, Reutilization Services (government surplus for sale)

www.drms.dla.mil

Uniformed Services University of the Health Sciences

www.usuhs.mil

U.S. non-governmental organizations, NGO's

InterAction - American Council for Voluntary International Action

www.interaction.org

International Service Agencies

www.charity.org

American Red Cross

www.redcross.org

CARE - US

www.care.org

Catholic Relief Services

www.catholicrelief.org

Doctors Without Borders (US)

www.dwb.org/index.htm

International Medical Corps

www.imc-la.com/

International Rescue Committee

www.intrescom.org

Lutheran World Relief

www.lwr.org

Save the Children - US

www.savethechildren.org

U.S. Committee for Refugees

www.irsu-uscr.org

World Vision

www.worldvision.org

International organizations

Medecins sans Frontieres - International

www.msf.org

Oxfam U.K. and Ireland

www.oxfam.org

ICRC

www.icrc.ch

IFRC

www.ifrc.org

RedR (disaster relief)

www.redr.org

The European Community Humanitarian Office (ECHO)

europa.eu.int/comm/echo

General information about disasters

The Global Health Disaster Network(Japan)

hypnos.m.ehime-u.ac.jp

The International Crisis Group (ICG)

www.intl-crisis-group.org

Global Health Disaster Network (USA)

www.pitt.edu/~ghdnet/GHDNet/

Disaster Research Center (Univ. of Delaware/USA)

www.udel.edu/DRC/

Internet Disaster Information Network (USA)

www.disaster.net/index.html

Journal of Prehospital and Disaster Medicine

pdm.medicine.wisc.edu

Disaster Center

www.disastercenter.com

PAHO Disaster Information Page

www.disaster.info.desastres.net

Emergency Net News

www.emergency.com/index.htm

Mass gatherings

British Medical Journal

bmj.com/cgi/content/full/318/7189/957

Natural disasters

Natural Disaster Management

www.ndm.co.uk

University of Colorado Natural Hazards Center

www.colorado.edu/hazards

Geohazards

Association of Bay Area Governments (San Francisco Bay Area)

www.abag.ca.gov/baycare/eqmaps

Earthquake Hazard Center

www.ehc.arch.vuw.ac.nz

European Geophysical Society

www.copernicus.org/EGS/egsga/denhaag99/denhaag99.htm

Earthquake Hazards Program

quake.wr.usgs.gov/recent/index.html

National Earthquake Hazards Reduction Program

quake.usgs.gov/info/othersites.html

National Research Institute for Earth Science and Disaster Prevention

www.bosai.go.jp/index.html

Geohazards International

www.geohazard.org

Redwood City Public Seismic Network

psn.quake.net

Southern California Earthquake Data Center

www.scedc.scec.org

University of Arkansas Earthquake Education

quake.uarl.edu

World-Wide Earthquake Locator (Univ. of Edinburgh/UK)

www.geo.ed.ac.uk/quakes/quakes.html

Quakeline (National Center for Earthquake Engineering Research) (University of Buffalo/USA)

mceer.buffalo.edu

Asteroid and Comet Impact

impact.arc.nasa.gov/index.html

Volcanoes

Volcano World (USA)
volcano.und.nodak.edu/
 US Geological Survey Long Valley Observatory
lvo.wr.usgs.gov/index.html
 University of North Dakota
volcano.und.nodak.edu/vw.html

Floods

University of Wisconsin
www.seagrant.wisc.edu/index.html
 US Department of Natural Resources Floodplain Management
www.nrc.state.nc.us/floodplain/floodplain.html
 Grand Forks Flood 1997, North Dakota
www.draves.com/gf/index.htm
 National Weather Service (NWS) Hydrological Information Center
www.nws.noaa.gov/oh/hic/flood_stats/index.html
 NWS Flood Threat Assessment
www.nws.noaa.gov/oh/hic/nho/index.shtml

Tsunamis

Tsunami Hazard Mitigation
www.pmel.noaa.gov/tsunami-hazard
 Tsunami Community
www.tsunamicommunity.org
 Pacific Tsunami Museum
www.tsunami.org

Hurricanes

International Hurricane Center
www.ihc.fiu.edu
 USGS Hurricane and Coastal Storm page
www.usgs.gov/hurricanes/stormsites.html
 Hurricane information
www.hurricanes.net

Terrorism and Weapons of Mass Destruction (WMD)

Patterns of Global Terrorism 1998 (US State Dept)
www.state.gov/www/global/terrorism/1998Report/1998index.html
 Johns Hopkins Center for Civilian BioDefense
www.hopkins-biodefense.org
 Emergency Response to Chemical/Biological Terrorist Incidents
www.emergency.com/cbwlesn1.htm
 Military Critical Technologies
www.dtic.mil/mctl
 Nuclear, Biological and Chemical Defense (NBC) Product and Service Handbook
www.nbcindustrygroup.com/handbook/index08.htm
 DHHS Transferring Select Agents
www.cdc.gov/od/ohs/lrsat/42cfr72.htm

Biological and Toxic Weapons Convention
www.boku.ac.at/iam/efb/btwc.htm
 NBC (medical information)
www.nbc-med.org/others
 Chemical and Biological Defense Information Analysis Center (CBDIAC)
www.cbiac.apgea.army.mil

Biosafety Information Network and Advisory Service (BINAS)
binas.unido.org/binas
 International Center for Genetic Engineering and Biotechnology
www.rcseb.trieste.it/~bsafeserv

Disaster management**Preparedness and planning**

Asian Disaster Reduction Center
www.adrc.or.jp/top.asp
 Australian Emergency Management
www.ema.gov.au
 Emergency Management Center Oak Ridge National Laboratory
emc.ornl.gov
 Emergency Preparedness Information Exchange(EPIX)
epix.hazard.net
 Texas Cooperative Extension Service Emergency Information
archnet2.tamu.edu/dbilbo/Taex%20Emergency/TAEXtop.htm
 Campbell County, Kentucky Disaster Preparedness
home.fuse.net/ccdes/prepared.htm
 FEMA
www.fema.gov/pte/prep.htm
 Agency for Toxic Substances and Disease Registry (ATSDR) Health Risk and Communication
www.atsdr.cdc.gov/HEC/primer.html
 Disaster Plans
sul-server-2stanford.edu/bytopic/disasters/plan
 Mitigation and Risk Assessment
 The Natural Hazards Mitigation Group (Univ. of Geneva/Switzerland)
www.unige.ch/hazards/
 Act Now Preparedness Update
www.emforum.org/vlibrary/actnow05.htm
 UN Division of Early Warning and Assessment
www.grid.unep.ch/activities/earlywarning/preview

Quality improvement

QI
www.doa.state.nc.us/improve/links.htm
 Quality Improvement for EMS
www.nhtsa.dot.gov/people/injury/ems/leaderguide/#expert

Disaster responders and hospitals**EMS**

California EMS Authority
www.emsa.cahwnet.gov

EMS Magazine

www.emsmagazine.com

Arizona Emergency Medicine Research Center
www.emergencymedicine.arizona.edu/aemrc

Search and Rescue

Urban Search and Rescue (USAR) Sacramento, California
www.mother.com/~hxgarzon/usar.htm

Fairfax County, Virginia USAR

www.vatfl.org

Fire services

FEMA US Fire Administration

www.usfa.fema.gov

HAZMAT

Arizona Emergency Medicine Research Center
www.emergencymedicine.arizona.edu/aemrc

ATSDR

www.atsdr.cdc.gov

Emergency Response to Chemical and Biological Terrorism Incidents

www.emergency.com/cbwlesn1.htm

Chelyabinsk

www.logtv.com/chelya

Hospital

Occupational Safety and Health Administration (OSHA)

Hospital and Community Emergency Response

www.osha-slc.gov/Publications/OSHA3152/osh3152.html

Public sector information**Public health**

Healthy People 2010

web.health.gov/healthypeople

National Institute of Health

www.nih.gov

Rollins School of Public Health, Emory Public Health Links

www.sph.emory.edu/PHL

Mexican Institute of Public Health (in Spanish)

www.insp.mx/index.html

Environmental health

Environmental Defense Fund

www.environmentaldefense.org/home.cfm

National Institute for Environmental Health Sciences

www.niehs.nih.gov

Public works

US Society on Dams

www2.privatei.com/~uscold

American Public Works Association

www.pubworks.com

Food & Drug Safety

US Dept. of Agriculture (USDA) Food Safety and Inspection

www.fsis.usda.gov

Sustainable development

Center of Excellence for Sustainable Development

www.sustainable.doe.gov/wingspread2/wingprin.html

Consultants

Applied Science and Analysis Inc.

www.asanltr.com

Business recovery

Rothstein Association Inc.

www.rothstein.com

Disaster Recovery Information Exchange

www.drie.org

MIT Business Continuity Plan

web.mit.edu/security/www/pubplan.htm

Private and Public Business Inc.

www.ppbi.org

Survive

www.survive.com

Binomial International

www.binomial.com

Financial assistance

National Science Foundation

www.nsf.gov/home/grants.htm

GrantsNet

www.grantsnet.org

World Bank

www.worldbank.org

Medical information**General Medicine**

Medscape

www.medscape.com

PDR

www.pdrel.com

Medscape Primary Care

www.medscape.com/primarycarehome

eMedicine CME on line

cme.emedicine.com

eMedicine Home Page

www.emedicine.com

Emergency medicine

Arizona Emergency Medicine Research Center
www.emergencymedicine.arizona.edu/aemrc
 eMedicine on line Textbook
www.emedicine.com/emerg/topic839.htm
 Society for Academic Emergency Medicine (SAEM)
www.saem.org
 American College of Emergency Physicians (ACEP)
www.acep.org

Infectious diseases

Communicable Disease Surveillance and Response
www.who.int/emc
 Infectious Disease Weblink
pages.prodigy.net/pdeziel

HIV

Global AIDS Program (CDC)
www.cdc.gov/nchstp/od/gap/default.htm

Occupational Medicine

Pathcon Laboratories
www.pathcon.com
 Federal Occupational Health
www.foh.dhhs.gov

Literature searches

Library of Congress
catalog.loc.gov
 National Archives
www.nara.gov
 Library of Congress Newspapers and Periodicals
lcweb.loc.gov/global/ncp/ncp.html
 National Academy Press
www.nap.edu/index.html
 National Academies
www.nas.edu
 Natural Disaster Reference Database
tpwww.gsfc.nasa.gov/ndrd
 Ovid
gateway.ovid.com
 PubMed
www.ncbi.nlm.nih.gov/entrez/query.fcgi
 Learning Resource Center
www.lrc.fema.gov
 Agency for Healthcare Research & Quality
www.ahrq.gov
 Solutions Software Databases
www.env-sol.com
 Medical Journal of Australia
www.mja.com.au

Technical information

Demographic and Health Surveys Home Page
www.measuredhs.com

International Atomic Energy Agency (IAEA)
www.iaea.org
 World Meteorological Organization (WMO)
www.wmo.ch/
 United Nations International Computing Centre (ICC)
www.unicc.org/
 Emergency Medicine Software
promed-windows.com/default.htm
 Safety PAD (hand held device)
www.safetypad.com/default.htm
 Telemedicine sites
www.accord.co.il
www.tvrc.com
www.apollotelemedicine.com
www.wintronixinc.com
 Volunteers in Technical Assistance
www.vita.org

Universities / training organizations

Center for Research on the Epidemiology of Disasters (CRED), Univ. Catholique de Louvaine
www.cred.be
 Center of Excellence in Disaster Management and Humanitarian Assistance (COE)
coe-dmha.org
 European Masters in Disaster Medicine
www.dismedmaster.com
 International Trauma Anesthesia and Critical Care Society
www.trauma.itaccs.com
 University of Wisconsin-Disaster Management Center
dmc.engr.wisc.edu
 The Carter Center Home Page
www.cartercenter.org
 Health Programs
www.cartercenter.org/healthprograms.html
 Emergency Preparedness Information Exchange (EPIX/Canada)
hoshi.cic.sfu.ca/epix/
 UCLA Center for Public Health and Disaster Relief
www.ph.ucla.edu/cphdr
 Humanitarianism and War Project
www.stg.brown.edu/projects/hw/default.htm
 Harvard School of Public Health
www.hsph.harvard.edu

Pacific regional information

Journal of Community Health and Clinical Medicine for the Pacific
www.resourcebooks.co.nz/phd/phd.htm
 Secretariat of the Pacific Community
www.spc.org.nc ■