The Public Health Approach in Disasters

Part 1. The public health issues

Public Health approach to displaced populations

- Much of response to the needs of displaced populations has a technical focus—which is appropriate
- Now using a different lens—looking at disasters with a public health view which focuses on—
  - Reducing vulnerabilities
  - Improving health status of population
  - Delivering services efficiently and effectively
  - Understanding all factors affecting population health
  - Managing disasters—a wider remit than just response

Phase-related Health Crisis Management

Prevention & preparedness

Response

Recovery & rehabilitation

Curative services without public health measures proves futile

Diseases

Circumstances

TREATMENT RECEIVED

Malnutrition

Diarrhea

Measles

Malaria

Pneumonia

Scabies

Polluted water

Insufficient water

Inadequate food

Unhealthy environs

Overcrowding

Poor sanitation

Insecurity

Heat or cold

Physical exhaustion

DISEASE RETURNS

Refugees Greek Islands ©UNHCR/Gordon Welter

1. Preparedness

- Many organizations involved in preparedness in disaster-prone areas, and their own management mechanisms
  - Government—national and local/municipal government
  - Local and city governments taking a bigger role
  - Red Cross/Red Crescent
  - WHO/WPRO
  - International and local NGOs
  - Industry

Planning process—All Hazards

- The “All Hazard” approach stresses commonalities of (probable) disasters and population public health needs
- Starts with a strategic risk assessment
- Identify and rank risks
- Locate geographical risks
- Determine the specific public health risks
- Ensure that all hazard approach will encompass these
- Where there are specific disaster characteristics—contingency planning for these is required
- Generates Emergency Operations Plan (EOP)
**Mitigation strategy**

- Mitigation is part of the emergency operations planning
- Starts with hazard prevention
- Some can be prevented, technological, flooding, medical data loss
- Or reduction of health risks related to potential hazards
- Earthquakes—building codes and managing unsafe structures
- Floods—building sites and drainage
- Infrastructural collapse
- Food insecurity from drought

**Governments are ultimately responsible**

- National Disaster & Preparedness commission
  - National disaster plan
  - Disaster Preparedness and Relief Directorate
    - Ministry of Health
    - Ministry of Agriculture
    - Ministry of Defense
  - Regional orgs
  - NGOs
  - INGOs
  - Others

**National disaster policy**

- Lists natural and human induced potential disasters
  - Who has responsibilities for policy & prevention
  - Appropriate preventive actions
  - Disaster Risk Reduction

In some countries a delicate balance exists between govt and other responders.
- RC/RC auxiliary to govt
- NGOs?
Emergency Operations Plan

- Uses the hazard risk assessment to develop disaster management plan for most probably hazards in an integrated and coordinated manner
- Disaster preparedness for common disasters
- Sections for unique events
- Response plan with roles and responsibilities
- Government and non-government agencies
- National plan is mirrored at the provincial and district or municipality level and at the facility level

Risk assessments can help develop preparedness and response plans

<table>
<thead>
<tr>
<th>Services needed</th>
<th>Volcano</th>
<th>Earthquake</th>
<th>Conflict</th>
<th>Tropical Storm</th>
<th>Flood</th>
<th>Techno Hazard</th>
<th>Epidemic</th>
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Sphere handbook-outcomes

| Effect | Complex emergencies | Earthquakes | High winds (without flooding) | Floods | Flash floods/ flash floods
|
|--------|---------------------|-------------|-------------------------------|--------|---------------------------|
| Deaths | Many                | Many        | Few                           | Few    | Many                      |
| Serious injuries | Varies            | Varies      | Moderate                      | Few    | Varies                    |
| Preselect list of communicable diseases | High            | Varies      | Small                         | Varies | Varies                    |
| Food scarcity | Common            | Rare        | Rare                          | Varies | Common                    |
| Major population displacement | Common         | Rare hendrip occur in heavy urban area |  Rare hendrip occur in heavy urban area | Common | Varies                    |

Health needs following an earthquake

Health needs following floods

Hazard and vulnerability maps

Vulnerability to heavy rain Malawi
Estimating state vulnerability

Vulnerabilities-preparing

- Drought—methods to improve food security
  - Stockpiling foods, drought resistant seeds, catastrophe bonds
- Epidemic diseases—vector control, medication stockpiling
  - Outbreak preparedness (cholera in Haiti)
  - Avian influenza-poultry monitoring, and culling
  - Ebola preparedness
- Landslide—deforestation control
- State fragility—many traditional tools, budgetary support, UN mediation, peacekeepers, regional support

Displacement cycle

2. Alert phase

- Important to alert populations at risk, are some pockets which cannot be reached because of isolation from media
  - Accurate data collection is an initial requirement
  - If this fails, everything fails
  - Communications within the public health services is critical
    - Recent Ebola failure an example
    - Ability to link surveillance to urgent requests for support within the health services is important, but works poorly
  - eWARN the WHO system works well, but this is an emergency not a routine system
  - Community needs to know how to respond

Technology has promise, but still not delivering sufficiently

- Palu-disaster. Tsunami buoys were given to Indonesia a decade ago for early warning—but none still work. Other warning technology failed
Alert: case study from Palu

- 28 Sept 2018 large shallow earthquake struck Minahasa, Sulawesi, Indonesia
- Tsunami alert issued and then called off 30 minutes later
- Shortly afterwards a 4-7m tsunami struck Palu killing estimated 4300 persons—deadlist EQ of 2018
- Extensive liquefaction of soil as well
- Displacement of 17,000 persons
- One month later there were 206,524 displaced persons

Response

- Massive outpouring of international assistance
- Local response poorly organized
- Government allowed looting for “emergency purposes”
- Water contaminated by the destruction
- Disease outbreaks reported
  - Diarrhoea
  - Respiratory infections
  - Dengue fever and malaria
- Fear of outbreak of disease from dead bodies
- Mass graves created by government

Management of dead

- This is the job of the first responders—as the specialists are slower in coming
- Key focus in protecting the dignity of the dead
- Supporting the emotions of the bereaved and the community and respecting cultural and religious practices the greatest extent possible
- Dead bodies pose little risk to the community except in certain cases
- Cholera
- Ebola, typhoid
- Plague, anthrax

Actions to take

- Management of the dead part of every disaster plan—and for the first responders
- A list of the missing must be created, and
  - information about the missing must be gathered quickly
  - List will be adjusted when bodies identified
- The allocation of a unique code to each body
- Take photographs and record data about each body as soon as possible
- Placing each body in a body bag, and arrange the orderly temporary storage of the bodies
- This will prepare for identification and forensic procedures
  - This depends on the first responders managing correctly

Health and safety with dead bodies

- Always a fear that dead bodies will cause epidemics
  - Common causes of death are injury, drowning and burns in natural disasters
  - Survivors are more likely to spread diseases
  - Health workers should always follow basic hygiene
  - Resulting political pressure
  - Pressures health workers to take incorrect steps
    - Rapid burials
    - Mass graves
    - Use of lime and disinfectants
  - Always get security clearance before entering an area
  - Consider the emotional impact of the dead on the health workers

Managing the bodies

- Release bodies to families upon identification
- Trench burials may be necessary in some situation
- Unidentified remains retained for forensic examination as long as possible
- Records reflect exact location of bodies from recovery to burial
- Burial sites agreed with the community and families, marked
- Involve families as soon as possible, and maintain regular communication. Inform families before the media
- Use social media, TV, internet to keep families informed
- Engage proactively with the media

After Japan tsunami burial instead of cremation criticized as hasty and non-traditional
### Where are the failures that increase risks?

- Building structures susceptible
- Lack of warning systems at the community level
- Community did not know how to respond
- Evacuation routes and centers not established
- Technological failures
  - A heavy investment in disaster technology
  - In some places it has worked well, but also many failures

### Addressing public health needs in the displaced

- Now the emergency phase has passed, what health services do these displaced need?
- How can these be provided in an effective and efficient manner?
- Access and utilisation are initial concerns
- Soon it often becomes clear that quality is insufficient—which requires additional resources to address

### 3. Health needs in displacement

<table>
<thead>
<tr>
<th>Public health asks:</th>
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<tbody>
<tr>
<td>Where are the neglected?</td>
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<tr>
<td>The female-headed households?</td>
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<td>The aged and disabled?</td>
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<tr>
<td>Physical protection?</td>
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<tr>
<td>Equitable care for males and females?</td>
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<tr>
<td>Livelihoods supported?</td>
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### 3. Health needs for the “out of sight”

- The displaced may be out of sight
- Targeting assistance can be hard in a self settled urban population
- Many of their needs you will not be able to address

- What social services can be provided?
- Mental health needs?
- Economic assistance?

### 4. The “Durable Solutions”

- Preparedness
- Alert
- Disaster
- Return
- Permanent settlement in host country
- Resettlement in 3rd country
4. Settlement or resettlement

- Permanent settlement in host country
- Resettlement in 3rd country

Canada has accepted 50,000 Syrians
900,000 Mexicans settle in USA after fleeing Mexican revolution

5. Health needs in protracted displacement

- Health programming a challenge
  - Resources are much reduced
  - Retaining health workers hard
  - Pressure to provide host services
  - IP violence often a problem
  - Quality often starts slipping

6. The Return process

- Many things affect length of displacement
- Displaced often make their own decisions when to return
- Accurate information on return options often missing
- Security, livelihoods and economic factors influence length of stay
6. The Return process

Many times returns are spontaneous.

- Resettlement
- 3rd country
- Permanent settlement in host country
- Disaster
- Alert
- Preparedness
- 1
- 3
- 4
- 6
- Displacement
- Return

6. What's needed on return?

- Livelihoods
- Protection
- Return
- Health
- Education
- WASH
- Information on making a return is often lacking
- Return to what?
- Rebuild houses
- Title to land
- Others occupying
- Capital to rebuild
- Displacement
- Information about return

6. The Return process

Governments have a relatively short time after conflict or a disaster to start rebuilding and to meet a population's needs. Otherwise:
- Anger
- Bitterness and alienation
- Gov't loss of legitimacy

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Public health tasks for return

- Water supply
- Sewage and waste control
- Immunization coverage
- Access to Primary Health Care
- Supply chain for medicines and supplies
- Competent health work force
- Referral hospital care with functioning
- Surveillance for outbreaks
- Food and nutrition
- Shelter

Mosul 2018
What goes wrong?

- Become refugees or IDPs again
- If the situation is not receptive to returnees, they will leave

In Summary

- The impact of disasters on a population is a cycle
- How well a society manages disasters depends of its preparedness
  - Preparedness can make a disaster more manageable
  - Alerts usually precede disasters, though often missed
  - Populations may be displaced for extended times, and during these times, have special public health needs
- Still, when there is an opportunity to return, this may fail for lack of basic services

Caring for systems failures—public health impact

- Public health challenges for the protracted displaced are difficult
- People are out of sight, and many vulnerabilities
- Few organizations willing to take responsibilities
  - Host governments tire of long-term refugees
  - Non-emergency situations, low priorities
- Funding is always insufficient-political issues arise
- Difficult to maintain continuity of care