

Historical Development of Public Health Responses to Disasters

**Public Health Management after Natural Disasters
Preparation, Response & Recovery
Woodrow Wilson Center
17 June 2008 Washington, D.C.**

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500 Year Flood Submerges Iowa

DES MOINES, Iowa, June 16, 2008 (ENS) - "Nearly one third of Iowa is already under water and water levels continue to rise," said U.S. Senator Chuck Grassley of Iowa, urging federal financial assistance for his state. Waters are still rising in many parts of the state and the president responded.

On Sunday, after touring some of the worst flooded areas, U.S. Senator Tom Harkin of Iowa announced a federal disaster declaration for 13 Iowa counties - Adam, Boone, Cerro Gordo, Crawford, Dallas, Dubuque, Floyd, Franklin, Marion, Page, Story, Tama and Union, bringing the number of counties under this designation to 24.



Floodwaters hit 500 year high in Cedar Rapids. (Photo courtesy Iowa DOT)

Now that the counties have been declared, residents and businesses can begin applying for federal disaster assistance.

"These new disaster declarations are vital as we begin the recovery process in some parts of our state. Now more Iowans can apply for assistance and get the help they need," said Harkin. "Still, there is much more work to be done and I will continue to see to it that other

affected counties receive federal assistance."

On the state level, Governor Chet Culver has issued a disaster proclamation for 83 counties. The governor's proclamation activates

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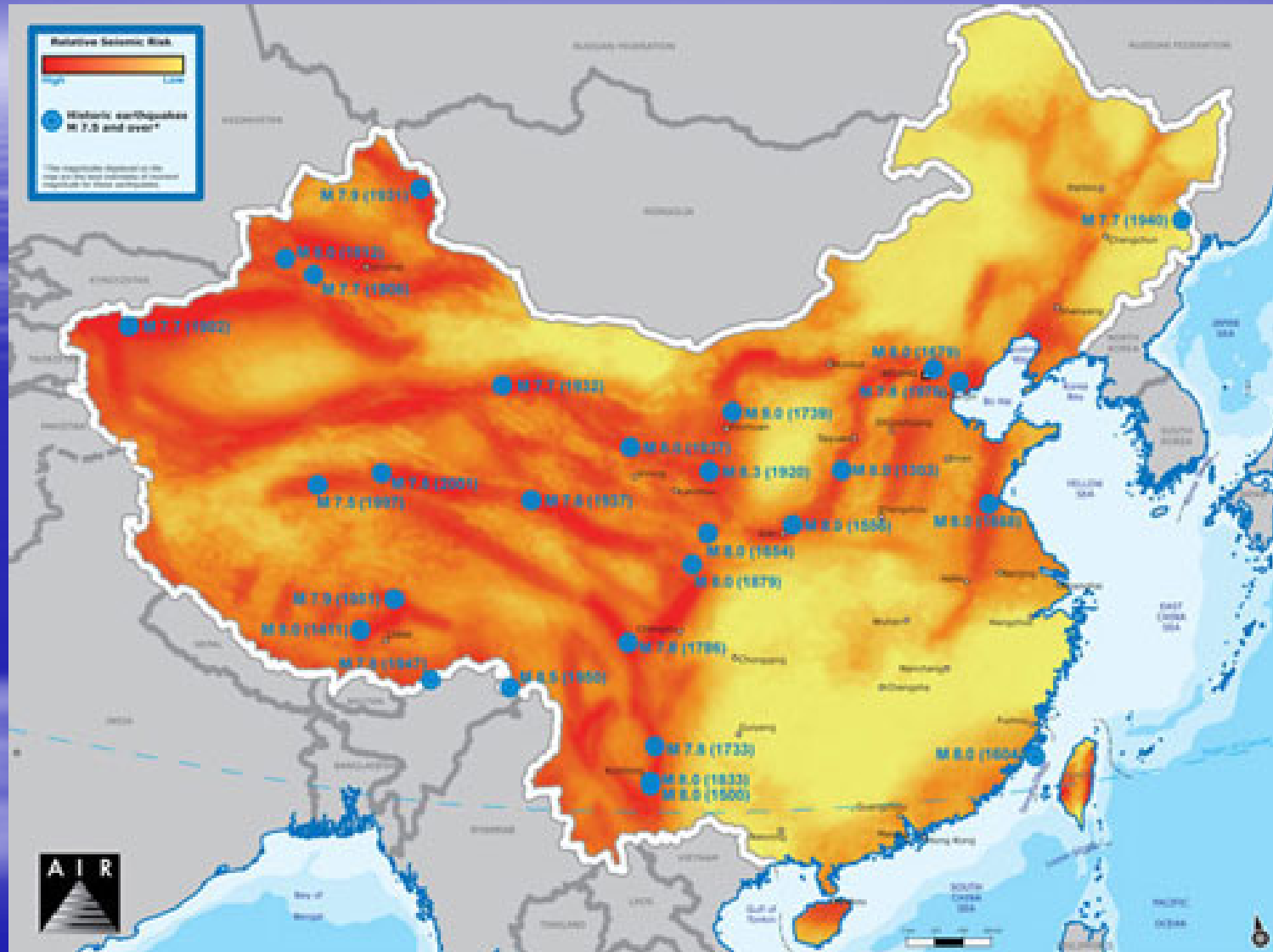
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Agenda

- Despite significant technological and scientific advances, human beings are still extremely susceptible to natural disasters
- Health infrastructures in both developing and developed countries are vulnerable to devastation. **CURRENT RECORD FLOOD DISASTER IN IOWA**
- The current state of disaster relief and humanitarian assistance and health system reconstruction in the context of the historical development of public health responses to disasters.
- **Outline priorities for the future.**

1981

Logue JN, Melick ME, Hansen H.

Epidemiologic Reviews

The epidemiology of health effects of disasters.

1990

Lechat , Michel

Epidemiologic Reviews

The epidemiology of health effects of disasters.

Reports and Comments

The Historical Development of Public Health Responses to Disasters

Eric K. Noji
Centers for Disease
Control

Michael J. Toole
Macfarlane Burnet Centre for Medical
Research

The first of a series of state-of-the-art reviews commissioned to mark Disasters' 21st anniversary, this paper considers key publications on public health aspects of natural disasters, refugee emergencies and complex humanitarian disasters over the past twenty-odd years. The literature is reviewed and important signposts highlighted showing how the field has developed. This expanding body of epidemiological research has provided a basis for increasingly effective prevention and intervention strategies.

Introduction

Disasters: Introduction and State of the Art

Eric K. Noji

From the Centers for Disease Control and Prevention, Washington, DC.

Received for publication January 23, 2005; accepted for publication March 18, 2005.

Fifteen years have passed since the last update on this topic was published in *Epidemiologic Reviews* (1) and 24 years since the first (2). In the intervening years, disaster prevention, mitigation, and preparedness have evolved in important ways (3). Clearly, it was time to update the last review. Fifteen years ago, disaster management was simply left to a few dedicated professionals. Roles were clear: Rescue workers rushed to help victims, and certain agencies stepped in to provide temporary shelter and food. Usually within weeks after the disaster's impact, most people forgot about the disaster—until the next one came to wreak new destruction. Unfortunately, disasters throughout the world, such as the series of four destructive hurricanes that struck the southeast coast of the United States from August to September of 2004 (4) and the tsunami disaster in December 2004, have provided ample opportunities to test the policies and procedures developed in the late 1980s. At least 80

Epidemiology, as the applied instrument of public health interventions, can provide much needed information on which a rational, effective, and flexible policy for the management of disasters can be based. In particular, epidemiology provides the tools for rapid and effective problem solving during public health emergencies, such as natural and technologic disasters and emergencies from terrorism.

After sudden-impact disasters, time constraints and disruption of an area's infrastructure have frequently made it necessary to conduct rapid assessment surveys using non-probability sampling methods. These methods may produce biased results because they are often based on purposive, convenience, or haphazard selection of subjects for interview (6). In the last 15 years, investigators demonstrated the use of a modified cluster-sampling method to perform a rapid needs assessment of health care (7, 8). In the first emergency

Disasters & Emergencies



Natural Disasters



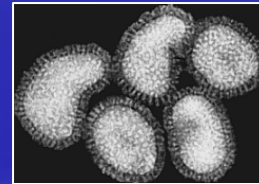
**Transportation
Disasters**



Terrorism



**Technological
Disasters**



Pandemics

Major Disasters Humanitarian Crises 1998-2008

- Kosovo refugee crisis
- Turkey earthquake
- Hurricane Mitch
- Bam, Iran Earthquake
- **Sudan Refugee Crisis**
- **South Asia Tsunami**
- Pakistan Earthquake
- **Hurricane Katrina**
- **Cyclone, Burma**
- **Earthquake, China**

Factors Contributing to Disaster Severity

- Human vulnerability due to poverty & social inequality
- Environmental degradation
- Rapid population growth especially among the poor

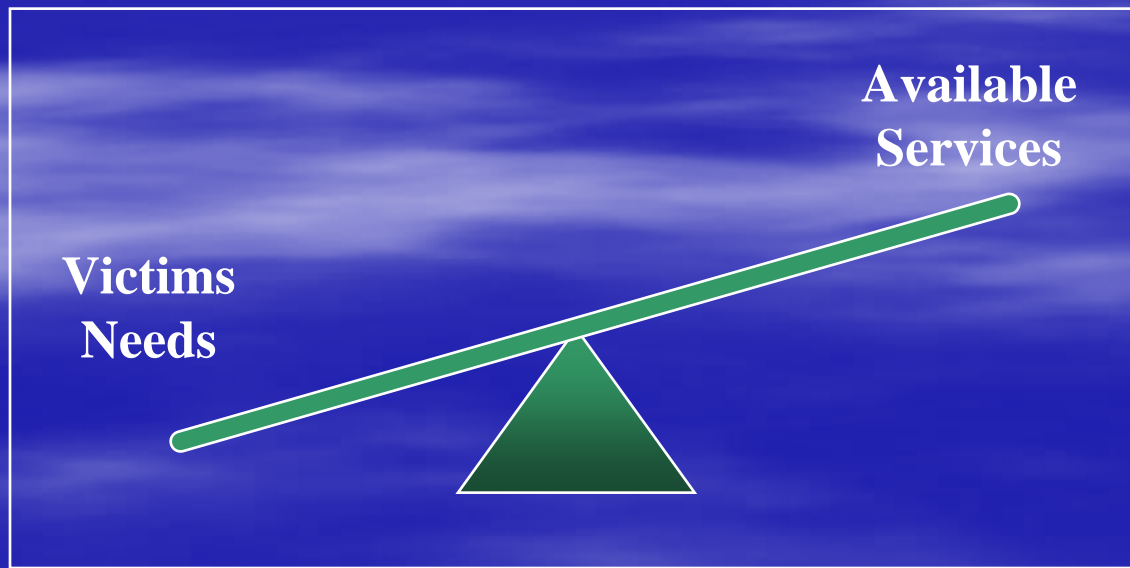
Health Information Needs in Emergency Populations

- **Establish health care priorities**
- Follow trends and reassess priorities
- Detect and respond to epidemics
- Evaluate program effectiveness
- **Ensure targeting of resources**
- Evaluate quality of health care

Data for Decision-Making

Disaster Epidemiology

- **Purpose:**
 - Identify requirements, local capabilities, gaps
 - Avoid unnecessary and damaging assistance



"The reason for collecting, analyzing and disseminating information on a disease is to control that disease. Collection and analysis should not be allowed to consume resources if action does not follow."

William H. Foege, M.D.
International Journal of Epidemiology
1976; 5:29-37

Decision Making without Data

- Need to make decisions rapidly in the absence of data
- Few genuine subject matter experts
- No “textbook” experience to guide response
- Understanding of “risk” will evolve as a pandemic develops and spreads
- ******Need coherent, rapid process for addressing scientific issues in midst of crisis******

Bad communication adds to crisis

- Mixed messages from multiple “experts”
- Late information “overcome by events”
- Over-reassuring messages
- No reality check on recommendations
- Myths, rumors, doomsayers not countered
- Poor performance by spokesperson or leader
- Public power struggles and confusion

A Typical Day at CDC Autumn 2001



The Truth Hurts

Efforts to Calm The Nation's Fears Spin Out of Control

By JOHN SCHWARTZ

IF there's one lesson to be learned from the Bush administration's response to the anthrax threat, it's this: People in the grip of fear want information that holds up, not spin control.

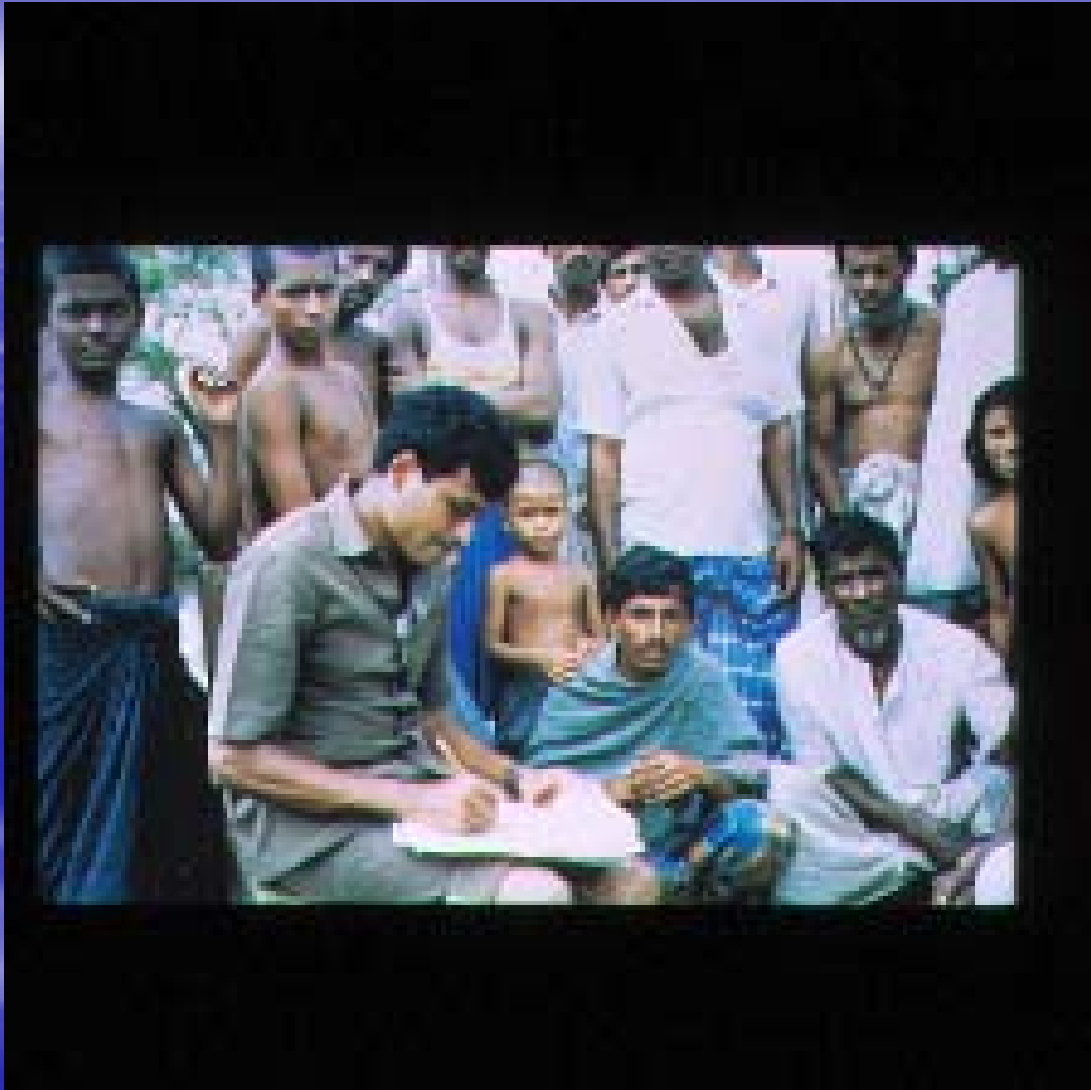
Again and again in recent weeks, administration officials tried to reassure the public; again and again, the situation proved more serious than the officials had suggested. As a result, public trust has evaporated.

While the number of people known to be affected by the disease is still relatively small, and the number of deaths smaller still, the admission that the type of anthrax used was so deadly and so highly refined

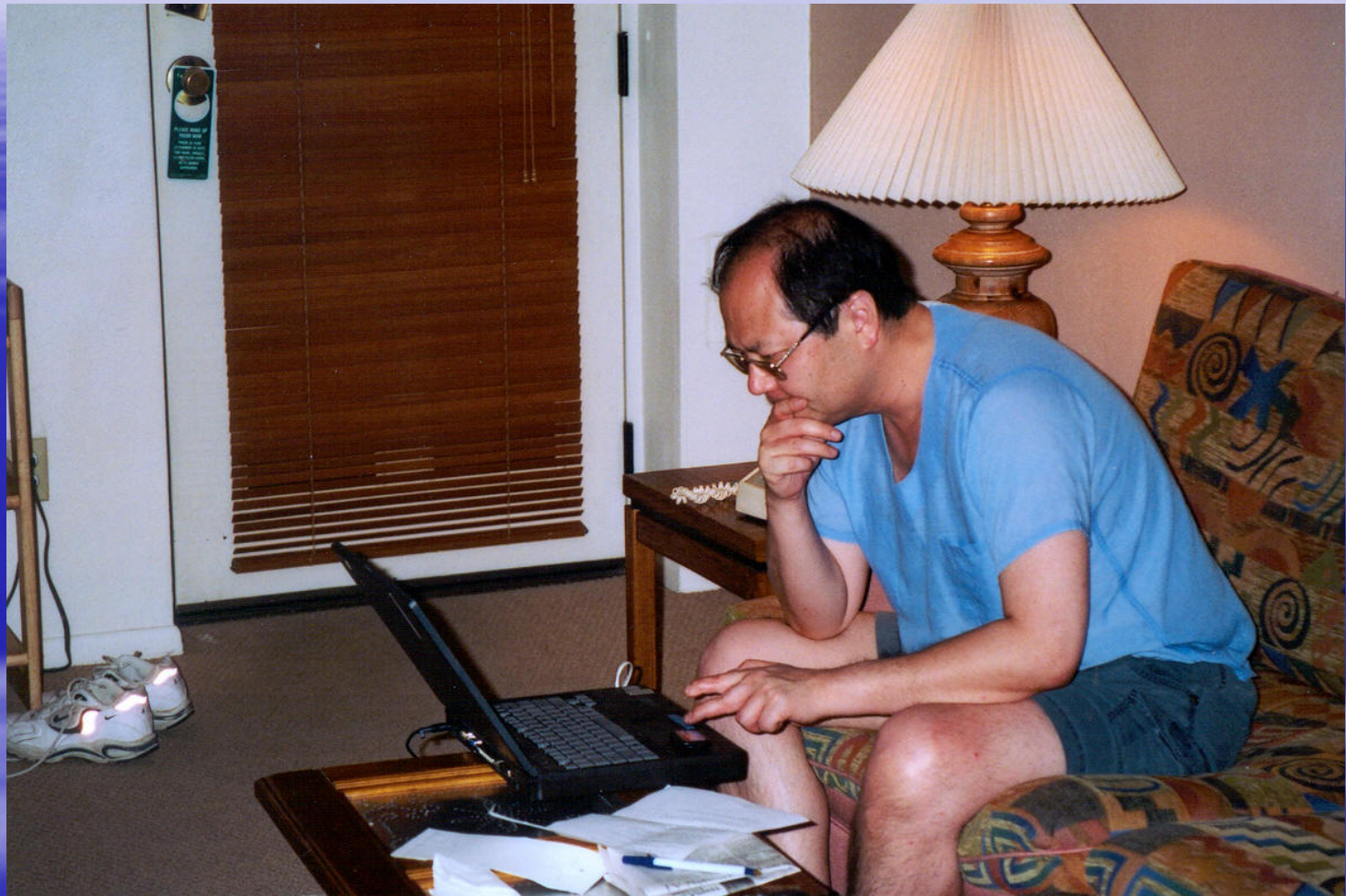
initially not told all that they knew in order to prevent a panic.

A similar back and forth ensued over the proper treatment for postal workers: first, they were told it was not necessary to take antibiotics. Then two postal workers died and officials belatedly realized that ultra-fine powders could easily seep out of the unglued gaps in an envelope's seal, or even through pores in the paper.

The confusion only deepened, for many, the feelings of dread. It began to feel as if the United States was under the kind of relentless attack, against which defense could be futile, that London experienced from Hitler's V-2 rockets.







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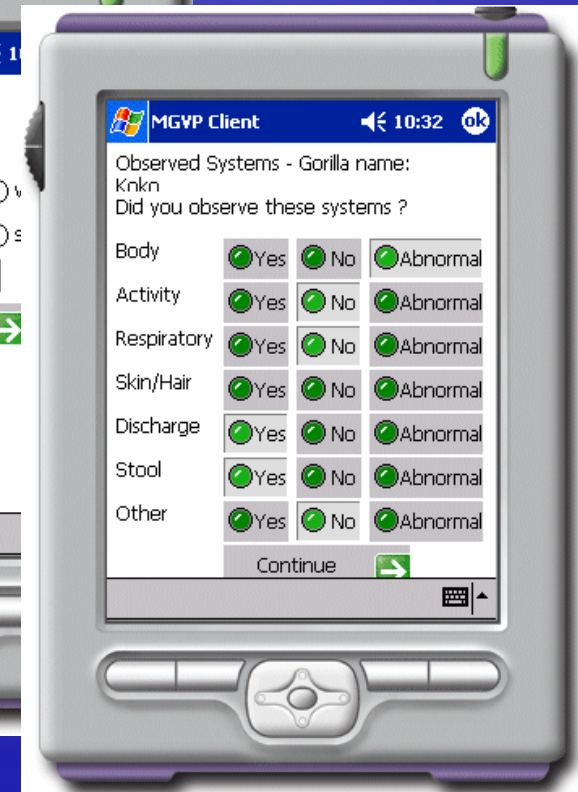
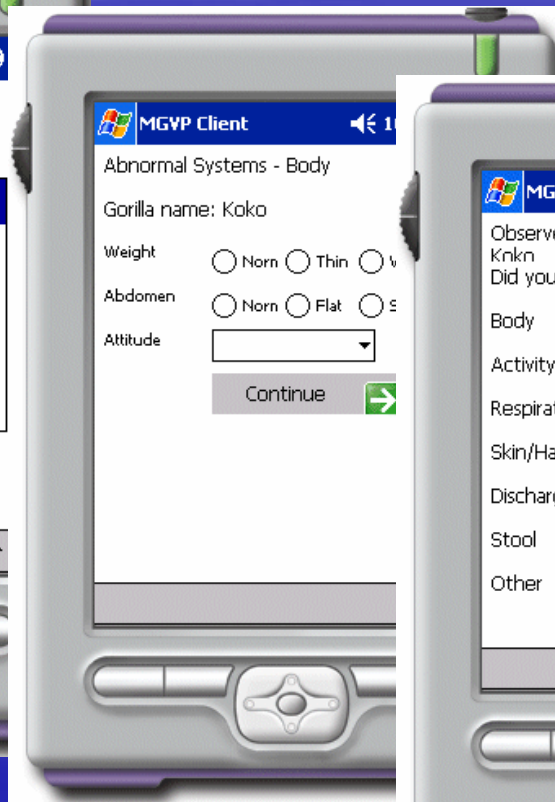
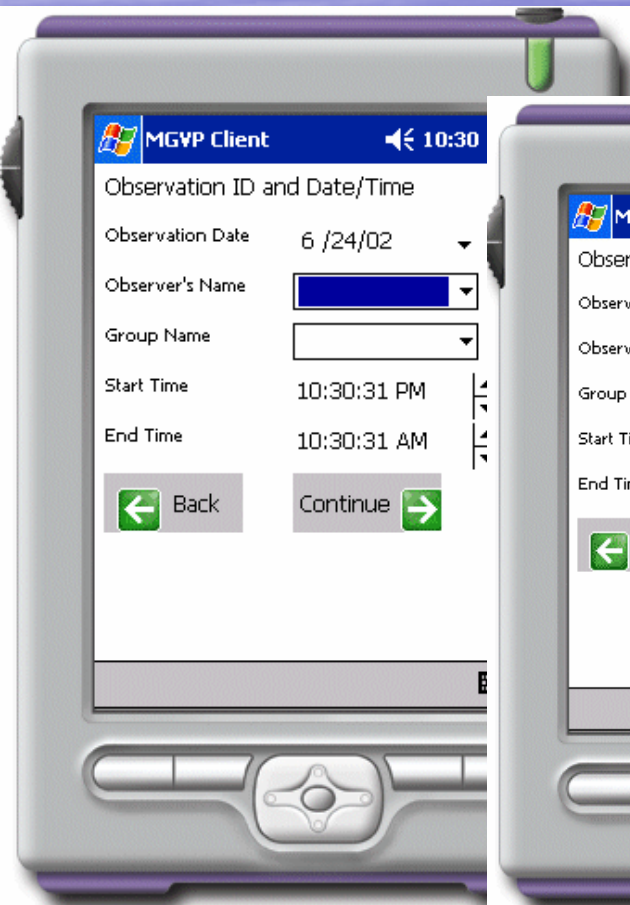
pg. 31

...disaster





Hand-held Screens of Tornado Assessment Forms used last week



On the Hand Held - Acute Disease Survey Form

Mobile 11:39 ok

Enter your interviewer code:
Interview Code *

Enter date of Interview
Date is

Enter Time as

Enter the Sample Number
Sample number *

Enter Telephone Number Called
Telephone *

Was interviewee over 18 years old?

Valid Interview *
 Yes
 No

Edit OK X < > ?

Mobile 11:39 ok

How many people live in your house,
on a permanent basis?
Number *

Was there a problem with this
interview?
Problem?
 Yes
 No
 Unknown

Did Anyone in the house have a fever
of more than 38 C?
Fever
 Yes
 No
 Unknown

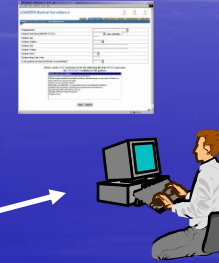
Edit OK X < > ?

Forms-Handheld Process Overview

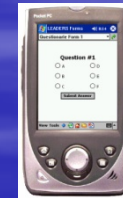
1 **User Defines and Tests Questionnaire (Form) Via Web Interface**



2 **Multiple Users Can Immediately Enter Data directly via Web Form**



3 **Handheld User Selects Forms & Downloads by direct wireless connection or via PC/cradle connection**



4 **User can enter Data via Forms when Handheld is disconnected**



5 **Handheld Data & Forms are Synchronized the Next time device is connected**



Encrypted Traffic

Repository



Rapid Epidemiological Assessment of Health Status in Displaced Populations—An Evolution toward Standardized Minimum Essential Data Sets

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Abstract

Rapid epidemiological assessment (REA) has evolved over the past 30 years into an essential tool of disaster management. Small area survey and sampling methods are the major application. While REA is protocol driven, needs assessment of displaced populations remains highly non-standardized. The United Nations and other international organizations continue to call for the development of standardized instruments for post-disaster needs assessment.

This study examines REA protocols from leading agencies in humanitarian health assistance across an evaluation criteria of best-practice attributes. Analysis of inconsistencies and deficits leads to the derivation of a Minimum Essential Data Set (MEDS) proposed for use by relief agencies in post-disaster REA of health status in displaced populations. This data set lends itself to initial assessment, ongoing monitoring, and evaluation of relief efforts. It is expected that the task of rapid epidemiological assessment, and more generally, the professional practice of post-disaster health coordination, will be enhanced by development, acceptance, and use of standardized Minimum Essential Data Sets (MEDS).

Bradt DA, Drummond CM: Rapid epidemiological assessment of health

Examples of Post-Katrina Recommendations & Reports

- Training and Exercises (? Effectiveness)
- Military and civilian health authorities need better coordination
- Reorganization of government (? If it ain't broke don't fix it)
- Need interdisciplinary research (? Studies in Science by Roger Glass, 1976 and 1980 *Science*, Hopkins earthquake epi research group)
- Need more education, research, "Centers of Excellence"

Centers of Excellence

Academic Centers for Disaster Preparedness

October 2004

University of Illinois at Chicago University of Washington
Columbia University University of North Carolina
at Chapel Hill

April 2005

University of Iowa Saint Louis University
University of Texas

February 2006

Emory University Johns Hopkins University
University of California, Los Angeles Harvard University
State University of New York at Albany University of Minnesota

July 2006

University of California, Berkeley University of Michigan
University of Oklahoma University of South Carolina

March 2007

University of Medicine and Dentistry of New Jersey
Loma Linda University

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DISASTER MEDICINE
AND
EMERGENCY RESPONSE



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CORRESPONDENCE

Center for Research on the Epidemiology of Disasters

- Founded 1972
- Catholic University of Louvain
Brussels







the WHO/PAHO
supply management
system



Pan American Health Organization
World Health Organization





The Sphere Project



Humanitarian
Charter
and Minimum
Standards in
Disaster Response

Myths that won't die

Myth: Epidemics and plagues are inevitable after every disaster.

Reality:

- **Epidemics rarely ever occur after a disaster**
- **Dead bodies will not lead to catastrophic outbreaks of exotic diseases**
- **Proper resumption of public health services will ensure the public's safety**
 - **Immunizations, sanitation, waste disposal, water quality, and food safety**
- **Caveat: Criminal or terror-intent disasters require special considerations (added 25 June 2001)**





Infectious disease risks from dead bodies following natural disasters

Oliver Morgan¹

Suggested citation

Morgan O. Infectious disease risks from dead bodies following natural disasters. *Rev Panam Salud Publica*. 2004;15(5):307–12.

ABSTRACT

Objective. *To review existing literature to assess the risks of infection from dead bodies after a natural disaster occurs, including who is most at risk, what precautions should be taken, and how to safely dispose of the bodies.*

Methods. *Disease transmission requires the presence of an infectious agent, exposure to that agent, and a susceptible host. These elements were considered to characterize the infectious disease risk from dead bodies. Using the PubMed on-line databases of the National Library of Medicine of the United States of America, searching was done for relevant literature on the infection risks for public safety workers and funeral workers as well as for guidelines for the management of the dead and prevention of infection. A small but significant literature was also reviewed regarding the disposal of the dead and the contamination of groundwater by cemeteries.*

Results. *Victims of natural disasters usually die from trauma and are unlikely to have acute or “epidemic-causing” infections. This indicates that the risk that dead bodies pose for the public is extremely small. However, persons who are involved in close contact with the dead—such as military personnel, rescue workers, volunteers, and others—may be exposed to chronic in-*

The major disasters that have taken place throughout history, despite their origin, have one thing in common: the enormous number of people killed. Hurricane Mitch in Central America, the floods in Venezuela, earthquakes in El Salvador, hurricanes in the Caribbean, and disasters caused by humans such as the Mesa Redonda fire in Peru, the supermarket fire in Paraguay, wars, plane crashes, among many others, have taught us important lessons on the subject of mass fatalities. Despite the efforts of experts, the lack of information and deeply held but erroneous beliefs continue to cause unacceptable practices in managing dead bodies in disaster situations.

The Pan American Health Organization invited a broad range of experts to compile this manual, which analyzes the role of the State in coordinating and carrying out the processes of managing dead bodies, which, along with the assistance provided to disaster survivors and the maintenance of basic services, is a fundamental part of disaster response.

This manual provides the technical information needed to support State authorities in the proper management of dead bodies, taking into account the following principles:

- The body of a person killed as a result of a disaster does not pose a risk for infection;
- Mass graves should never be used for burying disaster victims;
- Under no circumstances should mass cremation of bodies take place when this goes against the cultural and religious practices of the affected population;
- Finally, it is necessary to exhaust every effort to identify the bodies, and as a last resort bury unidentified corpses in individual niches or graves. This is a basic human right of surviving family members.

This manual should be of interest to specialists in disasters and in management of human remains, and especially national or local authorities who are responsible for ensuring that bodies are treated in a dignified manner and that the human rights of those affected by disasters are respected.

This publication is available on the Internet at:
www.paho.org/disasters



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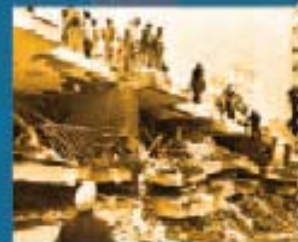


World
Health
Organization

Department for Health Action in Cities
20 Avenue Appia
1211 Geneva 27, Switzerland
crises@who.int
www.who.int/disasters

Management of dead bodies in disaster situations

Management of dead bodies in disaster situations



Pan American
Health
Organization



World
Health
Organization



Management of Dead Bodies after Disasters: A Field Manual for First Responders



**Pan American
Health
Organization**

Regional Office of the
World Health Organization



**World Health
Organization**



ICRC



**International Federation
of Red Cross and Red Crescent Societies**

The importance of myths

- Wrong decisions in disasters can drain resources that should have been used for live saving actions.
- Diverting resources can kill people.
- Some myths have been around for a long time, and stubbornly persist despite having been proven wrong.

A myth too tough to die: The dead of disasters cause epidemics of disease

E. Jacquelyn Kirkis, PhD, RNP, RN, Msc
Tucson, Arizona

Myths abound in the practice of health care, death, and disease. Akin to the old adage of swallowing camels and straining gnats, the myth that mass fatalities cause epidemics of disease following natural or other disasters is alive and well. Despite the findings of observers, microbiologists, epidemiologists, and other scientists, even medical doctors and public health professionals lend support to the ancient belief and rush into mass graves or mass cremations the bodies of those victims of trauma in a disaster. Putting this myth to rest depends on use of information concerning the transmission of the organisms that cause disease, the sources of those organisms, and the hosts or suspected hosts that will be receptive to those organisms to result in disease. The information provided by recent investigators of disasters in the region of the Americas and comments from those who have reviewed the literature on the subject of the myth concerning the dead and epidemics following disasters have provided the basis for some concise guidelines for placing this myth in the archives of other traditions without foundation. Education of the public and the news media are the responsibility of those who are aware of the fallacies in this belief to bring about the demise of this myth. (Am J Infect Control 2006;34:331-4.)

Myths abound in the practice of health care, death, and disease. An example of a recent myth that was

accepting the old over the new. The old is easier, safer, and done with support of colleagues; the new may be



Communicable diseases in complex emergencies: impact and challenges

Lancet 2004; 364: 1974–83

Máire A Connolly, Michelle Gayer, Michael J Ryan, Peter Salama, Paul Spiegel, David L Heymann

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Communicable diseases, alone or in combination with malnutrition, account for most deaths in complex emergencies. Factors promoting disease transmission interact synergistically leading to high incidence rates of diarrhoea, respiratory infection, malaria, and measles. This excess morbidity and mortality is avoidable as effective interventions are available. Adequate shelter, water, food, and sanitation linked to effective case management, immunisation, health education, and disease surveillance are crucial. However, delivery mechanisms are often compromised by loss of health staff, damage to infrastructure, insecurity, and poor co-ordination. Although progress has been made in the control of specific communicable diseases in camp settings, complex emergencies affecting large geographical areas or entire countries pose a greater challenge. Available interventions need to be implemented more systematically in complex emergencies with higher levels of coordination between governments, UN agencies, and non-governmental organisations. In addition, further research is needed to adapt and simplify interventions, and to explore novel diagnostics, vaccines, and therapies.

More than 200 million people live in countries in which complex emergencies affect not only refugees and internally displaced people, but the entire population. Although 10 million refugees are under the protection of the UN High Commissioner for Refugees and can benefit from health interventions, internally displaced people and the conflict-affected population are often dependent on weakened governments (or anti-government forces), UN agencies such as WHO and UNICEF, and non-governmental organisations for delivery of health services. In most complex emergencies, communicable diseases alone, or more commonly in combination with malnutrition, are the major cause of illness and death (see table). Notable exceptions to this rule are the complex emergencies that took place in the former Yugoslavia, Chechnya, and Georgia.

The highest excess morbidity and mortality often occurs

in complex emergencies. These factors include mass population movement and resettlement in temporary locations, overcrowding, economic and environmental degradation, impoverishment, scarcity of safe water, poor sanitation and waste management, absence of shelter, poor nutritional status as a result of food shortages, and poor access to health care. Additionally, the collapse or overwhelming of public health infrastructure and absence of health services hamper prevention and control programmes, with a consequent rise in vector-borne diseases such as malaria, trypanosomiasis, and yellow fever, and vaccine-preventable diseases such as measles and pertussis. The control of tuberculosis and HIV/AIDS is similarly disrupted. These factors are further compounded by absent or unstable governments, ongoing conflict and insecurity limiting access to the affected populations, dearth of drugs and supplies, and multiple

THE
PUBLIC
HEALTH
CONSEQUENCES
OF
DISASTERS

EDITED BY ERIC K. NOJI

Epidemics after Natural Disasters

John T. Watson,* Michelle Gayer,* and Maire A. Connolly*

The relationship between natural disasters and communicable diseases is frequently misconstrued. The risk for outbreaks is often presumed to be very high in the chaos that follows natural disasters, a fear likely derived from a perceived association between dead bodies and epidemics. However, the risk factors for outbreaks after disasters are associated primarily with population displacement. The availability of safe water and sanitation facilities, the degree of crowding, the underlying health status of the population, and the availability of healthcare services all interact within the context of the local disease ecology to influence the risk for communicable diseases and death in the affected population. We outline the risk factors for outbreaks after a disaster, review the communicable diseases likely to be important, and establish priorities to address communicable diseases in disaster settings.

Natural disasters are catastrophic events with atmospheric, geologic, and hydrologic origins. Disasters include earthquakes, volcanic eruptions, landslides, tsunamis, floods, and drought. Natural disasters can have rapid or slow onset, with serious health, social, and economic consequences. During the past 2 decades, natural disasters have killed millions of people, adversely affected the lives of at least 1 billion more people, and resulted in substantial economic damages (1). Developing countries are disproportionately affected because they may lack resources in

human remains do not pose a risk for outbreaks (4). Dead bodies only pose health risks in a few situations that require specific precautions, such as deaths from cholera (5) or hemorrhagic fevers (6). Recommendations for management of dead bodies are summarized in the Table.

Despite these facts, the risk for outbreaks after disasters is frequently exaggerated by both health officials and the media. Imminent threats of epidemics remain a recurring theme of media reports from areas recently affected by disasters, despite attempts to dispel these myths (2,3,7).

Displacement: Primary Concern

The risk for communicable disease transmission after disasters is associated primarily with the size and characteristics of the population displaced, specifically the proximity of safe water and functioning latrines, the nutritional status of the displaced population, the level of immunity to vaccine-preventable diseases such as measles, and the access to healthcare services (8). Outbreaks are less frequently reported in disaster-affected populations than in conflict-affected populations, where two thirds of deaths may be from communicable diseases (9). Malnutrition increases the risk for death from communicable diseases and is more common in conflict-affected populations, particularly if their displacement is related to long-term conflict (10).

Although outbreaks after flooding (11) have been

Noji, the Old and the New? “Let them eat cake!” – Post-disaster mass vaccination.

20 June 20

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Senior Disaster Relief
Training Unit
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College Hospital,
Bangalore, India 560 034
and response to
email:
[Noji, the Old and the
New? “Let them eat
cake!” – Post-disaster
mass vaccination.](#)

The Noji's (alias Noji, the New) clinical review “Public health in the aftermath of disasters” prioritizes mass Measles vaccination in post- disaster relief camps¹. In February 2005, the New England Journal of Medicine editorial ‘Disaster, Water, Cholera, Vaccines, and Hope’, recommended the distribution of Cholera vaccine post-tsunami². In both, there is a general recommendation that fails to stress priorities over mass vaccination. These articles in turn are utilized to insist on routine mass vaccination campaigns in camps. Our experiences³ of eight disasters (Bengal '71, Andhra Pradesh '77, Bhopal '84, Bangladesh '91, Latur-Khilari '93, Orissa '00, Gujarat '01, Andaman Nicobar Islands '05) support Noji's (alias Noji, the Old) previous opinion⁴ on post-disaster mass vaccination. We humbly submit reasons in support of Noji, the Old (against Noji, the New!), why mass vaccinations should not be a routine recommendation.

Scenarios: In normal times, regular safe drinking water, adequate sanitation, regular power, refrigeration and adequate distribution of health care providers are not the norm in our 'real-world'. Their provision still remains priorities in disasters³. This situation and vaccine coverage is improving with coastal Tamil Nadu and the Andaman Nicobar Islands' Measles vaccine coverage >70% (2001). Relief camps are crowded and poorly equipped to cater for basic needs even six months post- disaster. Manpower is deployed to deliver these needs, apart from surveillance and curative services for diseases in this sub-optimal environment.

Past outbreaks: Measles and Cholera have been reported in post- disaster camps⁵, but predominately in areas with pre-existing diseases, poor immunization coverage and when primary basic needs are not priorities or not met. Slow disasters (droughts, famines, prolonged civil unrest, poverty) with prolonged displaced and malnourished populations as compared with fast disasters (tsunamis, earthquakes, cyclones) is common ground for these outbreaks.

Mass vaccinations: The media, bureaucracy, politicians, experts and ‘Disaster Medical Tourists’ seem to thrive on these high profile mass vaccination campaigns that fuel on visuals of dead bodies/carcasses contradictory to facts⁶. This effectively diverts attention from priorities. Unfortunately, these campaigns are usually initiated by authorities with the best of intentions, based on inexperience of ground realities and surveillance. Publications^{1,2,4} that generalize mass vaccination are justification for these decisions taken in isolation. The risks of cholera and measles may exist even without disasters, yet these experts seem to lay low till disasters strike and resources are especially scarce.

Enthusiasm should be directed to improving vaccination coverage on a similar ‘war’ footing during periods of no disaster. The need to vaccinate should indicate a failure to provide adequate necessities post- disaster. Despite the potential for spread of communicable diseases, mass vaccination may be counterproductive diverting limited resources from

health. The provision of safe drinking water for the safe constitution of ORS is a daunting task for disaster teams, let alone vaccine delivery. In the case of the oral Cholera vaccine², regular supplies of available clean drinking water are unusual and when available may be chlorinated. The recommendation that it could curb “third-wave” deaths due to cholera in favour of preemptive vaccination being a potential gift to the tsunami survivors is unacceptable². Economic of mass vaccination programs will be worth the look.

As rightly suggested by Noji⁴ (the Old) and Richmond⁹, rapid need assessments, epidemiological factors, disease surveillance profiles and local voices of the affected determine needs/priorities. The third phase with artificial, crowded communities in relief camps are substrate for the spread of communicable diseases and a ‘secondary disaster’. Contaminated drinking water remains the major sources of rapidly spreading diseases after natural disasters. Top priorities are directed to all aspects of protecting this necessity. During the tsunami, unpublished Andaman Nicobar relief-team’s surveillance documented adequate vaccine coverage and vitamin A status. Acute respiratory infections, skin lesions and injuries especially among children were the morbidity patterns. daily reported the absence of outbreaks of Gastroenteritis, let alone Cholera. Local disease surveillance should determine needs and prevention should concentrate resources on primary public health issues rather than mass va

Marie Antoinette, when told that the peasants had no bread, replied 'Well, let them eat cake.' It is not surprising that Disaster Medicine is described as an interdisciplinary field with few physicians being familiar with principles and unique demands¹¹. In our opinion only Noji can change this!

1. Noji EK. Public health in the aftermath of disasters. Br Med J 2005; 330: 1379-1381. 2. Drazen JM, Klemperer MS. Disaster, Water, Cholera, Vaccines, and Hope. N Engl J Med 2005; 352:827. 3. Lewin S. Health and Psychosocial Consequences of Disasters – A Bangalore Response. In: Disaster Management – A Reader. Eds: Raj S, Chari SK. National Institute of Advanced Studies, Bangalore, 2003: 161-170. 4. Noji EK. Natural disasters. In: Disaster Management. Eds: Kvetan V. Crit Care Clin 1991; 7: 271-292. 5. Piarroux R. [Cholera: epidemiology and transmission. Experience from several Humanitarian interventions in Africa, Indian Ocean and Central America] [Article in French]. Bull Soc Pathol Exot. 2002 Dec; 95(5): 345-50 6. Morgan O. Infectious disease risks from dead bodies following natural disasters. Rev Panam Salud Publica. 2004 May;15(5):307-12. 7. Lucas MES, Deen JL, von Seidlein L et al. Effectiveness of Mass Oral Cholera Vaccination in Beira, Mozambique. N Engl J Med 2005;352:757-8. 8. Humanitarian charter and minimum standards in disaster response. Rev. ed. Geneva: Sphere Project, 2004. 9. Richmond AD. Needs assessment of humanitarian crises. Br Med J 2005; 330:1320-1322. 10. de Ville de Goyet C, Zeballos JL. Communicable diseases and epidemiological surveillance after sudden natural disasters. In: Medicine

Examples of Post-Katrina Recommendations & Reports

- Training and Exercises (? Effectiveness)
- Military and civilian health authorities need better coordination
- Reorganization of government (? If it ain't broke don't fix it)
- Need interdisciplinary research (? Studies in Science by Roger Glass, 1976 and 1980 *Science*, Hopkins earthquake epi research group)
- Need more education, research, "Centers of Excellence"

Education?

- **Lessons unlearned**
- **No institutional memory – only “old people” like me remember Hurricane Andrew, Hugo**
- **Hemorrhaging of experienced staff**
- **Re-inventing the wheel**
- **Why?**
 - **No career track or few full-time positions (FTEs)**
- **No incentivization**
 - **Salary, benefits, etc**

Major Current Initiatives

- Accountability – ALNAP, Harvard Humanitarian Initiative, IASC Global Health Cluster Subgroup
- Health Diplomacy
- Military WILL take the lead (Military-civilians will work together)
- Public-Private partnerships (World Economic Forum Global Relief Initiative)

Humanitarian Relief Initiative

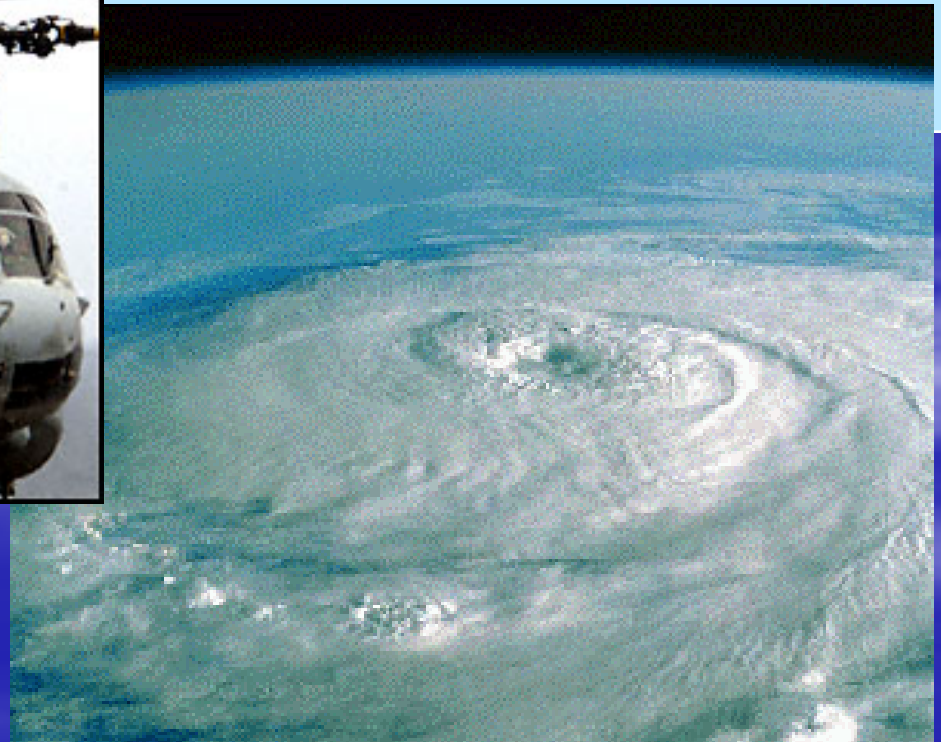
Humanitarian Relief Initiative:

A New Model of Private Sector
Participation in Global
Humanitarian Assistance

*Presentation to the Health
Cluster*

24-28 January 2007

U.S. Military Medicine in International Humanitarian Assistance



Military Assistance in Complex Emergencies: What Have We Learned Since the Kurdish Relief Effort?

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Abstract

After the success of relief efforts to the displaced Kurdish population in northern Iraq following the Gulf War, many in the US military and the international relief community saw military forces as critical partners in the response to future complex emergencies (CEs). However, successes in subsequent military involvement in Somalia, Rwanda, the former Yugoslavia, and other CEs proved more elusive and raised many difficult issues. A review of these operations reinforces some basic lessons that must be heeded if the use of military forces in humanitarian relief is to be successful. Each CE is unique, thus, each military mission must be clearly defined and articulated. Armed forces struggle to provide both security and humanitarian relief, particularly when aggressive peace enforcement is required. Significant political and public support is necessary for military involvement and success. Military forces cannot execute humanitarian assistance missions on an ad hoc basis, but must continue to develop doctrine, policy and procedures in this area and adequately train, supply, and equip the units that will be involved in humanitarian relief. Militaries not only must cooperate and coordinate extensively with each other, but also with the governmental and non-governmental humanitarian relief organizations that will be engaged for the long term.

Sharp TW, Wightman JM, Davis MJ, Sherman SS, Burkle FM: Military assistance in complex emergencies: What have we learned since

What still needs fixing?

- **Sending inexperienced people with no public health training**
- **Ad hoc and anecdotal assessments**
- **Making changes without active local participation**
- **Underestimating the time needed to institute**
- **Concentrating on high tech interventions**
- **Sending a lot of foreign consultants over**

Bottom Line

We know what's wrong.

What we need are positive action steps to come out of high-level meetings and reports.....

....and not rhetoric, platitudes and reciting the same old same old



Final Thought

NOTHING REPLACES WELL TRAINED,
COMPETENT AND MOTIVATED
PEOPLE! **NOTHING!**

PEOPLE ARE **THE** MOST IMPORTANT
ASSET

THANK YOU

