HEALTH INFORMATION MANAGEMENT
In Emergency

Regional training course on emergency response operation, Hue, Viet Nam, 23-27 Feb, 2009

Learning Objectives
By the end of this session, the participant should be able to:

- Describe the importance of good information as applied to health emergency management
- Understand information management process
- Describe components of health information management system
- Discuss roles of health emergency management in health information management systems
- Discuss main challenges for health information management
Q&A

- How do health information management systems support health emergency management?

How Do Health Information Management Systems Support Health Emergency Management Functions?

- Risk management
  - Risk assessment
  - Risk reduction planning
  - Risk communication
  - Policy development
  - Capacity development

- Operations management
  - Needs assessment
  - Health surveillance
  - Operational research
  - Policy development
  - Capacity development
How Do Information Management Systems Support Health Emergency Management Functions?

- Early warning and alerting systems
- Training needs analysis and development
- Monitoring and evaluation

Health information systems
- Response coordination
  - Mass casualty management
  - Logistics and supplies

some examples of information management
- Warning Systems
- Public Information and Risk Communication
- Risk Assessment
- Operational Needs Analysis
Information needs in emergency management

- pre-disaster activities: analysis and research (to improve the existing knowledge base), risk assessment, prevention, mitigation and preparedness; and
- post-disaster activities: response, rehabilitation and reconstruction.

Accordingly, there are two categories of disaster-related data:

- Pre-disaster baseline data about the country and risks; and
- Post-disaster real-time data about the impact of a disaster and the resources available to combat it.

Group Activity

- Four groups with following scenarios:
  - Environmental health in a flood in an urban setting
  - Reproductive health in a displaced population setting
  - Early warning in a CD event (AI) in a rural setting
  - Mass casualty in a Tsunami
Group Activity

- Identify the information management requirements
  
  a) Risk management (pre-disaster)
  b) Operational management (at response)

- Questions to be answered by each group:
  - What decisions need to be made?
  - What information is needed?
  - What are your sources of information?

Plenary Session

- What different information and sources of information may there be in preparedness versus response phases?

- How can we improve the quality of information?

- What technologies are available in both preparedness and response phases?

- What similarities / differences you have noted, and what reasons there may be for those similarities / differences?
Information Management - the Process

- Identifying information needs
- Data collection / gathering information
- Processing information / data analysis
- Decision making (recommendations)
- Dissemination and sharing of information
- Monitoring / Evaluation

Information Flows

- gathering
- feedback
- context
- processing
- disseminating
Group Activity

- **SCENARIO** - News flash announcing a wind storm
- Group Activity: Building on the previous group activity, draw a flow-chart representing information flows for health emergency management and your information management activity as an HEM.
- Issues to think about:
  - who needs information for health emergency management in case of a wind storm approaching
  - sources of information for health emergency management in case of a wind storm approaching
  - possible challenges in health information management

*Who Needs Information for Health Emergency Management?*

- Information is needed to enhance the capacity of a community to manage its risks through risk awareness, prevention, preparedness, response and recovery.

- Information is needed by disaster workers, managers and authorities to enable optimal risk management and operations management.
Sources of Information for Health Emergency Response: Warning Systems

- Warning systems should be developed for covering some key areas such as:
  - outbreaks of disease & epidemics
  - severe weather (heavy rainfall / hurricane…)
  - other natural hazards
  - population movements
  - technological and industrial hazards
  - social & political unrest
  - economic crisis: food shortage…
  - war

Warning Systems:
A Tool for Health Emergency Response

- Warning systems should produce appropriate response to minimize harm
- Warning messages should:
  - provide timely information about an impending emergency
  - state the actions to be taken to reduce loss of life, injury…
  - state the consequence of the failure to heed the warning
  - be short, simple and precise
  - contain active verbs
  - repeat information regularly
Sources of Information for Health Emergency Response: Surveillance

- Aims and objectives of public health surveillance
  - Establish priorities, follow trends, identify vulnerable groups, high risk situations & reassess priorities
  - Detect & respond to epidemics as needed
  - Inform day-to-day planning and management decisions on public health action
  - Ensure targeting of resources
  - Evaluate program progress / effectiveness or quality of health care

Practical Steps in Establishing Surveillance System

- Design and field test data collection forms
- Train personnel in data collection
- Define data entry and analysis methods
- Ensure timely decision-making
- Develop feedback mechanisms (newsletters, etc.)
- Promote follow-up and monitoring mechanisms
- Evaluate system periodically
Steps in Establishing Surveillance Systems in Emergencies

- Concentrate on mortality and key morbidities (diseases with high burden and/or outbreak potential)
- Define disease control objectives
  - identify data categories
  - use practical case definitions
- If not already existing service in MOH, assign primary responsibility to one agency or individual
- Establish efficient means of communicating data

Analysis and Presentation of Surveillance Data

- Focus on mortality rates and key morbidity indicators
- Follow trends through graphs
- Ensure routine mechanisms to provide data to program managers in comprehensible format
Sources of Information in Health Emergency Management: Operational Research

- Operational Research from past emergencies provide experience and guidance for both risk planning and operational response.
- Assess needs of disaster affected populations
- Provide data for analysis of risk factors
- Match resources to needs to prevent further adverse health effects.
- Evaluate program effectiveness
- Assess long term effects of emergencies and interventions to emergencies
- Provide guidance in future emergencies

Differences in Operational Research in Emergencies

- Operational research in emergencies differs from non-emergencies in that valid data is needed for immediate decision making.

- Aim to maintain highest research standards possible, but TIMELY results are more important than top quality academic results.

- Data collection under adverse conditions affect methodologies used.

- All human subjects considerations will still apply!
Operational Research: a Tool for Health Emergency Management

- Optional Operational Research studies should augment response decision making. Needless research drains resources and interferes with response operations.

- Operational Research is vital for the development of emergency response as a discipline and vital for continued improvements in Health Emergency Management

Further Resources: Public Information

**Natural Disasters**

**Myths**

1. Foreign medical volunteers with any kind of medical background are needed.

2. Any kind of international assistance is needed, and it’s needed now!

3. Epidemics and plagues are inevitable after every disaster.

**Realities**

- The local population almost always covers immediate lifesaving needs. Only medical personnel with skills that are not available in the affected country may be needed.

- A hasty response that is not based on an impartial evaluation only contributes to the chaos. It’s better to wait until genuine needs have been assessed.

- Epidemics do not spontaneously occur after a disaster and dead bodies will not lead to catastrophic outbreaks of exotic diseases. The key to preventing disease is to improve sanitary conditions and educate the public.
Further Resources: Emergency Related Journals / Text

- **Journal of PREHOSPITAL AND DISASTER MEDICINE**
  - Medicine Pre-Hospitale et Medicine Prehospitaria y de Catástrofes

Further Resources: Technical and Training Material

- **World Health Organization**
- **UNHCR**
- **Publications Catalog**
- **CDC**
Further Resources: On-line, up-to-date Information on Disasters

Components of a Disaster Information Management System

Key components of a Disaster Management Information System would be a database of:
- Hazard Assessment Mapping;
- Vulnerability Assessment;
- Demographic Distribution;
- Infrastructure, Lifelines and Critical Facilities;
- Logistics and Transportation Routes;
- Human and Material Response Resources;
- Communication Facilities.
Roles of the Health Emergency Manager in Managing Health Information?

- Analysis of data and information; identification of gaps
- Coordination and capacity development of health information systems
- Dissemination of information to
  - Guide decision makers
  - Determine operational responses
  - Inform the public
- Monitoring, reporting, and evaluation

Challenges of Health Information Management: Changing Information Needs

- Information needs are different throughout the risk management process
- Information needs are different throughout the different phases of a disaster
Challenges for Health Information Management: Information Credibility

- Information credibility is enhanced through collection, analysis and delivery by known, credible persons or organisations

- Information credibility is enhanced by use of standardized methods of data collection, use of validated indicators and use of best practice

Challenges for Health Information Management: The Right Information

- **What kind of information are we talking about?**
  - Risk reduction information
    - hazards and the environment in which they coexist
    - the elements - physical and human - at risk and the degree of vulnerability
    - community awareness of their of risk and degree to which they accept this risk

- Wide variety of disciplines

- Past, present and future
Learning Objectives a review

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THANK YOU