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# Overview



- Introduction to the National Library of Medicine
- Disaster Information Management Research Center
- Are U.S Hospitals prepared for a Surge Need ?
  - *The Bethesda Hospitals Emergency Preparedness Partnership Model & Sarasota Memorial Hospital*

1836



- NIH Institute
- Employees ~ 1300
- Budget ~ \$360 M
- Free

- *9 million items in collection*
- *1 billion searches of our databases done each year*
- *Biomedical informatics and communications*
- *Collect, Organize, Preserve, Distribute*

An advertisement for Mobile MedlinePlus. It features several mobile phones displaying the website. Text on the right side reads: "Mobile MedlinePlus is available in English and Spanish <http://m.medlineplus.gov/spanish> and includes a subset of content from the full Web site. It includes summaries for over 800 diseases, conditions and wellness topics, the latest health news, an illustrated medical encyclopedia, and information on prescription and over-the-counter medications. For instance, you could visit the "Talking With Your Doctor" page on Mobile MedlinePlus to learn how to get the most out of your doctor's visit. Mobile MedlinePlus can also help you when you're trying to choose an over-the-counter cold medicine at the drug store. And if you're traveling abroad, you can use Mobile MedlinePlus to learn about safe drinking water. Wherever you are, Mobile MedlinePlus puts reliable health information at your fingertips."



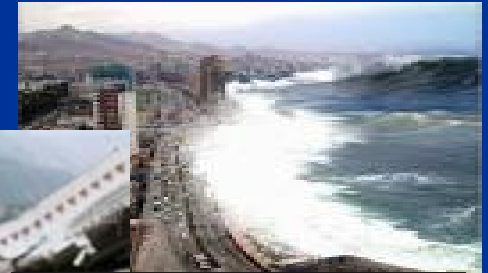
# New focus: Disaster Health Information

- Identify key steps in preparing for & responding to disasters from an information management/ information technology perspective

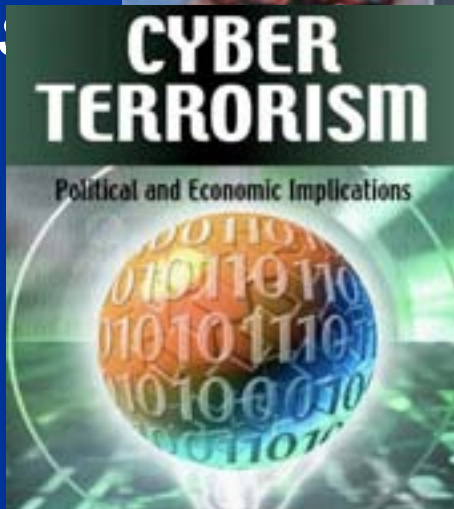


# Disasters

*Acts of Nature*



*Terrorism*



*"Accidents"*






Go

**Disaster Information Management Research Center**  
 Improving access to the nation's disaster information



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SIS Home >

<http://disasterinfo.nlm.nih.gov>

**About the Center**

About the Disaster Information Management Research Center

Fact Sheet

Presentations and Publications for and about the Center

Contact the Center



**Health Resources for Haiti**  
 Get this Widget

**Disaster Information Resources**

Haiti Earthquake *New!*

Disaster and Emergency Response Tools from NLM

NLM Disaster Preparedness and Response Web Links

- Earthquakes
- Winter Weather Emergencies
- Carbon Monoxide Poisoning
- Special Populations
- More...

TOXNET - Toxicology and Environmental Health Resources

Medical and Scientific Literature

- Disaster Glossaries
- Medical Subject Headings
- More...

Information and Referral Tools from NLM

Selected NLM Disaster Resources (PDF)

**Projects, Partnerships and Programs**

Disaster Information Research funded by the National Library of Medicine

NLM Programs Related to Disaster Information

NLM Partners Related to Disaster Information

Libraries and Emergency Preparedness, Response and Recovery

Disaster Information Outreach Email Discussion List

# DIMRC OBJECTIVES

- Organize the literature
- Maintain library operations
- Provide information & tools for responders
- R & D
- Surge Model / Partnerships

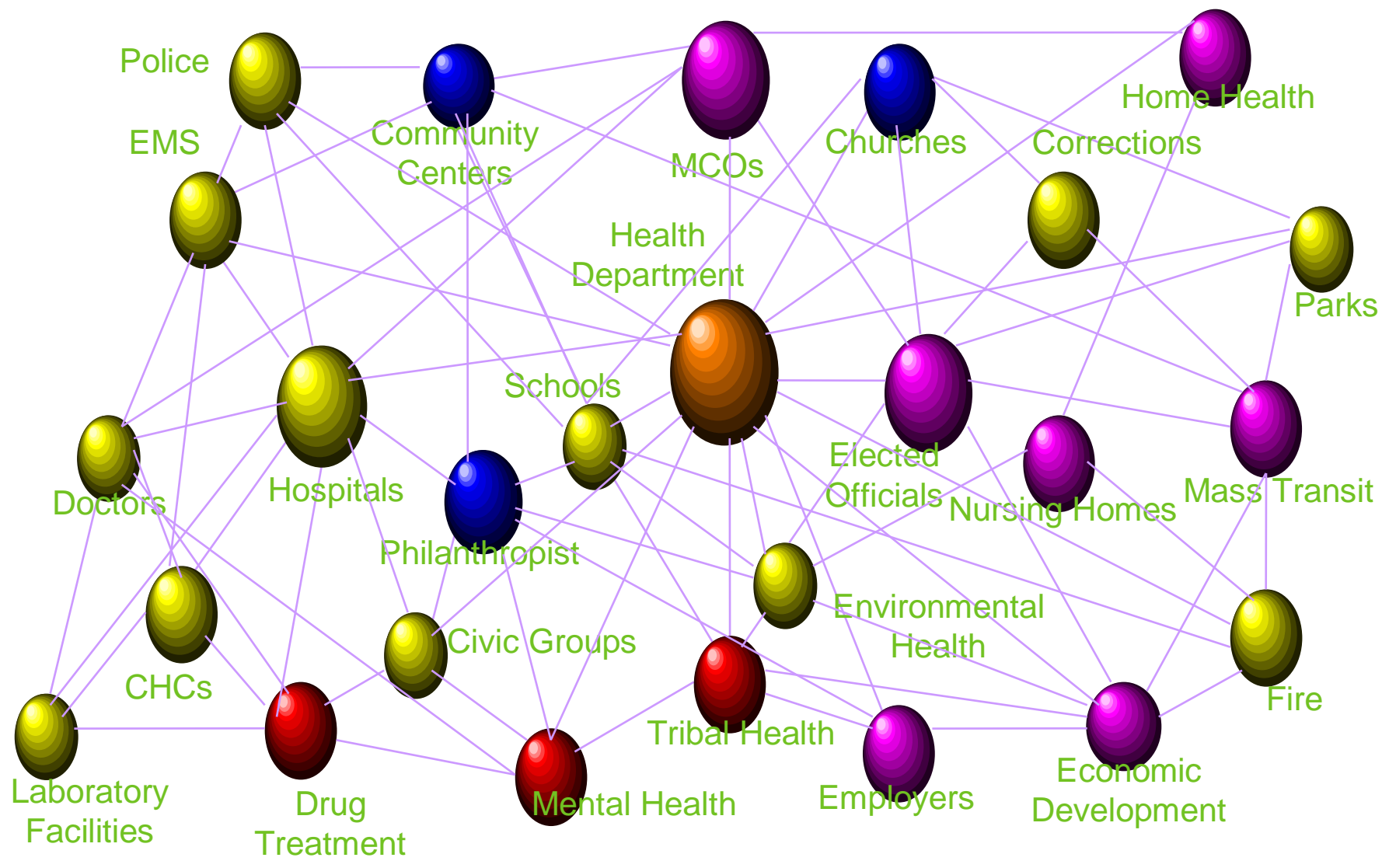
# Commercial

# Non-Commercial



- *Government reports*
- *Homeland Security Presidential Directives*
- *National Incidence Management System*
- *National Response Plan Framework*
- *Conference Proceedings*
- *State publications*
- *Red Cross*
- *Commentaries*
- *NGO publications*
- *Official Reports*
- *Non peer reviewed publications*
- *Community resources*
- *Training design & technologies*
- *Preparedness options*
- *Response plans for different events*
- *Sister Agency Publications*
- *Catalogues*
- *Non Peer Reviewed Journals*
- *Costco Magazine*

# Who will Identify, Organize, Preserve, Distribute this varied, diverse, Non-Commercial Literature (& Commercial)?



# Answer: The Disaster Information Specialist

## *A new subspecialty of library science*

- Support emergency personnel with disaster information
  - + 400 librarians EOC / TOC / DIC &
  - Teamed with disaster planners & responders
  - “just- what-I-need” information “just-in-time”



**Answer is the Librarian**  
**The Disaster Information Specialist Librarian**

***Librarians are excellent searchers !***

# Maintain Library Operations: 5800 NN/LM Libraries of Medicine

Back-Up Plans

Disaster Plans

Emergency Preparedness  
and Response Toolkit

Publishers Emergency  
Access Plan

<http://www.nlm.nih.gov/nnlm/emergency-preparedness-and-response-toolkit/>



# Information & Tools for Emergency Preparedness & Response activities

## Special Populations: Emergency and Disaster Preparedness

### Enviro-Health Links - Tornadoes

### Enviro-Health Links - California Wildfires

### Environmental Health and Toxicology SIS Specialized Information Services

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### Environmental Health and Toxicology SIS Specialized Information Services

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### Enviro-Health Links - Hurricanes: Links to information about preparedness, recovery, and environmental health

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### Disaster Information Management Research Center Improving access to the nation's disaster information

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### Health Resources for Haiti

- Earthquakes and Health
- Haiti Earthquake Web Pages from U.S. Federal Agencies
- Haiti Earthquake Web Pages from Non-Governmental Organizations
- Press Resources from Publishers for Medical Responders
- Multi-language Resources
- Social Media Sites: Haiti Health Information
- Help for Haiti
- Disclaimer



### Earthquake and Health

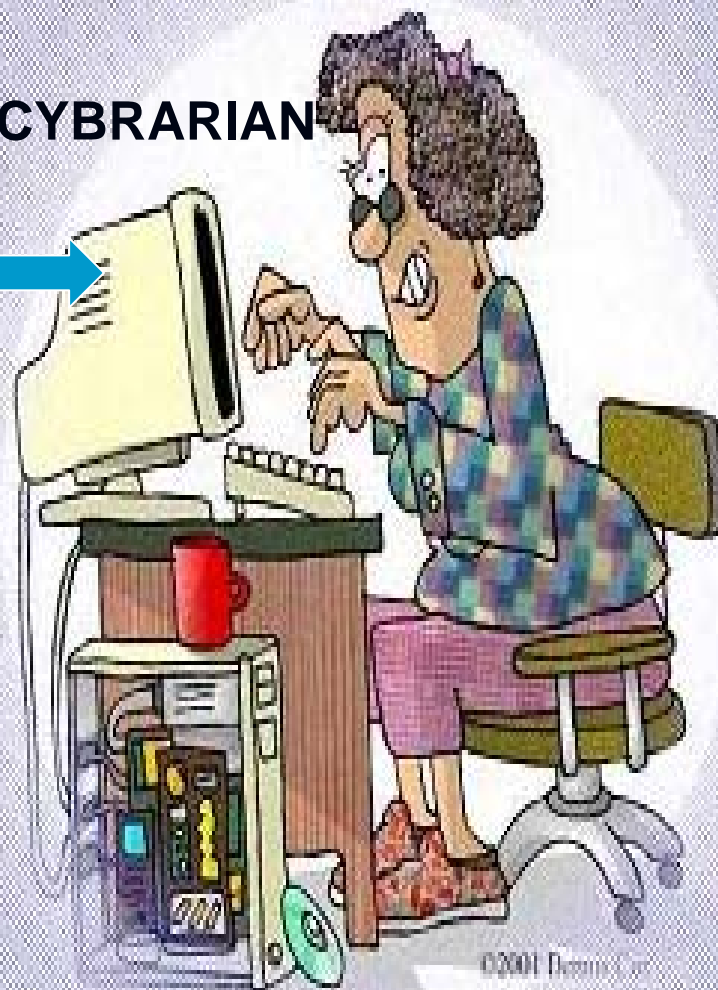
- Traumatic Injuries and Treatment
  - After an Earthquake: Management of Crush Injuries & Crush Syndrome: Centers for Disease Control and Prevention (CDC)
  - Emergency Wound Management for Healthcare Professionals: Centers for Disease Control and Prevention (CDC)
  - Emergency Wound Care After an Earthquake: Centers for Disease Control and Prevention (CDC)
  - Best Practice Guidelines on Emergency Surgical Care in Disaster Situations (PDF, 3.3 MB): World Health Organization (WHO)
  - Prevention and Management of Wound Infection (PDF, 40 KB)

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**LIBRARIAN**



**CYBRARIAN**



# Information & Tools for emergency preparedness & response activities

**United States National Library of Medicine**

**Wireless Information System for Emergency Responders**

NLM-SIS Home About Us Site Map & Search

WebWISER Home Substance List **Help Identify** Tools Help Current Profile: 1st Res

Identify unknown chemicals by selecting 'Search Values' the substance, signs/symptoms from exposure, NFPA 704 next to values indicate the result size if selected. Substances are in the Results list. Click 'Start Over' to clear

Properties Symptoms Categories

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

**REMM**  
RADIATION EVENT MEDICAL MANAGEMENT  
Guidance on Diagnosis & Treatment for Health Care Providers

WHAT KIND OF EMERGENCY? INITIAL EVENT ACTIVITIES **ACCIDENT MANAGEMENT** MANAGEMENT WORKSHEETS TOOLS & GUIDELINES

**WHAT KIND OF EMERGENCY?**

- Radiological Dispersal Devices: Dirty Bomb, Other Dispersal Methods
- Radiological Exposure Devices: Hidden Sealed Source
- Nuclear Explosions: Weapons, Improvised Nuclear Device
- Nuclear Reactor Accidents
- Transportation Accidents
- Discovering an Event

**INITIAL EVENT ACTIVITIES**

- Onsite Activities
- Triage Guidelines
- Hospital Activities

**OTHER AUDIENCES**

- First Responders in the Field
- Mental Health Professionals
- Hospitals
- Public Information Officers
- Radiation Safety and Protection
- Preplanning
- Practices and Drills

**PATIENT MANAGEMENT**

- Choose Appropriate Algorithm
- Evaluate for Contamination/Exposure
- Contamination
- Exposure (Acute Radiation Syndrome)
- Exposure + Contamination

**MANAGEMENT WORKSHEETS**

- Radiation + Trauma
- Burn Triage and Treatment
- Mass Casualty
- Psychological Issues
- Specific Populations

**TOOLS & GUIDELINES**

- Dose Estimator for Exposure
- Template for Hospital Orders
- Use of Blood Products
- Follow-up Instructions
- Population Monitoring
- Management of the Deceased
- Develop a Hospital Medical Response Team
- Develop a State Response Plan

**FEATURES**

- Population Monitoring in Radiation Emergency
- Use of Public Health Emergency Medical Countermeasures Plan for Chemical, Biological, Radiological and Nuclear (CBRN) Threats
- Medical Countermeasures Against Radiological Nuclear Threats (MCAART)

**QUICK LINKS**

- New Users: Where Do I Start?
- Use REMM: User DME
- Patient Management Algorithms
- First Algorithms & Tables
- Listpages of Interest
- Countermeasures
- Decontamination Procedures
- Dose Estimator for Exposure
- Manage MDS Subsyndromes
- Hematopoietic Subsyndromes
- Time/Dose Effects in MDS
- Strategic National Database
- Animations, Illustrations, Photos
- Databases
- Emergency Contacts
- Download This Site (2/4/2017)



TRI facilities (blue) and Superfund NPL sites (red).

**CHEMM**

Internet Explorer  
http://www.nlm.nih.gov/cchemm/

**PTSD/TBI Screener**

Have you noticed less comfort with family and friends or in social situations?

Severity: minimal (1) severe (5)

Need

# R & D -Web 2.0

Blogs

Browser  
Add-ons

Content  
Syndication  
(RSS)

Instant  
Messaging

Mashups

Microblogging

Personalized  
Portals

Photo Sharing

Podcasts

Social  
Bookmarking

Social  
Networking

Tagging

Video Sharing

Virtual Worlds

Widgets

Wikis

# Virtual Worlds & Games for Training & Simulations

3-D computer simulated environments



Users interact via avatars (virtual characters)



Examples: Second Life, Google Lively, Webkinz

# ARE WE READY FOR A SURGE ?

## Emergency Preparedness & Response



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**WAITING FOR SPACE** Emergency-room capacity is stressed under normal conditions, but after a large-scale event such as flooding, it cannot accommodate everyone. In July 2009, the ER at Ben Taub General Hospital, Houston, was so crowded that patients were placed in the hall.

## When **DISASTER STRIKES**

By Dr. Steven J. Phillips and Rear Admiral George R. Worthington, U.S. Navy (Retired)

In the wake of the next big storm, disease, or attack, we can be ready—by preparing now.

# We are Not !

## Studies & reports 2001-2009

- Institute of Medicine
- American Hospital Association
- Lay Media
- 2008 House Committee On Oversight & Gov't Reform reported Emergency Care Capacity Survey in 7 major cities



- *No ER capacity for a surge*
- *Few ICU beds for a surge*
- *Few regular beds for a surge*

# Hospital Surge Response: September 11, 2001



## ■ Bellevue Hospital

- 90 patients presented in 5 hours; 194 triaged/treated in 24 hours
- Hospital lost track of patients, ran out of supplies and struggled with MD staffing

## ■ NYU Downtown Hospital

- Typically treats 5-10 patients per hour; on Sept 11 treated 175 per hour (over 1,500 total)
- Lost electricity, steam, gas, phone and computer services, and had dangerously reduced water pressure



## ■ St. Vincent's Hospital

- Treated nearly 800 patients
- Shared water lines and telecommunications lines with WTC, systems were disrupted

# Hospital Disaster Experience: RI Nightclub Fire (2003)



- 200 injured, 100 killed
- Kent County Hospital received 40 patients in first hour; 25 were intubated
- Ran out of critical supplies and ventilators
- Struggled to support family members
- Communications problems from disaster scene
- Ultimately, 16 New England hospitals received 196 burn victims including a pediatric hospital that received 16 adults

(Dacey, MJ. (2003). NEJM, 1990-2)

**ARE WE  
READY ?**

**We Can Be !**

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STRIKES**

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**In the wake  
of the next big  
storm, disease,  
or attack, we  
can be ready—by  
preparing now.**

# The Bethesda Hospitals' Emergency Preparedness Partnership (BHEPP)

- *2004 Congress earmarked \$ 12.9 million to develop a partnership to respond to an extreme patient surge need in event of major DC disaster*
  - **Leverage combined resources of 3 adjacent hospitals**
  - **NLM conduct research to improve the response**
  - **Develop an exportable model for surge needs**



National Naval Medical Center



Suburban Hospital



NIH Clinical Center



NLM

# BHEPP

## NLM Role: 11 Disaster R & D Projects

### Communications

- Laser Back-up
- Dark Fiber Back-up
- MARS Radio Back-up
- Wireless Voice Bridge

### Patient Information Management

- Digital Pen
- Patient Data Exchange
- Patient RFID Tracking

### Information Access

- Prescription Drug access in Disaster
- Disaster Information Specialist
- Lost Person Finder

### Responder Training

- Virtual World Disaster Training

# BHEPP VIDEO

- <http://www.suburbanhospital.org/Emergency/EmergPreparedness.aspx>



# *NLM Resources to Support the Response to the Earthquakes in Haiti & Chile*





## Disaster Information Management Research Center

Improving access to the nation's disaster information



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### Haiti Earthquake



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- ▶ [Earthquakes and Health](#)
- ▶ [Haiti Earthquake V](#)
- ▶ [Haiti Earthquake V](#)
- ▶ [Multi-language Res](#)
- ▶ [Social Media Sites:](#)
- ▶ [Help for Haiti](#)
- ▶ [Disclaimer](#)

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### Chile Earthquake

- ▶ [Chile Earthquake Information](#)
- ▶ [Information for Responders](#)
- ▶ [Earthquakes and Health](#)
- ▶ [Chile Earthquake Web Pages from Non-Governmental Organizations](#)
- ▶ [Free Resources from Publishers for Medical Responders](#)
- ▶ [People Locators](#)
- ▶ [Social Media Sites](#)
- ▶ [Disclaimer](#)

#### Featured Sites

[Earthquakes - Resources for Response and Recovery](#)  
National Library of Medicine

#### Chile Earthquake Information

- [Terremoto Chile \(Español\)](#)  
[Chile Earthquake \(English\)](#)  
Pan American Health Organization
- [Oficina Nacional de Emergencia del Ministerio del Interior, Chile \(Español\)](#)  
National Emergency Office, Ministry of the Interior, Chile
- [Magnitude 8.8 - OFFSHORE MAULE, CHILE](#)  
U.S. Geological Survey

#### Earthquakes

- [Traumatic Inj](#)

#### Information for Responders



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### Haiti Earthquake

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- ▶ [Social Media Sites: Haiti Health Information](#)
- ▶ [Help for Haiti](#)
- ▶ [Disclaimer](#)

## Emergency Access Initiative

The Emergency Access Initiative (EAI) is a partnership of the National Library of Medicine, the National Network of Libraries of Medicine, and the Professional/Scholarly Publishing Division of the Association of American Publishers. EAI provides free access to full text articles from major biomedicine titles to healthcare professionals, librarians, and the public in the United States affected by disasters.

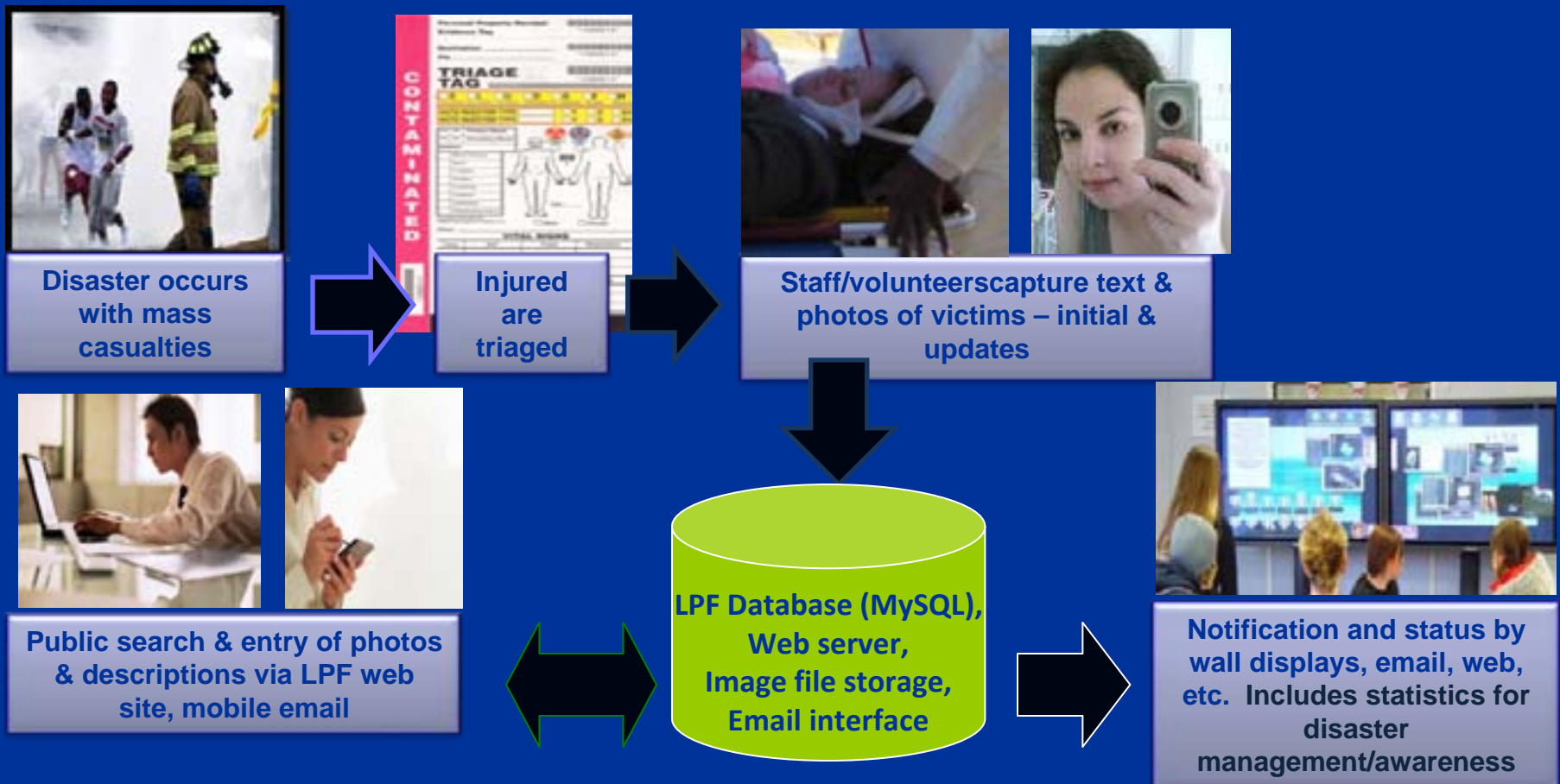
Get Widget

### Earthquakes and Health

- [Traumatic Injuries and Treatment](#)

# Lost Person Finder

**Purpose:** To address a surge of lost persons in a local disaster, by developing a system to enter, search for, & display their descriptions & pictures.

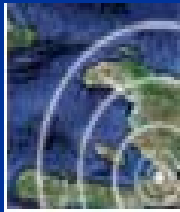


# Haiti Earthquake Person Locator (HEPL)

<http://hepl.nlm.nih.gov>



Found in Haiti  
iPhone App



[disaster@mail.nih.gov](mailto:disaster@mail.nih.gov)



Smartphone

## Interactive Notification Wall

Haitian Earthquake People Locator  
A beta project of the U.S. National Library of Medicine

22 photos from 2022 last month

English / Français / Arabe  
How do I report how do I use this site? Additional Resources Contact/About Us

Search Clear Pause

11 photos from 2022 last month

Name (Subject): Search the web beginning with / and last Reported at: 2010-01-20 10:00:00 ID: 10101010

PFIF Data Exchange

powered by Google

Person Finder: Haiti Earthquake

# Conclusion

Use **Informatics** technologies to provide tools, communications literature, perform research to enhance the **Public Health**



The background of the image is a close-up, slightly blurred view of the American flag, showing the stars and stripes in detail. The flag is waving, creating a sense of movement. The colors are vibrant, with a deep blue field for the stars and bright red and white stripes.

Thank You ?