Health crisis management: Preparedness and response

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Health crisis management: Preparedness and response

- Health crisis: general issues
- Experience from crisis management
  - “Mad cows” disease
  - Avian influenza
- Preparedness and response plans
- Lessons learnt
Definitions (EC)

• Rapidly evolving Public Health Threat
  – event (incident), condition or agent, which by its presence has the potential to rapidly harm, directly or indirectly, an exposed population, sufficiently to lead to a crisis.

• Public Health Crisis
  – sequence of events following a public health threat, where the limited time available for deciding and the large degree of uncertainty leads to overburdening the normal response capacity and undermining of authority.

Definitions (WHO)

• Health risks/threats involve
  – emotional connotation and uncertainty regarding health and economic effects.

• Risks may develop into a crisis:
  – either when public trust in decision-makers’ control is at stake (SARS epidemic Canada)
  – or when health risks lead to notable attention in the press and thus the awareness of the population (BSE UK),
Definitions (WHO)

- **Crisis:**
  - unstable situation of extreme danger or difficulty.
  - It indicates a turning-point, usually a deterioration of a situation.
  - It arises when local health systems on which people depend are overwhelmed and cannot or do not respond to the demands or needs.
  - Crisis is an imprecise term.
  - It can also stand for failures in communication that cause crises.
  - In health, crisis and communication are closely linked.

  All health crises are also communication crises

Crisis, emergency, disaster

- The terms crisis, emergency and disaster all define critical situations with different and common features.
- Different economic and political cultures use these terms differently.
- **Disaster/Emergency**
  - (WHO): disastrous event in which the needs and available resources are imbalanced. Mostly applied to developing countries.
  - Western European countries: often events that have a more certain epidemic potential vs crises, which have a political connotation.
Crisis

– Often leave uncertainty about the epidemic potential of an event.
– In countries with a high level of health literacy, crisis is often accompanied by the health-literate public blaming decision-makers.
– In addition, emotional connotations such as fear and panic are often elements of a crisis because each person is uncertain about how a crisis might affect his or her life.
– The mass media typically trigger these dynamics.

Epidemics can evolve without a crisis, and crisis can evolve without an epidemic

Crisis - Characteristics:

Exaggerated public & media attention

• “0 tolerance” for infections
  – Health seen as a priority
  – Infections account for dirty and uncontrollable
  – Existential confrontation

• Why worse than other infections?
  – Previous healthy status of cases
  – Occurrence among young children and adolescents
  – Fear for permanent complications (15-25%)
  – No perception of exposure
Perception of risk

Lower Perceived Risk
- Trustworthy sources
- Substantial benefits
- Voluntary
- Controllable
- Fair/equitable
- Natural origin
- Familiar
- Not dreaded
- Certain
- No children as victims

Higher Perceived Risk
- Untrustworthy sources
- Few benefits
- Involuntary
- Not controllable
- Unfair/inequitable
- Man made origin
- Unfamiliar/exotic
- Dreaded
- Uncertain
- Children as victims

Perception of risk

Lower Perceived Risk
- Not memorable
- Moral/ethical
- Clear non-verbal message
- Responsive
- Random/scattered
- Little media attention
- Victims statistical
- Immediate effects
- Effect reversible
- Scientifically well understood

Higher Perceived Risk
- Memorable
- Immoral/unethical
- Mixed non-verbal message
- Unresponsive
- Catastrophic
- Much media attention
- Victims identifiable
- Delayed effects
- Effect irreversible
- Scientifically poorly understood
Risk acceptance

- Risk acceptance is a function of
  - The individual perception
  - The society
  - The cultural environment
  - The benefits (of the hazard)
  - The costs (of prevention the hazard)

- Safety is relative:
  - it is a judgment of the acceptability of risk
  - an activity is considered safe if it’s risks are considered acceptable

Estimated risk of death to an individual

- Communicable disease 1 in ?
- Automobile Accident 1 in 4,000
- Drowning 1 in 30,000
- Air Travel 1 in 100,000
- Lightning 1 in 2,000,000
- Nuclear Reactor Accident 1 in 5,000,000,000
Crisis - Characteristics

• **Uncertainty:** Cause, evolution, risks…

• **Precautionary principle:**
  – Acting to reduce risk in advance of a complete scientific understanding, by extension of evidence and in the exercise of reasonable foresight

• **Biologic plausibility:**
  – Changing paradigm: guilty until proven innocent

• **Media-amplification:**
  – Public health in line of fire
  – Conflicting results in the media
  – Amplification of the events by the media

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SARS

• Human toll: from 1 Nov, 2002 to 17 June, 2003
  – No of Countries: 32
  – Total Cases: 8464
  – Deaths 799

• **Estimated economic loss**

  Growth reduction in % of annual GDP

<table>
<thead>
<tr>
<th>Country</th>
<th>%</th>
<th>Estimated Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>0.6%</td>
<td>$7.2 billion</td>
</tr>
<tr>
<td>Taiwan</td>
<td>0.9-1.9%</td>
<td>$2.5-5.3</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>1.8-4.0%</td>
<td>$3.0-6.6</td>
</tr>
<tr>
<td>Rep of Korea</td>
<td>0.2-0.5%</td>
<td>$1.3-3.0</td>
</tr>
<tr>
<td>Asia region</td>
<td>0.4-1.0%</td>
<td>$16-30 billion</td>
</tr>
</tbody>
</table>
The costs of SARS

- Tourism was reduced in China by 40%
- In Hong Kong, retail sales down about 50%
- Airline bookings down by 85%
- Hotel occupancy in Asia reduced by 25%
- Visitors to Singapore down by 61%
- Canada hotel occupancy dropped 47%=$100m
- SARS cost Canada $30 million a day
- GDP growth of China declined by 0.6%

SARS: Characteristics

- Media-transmitted epidemic of concern for personal safety
  - Perception of risk became function of media exposure
- Early containment was main measure available
- Rise of lobby groups from pharmaceutical and diagnostic companies
- Capacity for societal disruption
  - Cross-sectoral approach
SARS: Response

- Fast international reaction (compared to other diseases)
  - **Fear and uncertainty**: rapid geographic spread created a sense of urgency to respond
  - **Stronger Leadership**: WHO took an active role in sounding the alarm and mobilizing the global response
  - **Scientific Advances**: new tools and techniques better and faster research
  - **Biological threat preparedness**: Concerns about the threat posed by biological weapons enhanced the ability and speed of many countries to identify new infectious diseases
  - **Concern About Missing “Another” AIDS**.

Who does the public believe in health questions?

- Trust
  - Local Doctors
  - Doctors at CDC/NIH
  - Doctors at local health department
  - Friends/family
    - Local officials
    - State officials
    - Federal officials
  - Media
  - Pharmaceutical Industry
  - Politicians

- Source Credibility
  - Surgeon General
Crisis - Questions to politicians

- How are those who are ill getting help?
- Is this thing being contained?
- What can we expect?
- Why did this happen?
- Why wasn't this prevented?
- What else can go wrong?
- When were you notified about this?
- What does this information/results mean?
- What bad things aren't you telling us?

Health crisis from the “media” perspective (I)

- News sequence:
  - Crisis becomes public due to evident harm or report by affected people. A problem is always known.
  - Hypothesis on its origin and possible social/health consequences start to be published
  - Causal agent/s is identified
  - Control measures are explained
  - Claim for retributions (penalties) and indemnities
  - Effects and consequences are described and evaluated
  - Follow-up of adopted measures
  - Cessation of measures is explained
Health crisis from the “media” perspective (II)

• Difficulties a journalist may confront:
  – Initial confusion
  – No one knows. No one answers. No spokesperson. PH? What’s that? The last expert to be contacted is the PH expert.
  – Media editors press to have something published before the close-down (where’s the responsible person for health info?)
  – Health authorities usually don’t speak, minimize the problem or hide data, facts…

All these factors increase the risk for media giving wrong or inaccurate information and thus, facilitate unjustified alarm

Health crisis from the “media” perspective (III)

• Journalist’s duties (after a journalist):
  – To report on anything that could pose a health risk
  – To promote notification of new cases
  – To inform on the actors involved in the crisis
  – To enhance investigation on the causative agent
  – Disseminate scientific conclusions
  – Press to have control measures put in place
  – To report on failures to execute them
  – To calm down and educate the population

We may not agree, but… they think it’s their duty
Risk communication

- Part of crisis communication
- This is two-way communication between stakeholders (decision-makers, experts) & the public
  - about the existence, nature, form, severity or acceptability of risks
- Health risks to a population can be attributed to several causes, including environmental and other external hazards
- Crises have several stages, and different tasks can be attributed to each stage in managing a crisis.
- Crisis communication is only a small part of a crisis.

Phases and workload

- Phase 1: "New Things"
- Phase 2: "Consolidation"
- Phase 3: "Tail"
Crisis management of PH incidents

- The goal is to minimize the possible impacts.
- The most effective method to minimize impacts is a timely and appropriate response.
- Because crisis usually are complex and require the cooperation of many different agencies, a timely and appropriate response can only occur if the various agencies involved are co-ordinated and properly prepared.
Crisis management of PH incidents

On a national level, the main tasks are to develop:

- National public health coordinating structure
- Public Health Incident Plan (GPP)
- Necessary legislation
- Databases
- Interagency communication mechanism
- Emergency response guidelines
- Incident exercises, training, and audits
- Preventive measures

Crisis management

MAD COWS DISEASE
MAD COWS DISEASE

• In 1996, UK announced that meat products from BSE-infected cattle were linked to a new form of incurable human spongiform encephalopathy - new variant Creutzfeldt-Jakob disease (nvCJD).

• From 1985, when a mystery disease now known as BSE emerged in Daisy, a dairy cow from Kent, the annual number of BSE-infected cattle rose to 731 within the space of three years. By 1989, 400 new cases appeared each week, and by 1992, 100 new cases appeared each day.

• British authorities began reassuring national and international audiences in 1989 that mad cow disease was under control.

MAD COWS DISEASE

• Scientists proposed that the epidemic could swiftly be brought to a close with the immediate cull of infected herds. The idea was dismissed on the grounds that compensation for the owners of the herds was financially unaffordable.

• The British Ministry of Agriculture, Fisheries and Food (MAFF) exposed mainland Europeans to an unknown quantity of BSE-contaminated veal among the 2 million calves transported to Europe between 1990 and 1995.

• MAFF ignored a 1990 Brussels ruling designed to prevent the spread of BSE outside UK – continued exporting BSE-infected animals.

• For eight years, debt-burdened non EU countries were lured to buy attractively low-priced BSE-suspect meat and the same animal protein-enriched pellets believed responsible for UK’s BSE problems.
Bovine Spongiform Encephalopathy (BSE)

- Fatal, neurodegenerative disease in cattle
- Long incubation period, about 4 years
- In the UK, more than 179,000 cattle have been infected and 4.4 million slaughtered during the eradication programme
- The disease may be transmitted to human beings who eat the brain or spinal cord of infected carcasses.
- In humans, it is known as new variant Creutzfeldt-Jakob disease (vCJD), and by April 2008, it had killed 163 people in UK, and 37 elsewhere
- The number expected to rise because of the disease's long incubation period.
- Between 460,000 and 482,000 BSE-infected animals had entered the human food chain before controls on high-risk were introduced in 1989

Dark green areas are countries with confirmed human cases of vCJD. Light green shows countries which have reported cases of only BSE.
Elements for a crisis

• Little known about the disease
• Disease has no cure
• Contaminated beef products implicated
• Affects the brain
• Difficult to diagnose
• Lack of trustworthy information
• Dishonest management of the crisis by politicians

Crisis management

AVIAN INFLUENZA
The next influenza pandemic?

• People are exposed to different strains of the influenza virus many times during their lives.

• Even though the virus changes, their previous influenza infections may offer some protection against infection caused by a similar strain of the virus.

• 3 or 4 times each century, for unknown reasons, a radical change takes place in the influenza A virus causing a new strain to emerge.

• Since people have no protection against the new strain, it can spread rapidly around the world, causing what is known as a pandemic.

• The last three pandemics occurred in 1918-19, 1957-58 and 1968-69.

Crisis: cross-sectoral consequences

• Given the high level of global traffic, the pandemic virus may spread rapidly, leaving little or no time to prepare.
• Vaccines, antiviral agents and antibiotics to treat secondary infections will be in short supply and will be unequally distributed. It will take several months before any vaccine becomes available.
• Medical facilities will be overwhelmed.
• Widespread illness may result in sudden and potentially significant shortages of personnel to provide essential community services.
• The effect of influenza on individual communities will be relatively prolonged when compared to other natural disasters, as it is expected that several waves of outbreaks.
• Preparedness as a best defence!
Any Avian flu cases in Spain?

Great Crested Grebe
Álava (July 2006)

Avian Influenza: News intensity on Spanish media

Cases increase in Asia
First cases in Turkey
Cases in Italy, Germany and France
First case in Spain

2003/ 04  2005  2006
Why such a low interest?

• 2005:
  – Media reporting on avian influenza cases
  – Link between avian cases increase and risk for human cases?
  – Food as a source for avian flu?
  – Is there any treatment: Antivirals, Vaccines?

  • National Plan
  • Communication Plan

National Preparedness Plans

PLAN NACIONAL DE PREPARACIÓN Y RESPUESTA ANTE UNA PANDEMIA DE GRIPE

NATIONAL INFLUENZA PREPAREDNESS AND RESPONSE PLAN

Mayo 2005
May 2005
General Objectives

• To reduce the impact of the pandemic in the population and diminish social disruption

• To take appropriate measures in order to reduce viral transmission and protect the population

• To ensure that response and control measures are in accordance with EU and WHO recommendations

Key Strategies

• Clarify roles and responsibilities
• Enhance rapid detection and surveillance
• Reduce dissemination and impact
• Maintain public awareness and facilitate acceptance of response strategy from the public
• Carry out appropriate investigation to support response
Key elements of the National Preparedness Plan

- Planning and Coordinating Structure
- Epidemiologic and Virological Surveillance
- Prevention and Control Measures
- NHS Response
- Communications Strategy

Planning and Coordinating Structure

- **National Executive Committee**: helps the implementation of measures aiming to reduce the impact of the pandemic
- **Public Health Board**: coordinates Plans developed by the Autonomous Communities
- **Subcommittees and Working Groups**
  - Epidemiologic and Virological Surveillance
  - Vaccines and Antivirals
  - Emergency Response
  - Communications
- **Scientific Committee**
Lessons learnt

• Health crises are characterized by uncertainty
• Uncertainty is reduced by:
  – Preparedness
  – Communication
• Coherence and acting accordingly are essential to ensure public acceptance of a crisis management

Contingency emergency plans

• Contingency emergency plans outline “what to do in situation X”.
• They describe the roles and responsibilities of the various actors in the event of a particular incident.
• They should ideally be developed based on scenario planning, risk assessment, mathematical modelling and economic input.
• Contingency emergency plans should be tested with live and/or tabletop exercises to ensure that the plans will actually work in practice and to further improve preparedness and strengthen intersectoral work.
INTRODUCTION
• Goal and objectives of the preparedness plan
• Overview of the plan
• The planning process (committee structure composition)
• Roles and responsibilities (in planning, response and recovery phases)

BACKGROUND
• X
• Phases
• Estimated impact in (country name)
• Legal considerations
• Ethical considerations

FRAMEWORK OF A PREPAREDNESS PLAN
FRAMEWORK OF A PREPAREDNESS PLAN

COMPONENTS OF PREPAREDNESS AND RESPONSE
(including current status, gaps, action plans)

- Command and control (leadership, organization and coordination)
- Surveillance (epidemiologic, laboratory)
- Public health measures (vaccine, antivirals, disease control measures)
- Health services (public health, rapid interventions, surge capacity)
- Emergency and essential services
- Communications
- Logistics
- Contact lists (see annexes)

FRAMEWORK OF A PREPAREDNESS PLAN

ANNEXES

- Contact lists – external, internal (staff, suppliers…)
- Supplies (EOC)
- Organizational Charts
- Maps, demographic information
- Forms – situation status, messaging, infrastructure assessment, briefing, resource request, sign-in/out
- Other checklists
- Other information as appropriate
Crisis management in the EU

• Coordinated policy decision making between Member States and at EU-level on public health issues
• Pro-active health crisis co-ordination, including inter-sectoral or security issues coordination (i.e. significant action extends beyond the health sector)
• Exchange information on health-related threats to ensure rapid communication in case of major health-related crises

Conclusions

A crisis is a
• Sequence of events
• Undermining normal response capacity (in medical, administrative, political and psycho-social dimension)
• With limited time available for deciding
• With large degree of uncertainty
• Leading to distrust of authorities
• Leading to search for culprit
Conclusions

Response should include
• Information distribution
• Co-ordination
• Cross-sectoral approach
• Preparedness (Plans)
• Handle massive amount of information
• Exercise and test
• Link with risk-assessment agencies
• Link authorities
A crisis as source of opportunities

• The success of PH services is usually invisible: no news
• Health crisis evidence the importance of PH and test its basic principles
• They are an opportunity to:
  – show its usefulness and reinforce it
  – Modify health policies
  – disseminate the need for investment in PH

Thank you for your attention