WHO Frameworks and strategies for comprehensive disaster risk management for health security threats

13th ASEAN & Japan High Level Officials Meeting on Caring Societies
20 – 22 October 2015, Kobe, Japan

Alex Ross, Director,
WHO Centre for Health Development (Kobe)
INTRODUCTION
**Locations of WHO HQ, Regional Offices & Research Centres**

- **Manila/WPRO**: SEAR (11), WPR (27)
- **Geneva/HQ**: WPR (27)
- **Cairo/EMRO**: EUR (52), AFR (46)
- **Brazzaville/AFRO**: AMR (35)
- **Washington DC/AMRO**: AFR (46)*
- **Kobe/WKC**: EMR (22)
- **Delhi/SEARO**: EUR (52), SEAR (11), WPR (27)

* Number of countries

The boundaries shown in this map do not imply official endorsement or acceptance by WHO.
“Prevention and preparedness is the heart of public health. Risk management is our bread and butter.”
“Our greatest concern must always rest with disadvantaged and vulnerable groups.”

Dr Margaret Chan
WHO Director-General
MISSION: Strengthen regional, national and subnational capacities to address the health aspect of disaster risk management, thus enhancing health and human security.

VISION: Attain overall well-being of populations at risk of, or affected by disasters of any hazard, and minimize the related death, injury, disease and disability.

Regional Framework for Action for Disaster Risk Management for Health
Nature of health security & health emergency events...

- **All hazards**: communicable disease outbreaks; natural disasters
- Vulnerability is *universal*
- **Frequency** of events increasing
- **Impacts** are far beyond “cases & deaths” (*often huge economic, social and political consequences*)
- Emerging disease *travels faster* than ever before
- Fear *spreads quicker* than disease itself
- **Long term** psycho-social impacts

Courtesy of WPRO, revised by WKC
Similarity of disease and disaster

Vulnerability & Capacity

Hazards

Disaster
- Life, Health
- Property
- Family
- Community

Courtesy of Prof. Masayuki Yamamoto
Tohoku Medical Megabank Organization
Global Emerging Viral Diseases

In 2011...

Number of events: 820

- Natural catastrophes
- Geophysical events (earthquake, tsunami, volcanic activity)
- Hydrological events (flood, mass movement)
- Selection of significant loss events
- Meteorological events (storm)
- Climatological events (extreme temperature, drought, wildfire)

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DISASTER IMPACTS / 2000-2012

- 1.7 trillion damage (USD)
- 2.9 billion affected
- 1.2 million killed

*Disasters refer to drought, earthquake (seism, activity), epidemic, extreme temperature, flood, large deforestation, civil unrest (hot & cold), riots, volcanic, and wildfires. Data source: EM-DAT: The OFDA/CRED International Disaster Database / Data version: 12 March 2015 - 3/17/07

UNISDR (UN International Strategy for Disaster Reduction) / Find out more about UNISDR. Visit http://www.unisdr.org
Number of Climate-related Disasters Around the World (1980-2011)

- **Floods (3455)**
- **Storms (2689)**
- **Droughts (470)**
- **Extreme Temps (395)**

**DATA SOURCES**
A Vulnerable Western Pacific Region

- Western Pacific regional alert and response system in place since 2007
- Average: 200-300 events/year
- >100 events have been reported by National IHR Focal Points since June 2007

Courtesy of WPRO
MERS: An ongoing health security threat

- Since 2012, **26 countries** have been affected by MERS, including the recent significant outbreak in the Republic of Korea.

- Globally, more than **1500 cases**, including at least **550 deaths** have been reported.
**Impact of Hazards**

- Immediate increase in cases of illness, disability, and death

- Psychosocial stress

- Possible environmental pollution

- **Exposure** to toxic substances

- Damage to or loss of essential life support services (water, food, shelter)

- **Displacement** of population

- Breakdown in **security**

- Breakdown in **communication** networks and information flows

- Damage to and loss of **facilities, services, and staff**

- Risk of **infection or contamination** for response and relief personnel

- Delay to/lack of access to health services

- Increase burden to **health personnel**

- Economic **impact**
WHO FRAMEWORKS FOR ACTION
DRM: Paradigm Shifts

#1. From disasters’ preparedness & response to disaster risk management

#2 All hazards

#3 Continuum: DRM-preparedness, response, recovery, reconstruction, rehabilitation

#4 Protecting vulnerable populations
Frameworks and Strategies

- **Global legal framework:** IHR (2005)
- **Global DRM framework:** Sendai Framework (health references)
- **WHO Regional efforts:** Asia Pacific Strategy for Emerging Diseases (APSED)
  - A bi-regional tool to help meet IHR core capacity requirements
- **WHO Urban health emergency framework; vulnerable populations:** WHO Kobe Centre
- **Mechanisms:** IASC, GOARN, WHO Contingency Fund, PIP Framework, PEF
WHO's role in emergencies

Ministry of Health
Several other Ministries: Finance, Security, Welfare, Labour, Education, Interior, Communications, etc

Technical Agency Coordination, Leadership Surge capacity

IASC
Health Sector/Cluster & Stakeholders

IHR 2005 National Focal Points

WHO Lead

WHO Operational Plan

IHR National Capacities & Resilient health systems

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What are IHR (2005)? A global framework

• Legally-binding global agreement to protect public health

• The international commitment for shared responsibilities and collective defence against disease spread

• Public health emergencies: biological, chemical, radiological

• WHO and country obligations
Why have IHR (2005)?

- Serious and unusual disease events are increasing and inevitable
- Globalisation – public health event in one location can be a threat to others
- Need for collective effort and agreed rules
  - strong national public health system
  - international alert & response system

Credit: MOH Viet Nam
Importance of national capacity & resilient health systems

The **best way** to prevent international spread of diseases is to detect public health threats early and implement effective measures **when the problem is small and at local level**

Need functioning and resilient health systems
General strategy to CONTROL Ebola outbreak

**Behavioural and social interventions**
- Women, associations
- Traditional healers
- Opinion leaders
- Formal and informal modes of communication
- Social and cultural practices

**Anthropological evaluation**
- Medias

**Coordination**
- Logistics
  - Security
  - Police
  - Lodging
  - Food

  - Social and epidemiological mobile teams
  - Finances
    - Salaries
  - Transport
    - Vehicles

- Control of vectors and reservoirs in nature

**Clinical case Management**
- Psychosocial support

**Epidemiological investigation, surveillance and laboratory**
- Search the source
- Database analysis

**Ethical aspects**
- Duty of care
- Research

**Infection control**
- Organize funerals
- Clinical trials
- Ethics committee

**Active case-finding**
- Follow-up of contacts
- Specimens
- Laboratory testing

**World Health Organization Centre for Health Development**

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Sendai Framework for Disaster Risk Reduction 2015-2030

• Main result of the 3\textsuperscript{rd} UN World Conference on DRR, Sendai, March 2015

• Outcome:

  • The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.
Health in DRR framework

- Yokohama Strategy 1995: 0
- Hyogo Framework for Action 2005: 3
- Sendai Framework for Disaster Risk Reduction 2015: 34

Bar chart showing the number of mentions of "health" and "disaster" in different frameworks.
SFDRR now includes Health

34 Words of “health”

• disasters losses with a significant economic, social, health, cultural and environmental impact
• their livelihoods, health, cultural heritage
• social, health, cultural and educational resilience of person
• more explicit focus on people and their health and livelihoods
• food security, health and safety
• strengthening of economic, social, health and environmental resilience
• health and safety standards
• environment, agriculture, health, food and nutrition
• access to basic health care services, including maternal, newborn and child health, sexual and reproductive health,
• Enhance cooperation between health authorities and other relevant stakeholders to strengthen country capacity for disaster risk management for health, the implementation of the International Health Regulations (2005) and the building of resilient health systems;
• social, health and economic well-being
Strengthen ... disaster resilient public and private investments, particularly through: structural, non-structural and functional disaster risk prevention and reduction measures in critical facilities, in particular schools and hospitals ...

Promote the resilience of new and existing critical infrastructure, including ... hospitals and other health facilities, to ensure that they remain safe, effective and operational during and after disasters in order to provide live-saving and essential services

Consider the relocation of public facilities and infrastructures to areas outside the risk range, wherever possible, in the post-disaster reconstruction process ...
Proposed EDRM-H Risk Management Policy Framework

5 guiding principles:

- Comprehensive approach across the emergency management cycle.
- All-hazards approach
- Inter-sectoral collaboration
- Community participation and resilience
- Integration of EDRM-H within health system strengthening
9 Essential Capacities of EDRM-H

1. Policies, legislation and strategies
2. Planning and coordination
3. Human resources
4. Financing
5. Information and communications
6. Monitoring and evaluation
7. Health infrastructure and logistics
8. Health and related services
9. Community capacities for EDRM-H
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DRM cycle and the framework components

Governance, policy planning and coordination

Prevention

Preparedness

Response

Recovery

Resources

Information and knowledge management

Health and related services

But reality is not so orderly

Courtesy of WPRO
VISION: Attain overall well-being of populations at risk of or affected by disasters due to any hazard and minimize the related death, injury, disease and disability.

MISSION: Strengthen regional, national and subnational capacities to address the health aspects of DRM, thus enhancing health and human security.

- Governance, policy, planning and coordination
- Information and knowledge management
- Health and related services
- Resources (human, supplies, finances)

RECOMMENDED ACTIONS AND RELATED ACTIVITIES
## DRM-H planning matrix

<table>
<thead>
<tr>
<th>Prevention</th>
<th>Governance, policies, planning and coordination</th>
<th>Information and knowledge management</th>
<th>Health and related services</th>
<th>Resources (human, supplies, financial)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDMO-MoH</td>
<td>Hazards vs HF mapping</td>
<td>Link with CDC Vulnerable groups: scale up key services</td>
<td>Use resources from UHC and CCA</td>
<td></td>
</tr>
<tr>
<td>link Risk</td>
<td>Vulnerable detected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reduction policies (hospital building codes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Preparedness</th>
<th>National &amp; local preparedness plans</th>
<th>Evacuation plans, critical HF identified</th>
<th>Emergency hospital plans’ implementation</th>
<th>Set up &amp; Train surge health teams</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Response</th>
<th>Health cluster + Inter-cluster coordination</th>
<th>Health Assessments (initial + in-depth)</th>
<th>Life saving + basic &amp; specific health services</th>
<th>Surge deployment</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Recovery</th>
<th>Build Back Better policies and plans</th>
<th>PDNA, health inequalities monitoring</th>
<th>Specialized services at primary care</th>
<th>Funding for health sector recovery</th>
</tr>
</thead>
</table>

Courtesy of WPRO
**Priority areas for DRM-H: Operational Action Plans**

- NDMO & MoH DRM joint policy, strategy & planning
- Sub-national thematic maps of base lines key information against local hazards, on:
  - health system capacities (H. facil. and H. workforce)
  - health status of exposed communities
  - Coverage of key health services in high risk areas
- Identification and upgrade of the Critical Emergency Health Facilities (as well the HFs at high risk of being affected)
- Scale up and maintain Health Facilities Safety Index
- Emergency Medical Teams (national and internationals) surge and coordination mechanisms

Courtesy of WPRO
<table>
<thead>
<tr>
<th>URBAN Health Emergency Strategic directions</th>
<th>Topic of concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhancing resilience, risk reduction, preparedness, response and recovery among national and local health authorities in urban areas</td>
<td>RESILIENCE</td>
</tr>
<tr>
<td>Building technical surge capacity and urban health emergency management expertise</td>
<td>HEALTH AND GOVERNANCE</td>
</tr>
<tr>
<td>Strengthening health systems to support urban health emergency management</td>
<td>HEALTH SYSTEMS</td>
</tr>
<tr>
<td>Ensuring the protection of the health of vulnerable urban populations</td>
<td>HEALTH EQUITY and SECURITY</td>
</tr>
<tr>
<td>Improving sector coordination for health by strengthening multi-sectoral partnership and community ownership</td>
<td>INTERSECTORAL COLLABORATION</td>
</tr>
<tr>
<td>Developing and adapting tools to urban contexts, including city health risk assessment and city plans</td>
<td>RISK IDENTIFICATION AND MANAGEMENT</td>
</tr>
</tbody>
</table>
WHO Kobe Centre

- Research on resilient health systems/community based systems for health emergencies
- Long term psycho-social impact of disasters on survivors, especially older populations
- DRM for vulnerable populations, especially older populations
- Urban DRM systems for health
WHO Safe Hospital Framework

II. SAFE HOSPITAL FRAMEWORK

INTRODUCTION TO THE FRAMEWORK

The Safe Hospitals Framework presents a structured approach for action to strengthen the safety and preparedness of hospitals and health facilities for all types of hazards. It describes the framework's vision and the scope of the work, with a focus on strengthening and enhancing outcomes, and proposes four main components of Safe Hospitals programme. An implementation mechanism framework guideline captures the support implementation of key actions of the framework in a country setting.

SCOPE

With their vital role in health care at national and regional levels, hospitals must continue to function, during and following an emergency and disaster. The Safe Hospitals Framework provides an all-hazard, risk-based approach to account fully for the range of hazards that can affect the safety of patients, staff, and visitors. It supports hospitals and health facilities to prepare better for emergencies and disasters, who can use the framework to guide projects and activities for making hospitals more resilient and better prepared for emergencies and disasters.

TARGET AUDIENCE

The key target audiences are the government, health authorities, financial institutions and disaster management organisations that will use the framework as a guide for the development and implementation of Safe Hospitals programmes at national, regional and facility levels. The wider audience includes stakeholders in safe hospitals across many sectors, as well as hospital managers and staff.

The role of a hospital can be seen from three perspectives:

1. The hospital and its immediate catchment area.
   - Hospitals have a direct responsibility to provide health services to their surrounding communities and catchment populations.

2. Hospitals within the overall health system.
   - Hospitals also have a broader role within the overall health system, acting as referral centres for other health service providers, as a focus for clinical and community services, acting as teaching and research institutions, and contributing to surveillance and analytic health data-gathering.

3. Hospitals in the wider social system.
   - Hospitals have a central role within broader society, including shared responsibility for risk management. Hospitals must work within and across the public, private, and non-governmental sectors. Hospitals are not only providers of clinical services for treatment, but are also engaged in promoting health and preventive actions in the community to which they function.
COORDINATION MECHANISMS
What is the IASC?

The Inter-Agency Standing Committee is an inter-agency forum for
• coordination,
• policy development and
• decision-making
involving the key UN and non-UN humanitarian partners.

Established in 1992 in response to UN General Assembly Resolution 46/182
on the strengthening of humanitarian assistance.
What is the Global Health Cluster?

A forum of the IASC comprised of key international health entities

Mandated to build global humanitarian response capacity

By developing common guidance and tools, surge systems and global partnerships

http://www.who.int/hac/global_health_cluster/en/
People-centered approach is important

Clusters

Health

Protection

Food Security

Better access (Accessibility)

Communication

Mental and Physical Health

WASH

Development

Safe Hospital

Hazard-proof Structure

Effective Response

Early Recovery

Funding

Early Warning

Shelter (Housing)

Safe School

Education

Logistics

Funding

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Courtesy of
Prof. Masayuki Yamamoto
Tohoku Medical Megabank Organization

Human Security in Disaster
WPRO Regional Health Cluster

Meeting Report

First Regional Health Cluster Forum on Humanitarian Emergencies

http://www.wpro.who.int/emergencies_disasters/en/

Kobe, Japan
22–24 August 2011

First Regional Health Cluster Forum on Humanitarian Emergencies
22–24 August 2011, Kobe, Japan
Asia Pacific Strategy for Emerging Diseases (APSED)

- Generic platform for preparedness, alert and response

- Step-wise approach to capacity development

- Connects stakeholders (health and non-health sector) at national and regional levels

- Emphasizes value of learning from real world events
APSED: Our Collective INVESTMENT Towards a Safer and Secure REGION

Stage 1: Building the minimum system

Stage 2: Meeting the IHR core capacities

Stage 3: Upgrading the system

Level of capacity

2005 2010 2015 Beyond

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Courtesy of WPRO
Learning from the past – outbreak review (Ebola, MERS), joint APSED evaluation, reviews of natural disaster responses

Anticipating the future – health security events like outbreaks and disasters will continue to “shock” us...

Advancing our preparedness -- comply with IHR and Sendai Framework DRM through renewed global and regional efforts, and new opportunities (e.g. GHSA)
Thank You!
WHO RESOURCES AND CONTACTS

WHO Kobe Centre: Alex Ross, Dr Ryoma Kayano
http://www.who.int/kobe_centre Email: wkc@who.int
http://www.who.int/kobe_centre/emergencies/en/
http://www.who.int/kobe_centre/emergencies/ja/

WHO Western Pacific Regional Office: Dr Ailan Li, Dr Nevio Zagaria
http://www.wpro.who.int/about/administration_structure/dse/en/
http://www.wpro.who.int/emergencies_disasters/en/
Email drm@wpro.who.int

WHO South-East Asia Regional Office: Dr Roderico Ofrin
http://www.searo.who.int/about/administration_structure/hse/en/
http://www.searo.who.int/entity/emergencies/about/en/
Email searo_eha@who.int

WHO HQ Emergency and Risk Management for Health: Jonathan Abrahams, Rudi Coninx, Rick Brennan
http://www.who.int/hac/en/
http://www.who.int/hac/global_health_cluster/en/
ADDITIONAL SLIDES FOR INFORMATION
Roles in Managing Health Risks of Emergencies (1)

- **Risk assessment**
  - Anticipate the problems

- **Reduce risks**
  - Communicate the risks - change behaviour
  - Reduce vulnerability and strengthen resilience (community, staff, infrastructure and health care, facilities)

- **Prepare for emergencies**
  - Plan, train, exercise, evaluate; Build capacity
  - Early warning systems; Communicate the risks
Roles in Managing Health Risks of Emergencies (2)

• **Respond to emergencies**
  – Provide leadership in the health sector
  – Assess the health consequences and impact on health services
  – Determine the needs
  – Protect staff and facilities
  – Provide health services
Roles in Managing Health Risks of Emergencies (3)

- Respond to emergencies
  - Communicate the risks
  - Mobilize resources
  - Manage logistics
  - Manage health information
  - Manage human resources
Roles in Managing Health Risks of Emergencies (4)

• **Recovery and rehabilitation**
  
  – Assess health needs over the long-term
  
  – Provide health services over the long-term
  
  – Restore health services, facilities and health systems
  
  – Human resource development
  
  – Plan reconstruction to reduce risks
Asia Pacific Strategy for Emerging Diseases

Securing Regional Health through APSED
Building sustainable capacity for managing emerging diseases and public health events

DSE Securing our Region's Health

Safe Hospitals

The Great East Japan Earthquake
A story of a devastating natural disaster, a tale of human compassion

Western Pacific Regional Food Safety Strategy 2011-2015

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WHO WPRO

dse@wpro.who.int
Learning from history...

- **Health security threats** especially emerging diseases are *inevitable*

- **Investing preparedness** during peaceful times enables *a rapid response* during emergencies

- **APSED** has proven to be a valuable regional tool to comply with *IHR*, thus contributing to the work of global health security
The case of Nepal, 25 April 2015 Earthquake

- Emergency preparedness pays off as Kathmandu hospitals respond to earthquakes
Great East Japan Earthquake (GEJE)

Otsuchi Town, Iwate Prefecture, Japan

before tsunami

after tsunami
Breezy Point neighborhood of New York City on Oct. 30. Millions of people across the eastern United States had no power. Hurricane Sandy swamped New York City's subway system and submerged streets in Manhattan's financial district. (Keith Bedford/Reuters)

US Route 30, the White Horse Pike, one of three major approaches to Atlantic City, N.J. (Tom Mihalek/Reuters)
People walk on a street littered with debris after Hurricane Sandy hit Santiago de Cuba on Oct. 26. (Desmond Boylan/Reuters)

People sit on the rooftop of houses submerged in floodwaters in the neighborhood of Barquita, after days of heavy rain in Santo Domingo, on Oct. 26. (Ricardo Rojas/Reuters)
Global threats: International Health Security 1980 - 2013

Global threats:
- HIV/AIDS
- XDR-TB
- BSE/NvCJD
- Chernobyl
- Nipah
- Pest
- Anthrax
- VHV/Ebola/Marburg
- SARS
- Meningitis
- Cholera
- Chemical pollution
- Animal Flu
Global threats: International Health Security 1980 - 2013

- Fukushima
- MERS-CoV
- VHV / Ebola / Marburg
- Polio
- E-Coli
- Dengue
- Chikungunya
- H7N1
- Air pollution
- Chemical pollution
- Meningitis
- Norovirus
- Climate Change and Health

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H7N9: First detected in 2013

- Human infection of H7N9 was first notified to WHO in March 2013
- Ongoing event: **677 cases, 271 deaths** as of 28 September 2015
- Stark reminder of the continuing risk of pandemic influenza
Ebola is NOT over...
Fear: Ebola Response 2014

Fear of infection has spread much faster than the virus, with significant economic costs.