FLEXIBILITY IN PANDEMIC PLANNING, PREPAREDNESS, RESPONSE AND INTERNATIONAL HEALTH REGULATION (IHR) IMPLEMENTATION, H5N1 EXPERIENCE IN INDONESIA

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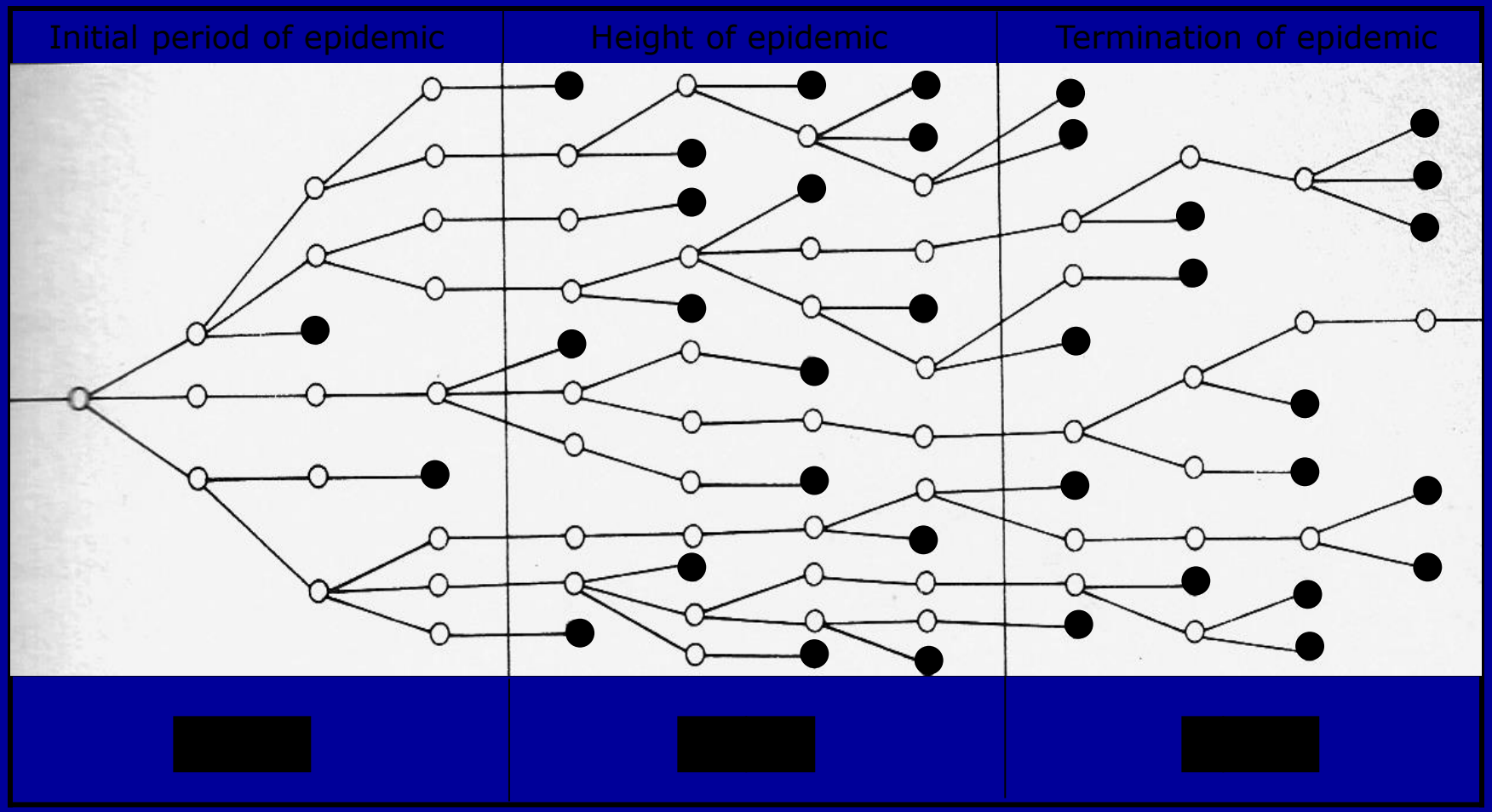
Course of a typical propagated epidemic in which agent is transmitted by contact between individuals (A.M. Lilienfield, David E.Lilienfield)



Susceptible population

Infected person who infects others

Immune population

Infected person who Fails to infects others

Pandemics & Health Security

- Globally, it is recognized that pandemics can affect health security, especially if:
  - Late detection or notification
  - Late or inappropriate response

- Impact of pandemics:
  - Public health consequences (excess deaths)
  - Socio-economic impact (absenteeism)
  - Media/political attention (negative image of countries)
  - A sense of “panic” (community fears, ostracism)

Pandemic Considerations

- Pandemics = all countries worldwide are affected.
- BUT, impact may vary both between & within countries.
  - Spanish flu pandemic deaths data (1918-1920) show that mortality rates in Europe and North America were significantly lower than those in Asia, Sub-Saharan Africa, and Latin America
- Why the difference in mortality?
  - Several factors possibly involved, e.g. lack of access to adequate medical care, weak public health infrastructures, social & host factors such as population density and health co-morbidities.
- **Implication: pandemic planning needs to be tailored for each country's situation. My talk's focus – Indonesia!**

Indonesia: Context

- Developing country, 250 million population, 17,500 islands, 300+ dialects, isolated/rural areas
- 34 provinces, 514 districts
- Major health challenges: TB, HIV/AIDS, malaria, diarrhea, pneumonia
- Governance: decentralized system, districts mandated for disease control (under authority of district elected officials)

History of Pandemics in Indonesia

- Influenza
  - Pandemics 1957 & 1969: cases series from Indonesia were reported in two articles in 1958 & 1971 volumes of J. Hygiene, Epidemiology, Microbiology & Immunology. These articles were descriptive.
  - Limited knowledge about history and epidemiology of influenza in general population
  - Research studies & surveillance work 2000-2005 focused on assessing influenza disease burden.

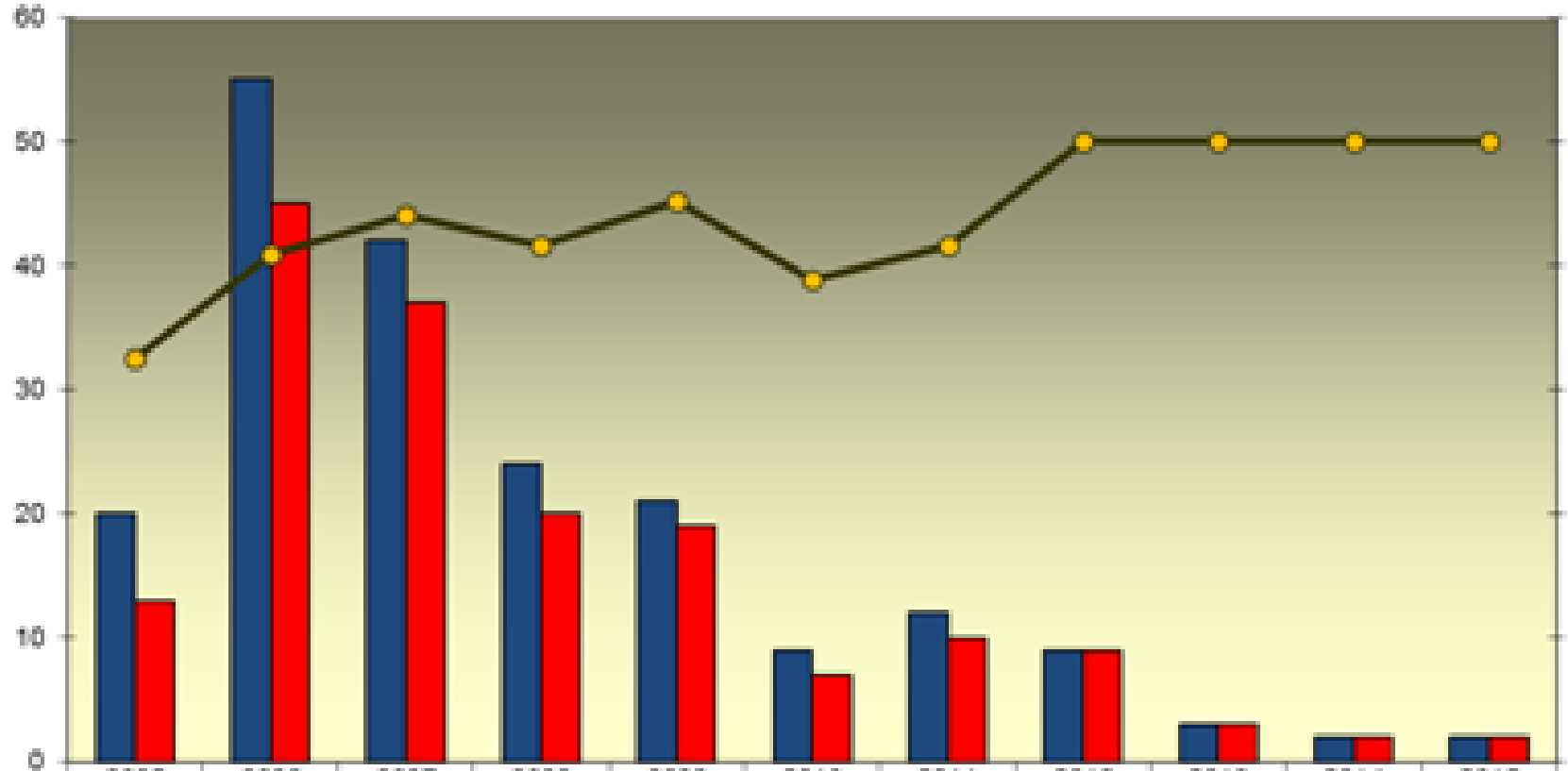
AI H5N1 in Indonesia

- Avian influenza H5N1 was first detected in August 2003 in birds.
- By 2005, the first human case (a cluster) was detected in an urban area on the outskirts of Jakarta.
- The emergence of this disease in Indonesia quickly caught the attention of MOH, government authorities & public.

Human Bird Flu Cases in Indonesia 2005-2015

- Spreading in 15 Provinces and 58 Districts

Human Bird Flu Cases in Indonesia 2005-2015



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Cases	20	55	42	24	21	9	12	9	3	2	2
Deaths	13	45	37	20	19	7	10	9	3	2	2
CFR (%)	65.0	81.8	88.1	83.3	90.5	77.8	83.3	100.0	100.0	100.0	100.0

MOH & Government's Role (1)

- Prepare nation for pandemic
- Respond to AI H5N1 outbreaks

Indonesia had to prepare for a pandemic and respond to a disease epidemic at the same time… Challenge!

MOH & Government's Role (2)

- Provide leadership and coordination among different sectors of the government and for the whole-of-society
- Plan for effective risk communication before, during and after the pandemic.
- Actively collect, analyze and disseminate data for making informed public health decisions about the pandemic.
- Plan for and implement all available measures in an ethical manner to mitigate the impact of the pandemic.
- Ensure continuity of health care provision during a pandemic

Public Health Ethics: Principles

- Public Health Necessity
- Reasonable and effective means
- Proportionality
- Distributive Justice
- Trust and Transparency
- Siracusa Principles (Human Rights): Limitations on human rights must be based on a legitimate objective, be the least restrictive and intrusive means; and not be arbitrary, unreasonable or discriminatory

One issue: equitable access to health care in a pandemic

- How to allocate vaccines, antivirals and hospital care?
- Should some population groups have priority?
- For example, should health care workers be prioritized to receive Oseltamivir or a vaccine?
- How to allocate resources (in advance and during the pandemic) between pandemic influenza and other health needs?

Ethics in Pandemic Planning in Indonesia: examples

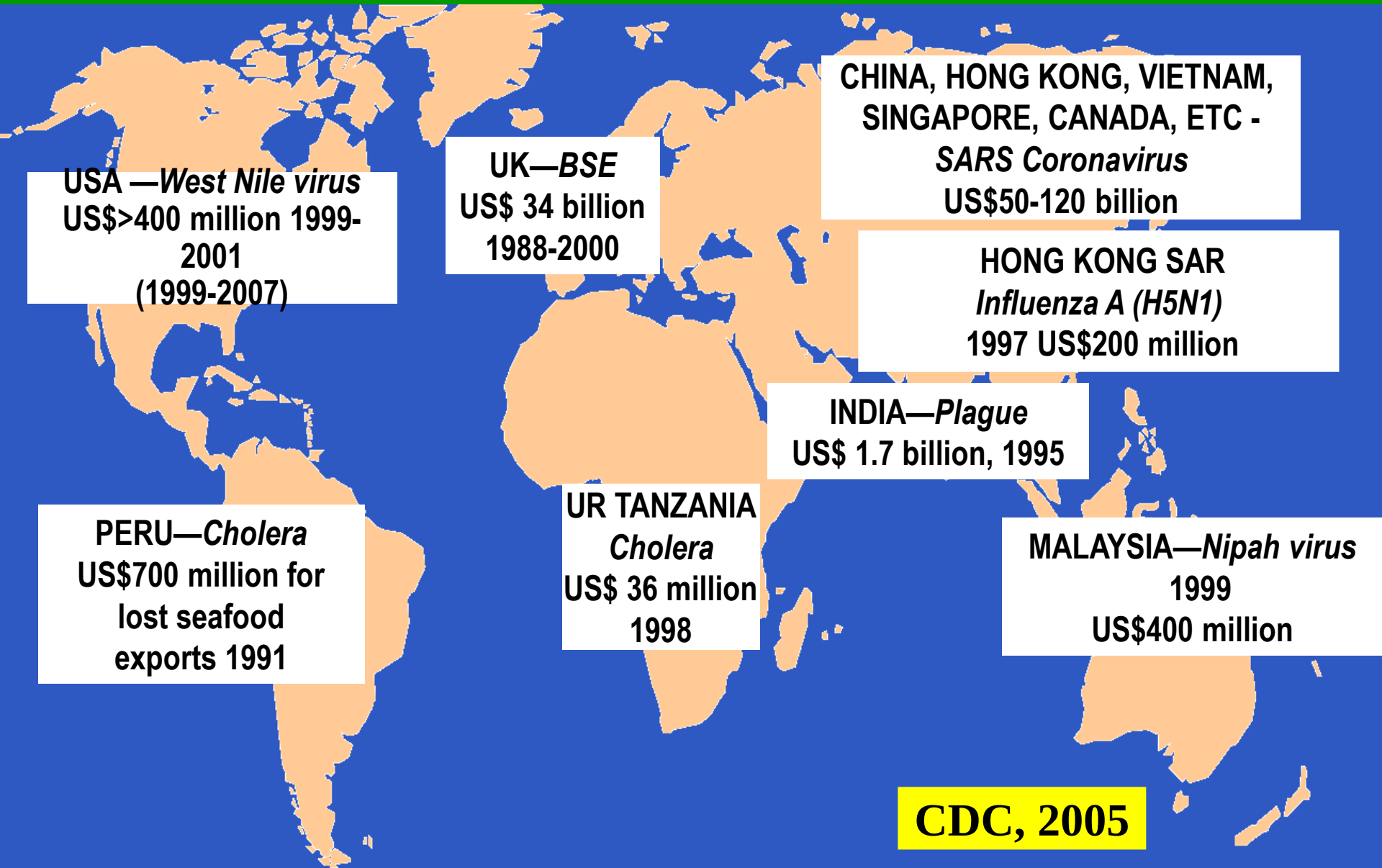
- Decision on WHO vaccine donation
  - Donation was deliberated at parliament level
  - Donation was not accepted ?????

- Utilization of oseltamivir for priority groups
  - Since the initial countries affected by H1N1 pandemic 2009 had primarily mild infections, Indonesia still emphasized AI H5N1 cases for oseltamivir receipt.

Lessons Learnt in Indonesia

- High level political commitment needed
- Whole of Society involvement needed
- Government departments (e.g. agriculture, labor, education, defense, transport, trade, judiciary), private sector/civil society (e.g. industry, NGOs)
- Ethical considerations for response
- Community, family and individual preparedness
- Consideration of existing resources as well as unmet resource needs

Economic impact, selected infectious disease outbreaks, 1990–2004



As attention grows in public health to the impact of emerging infectious diseases and the importance of international health security, public health practitioners are faced with a number of challenges.

Public Health

"The application of science and medical knowledge to the protection and improvement of the health of the group" (Prof. Fraser Brockington)

Challenges: Public Health Needs

- The need to develop national capacity to detect outbreaks or events that signal emerging diseases,
- Pressure to stockpile expensive treatments at a time when vaccine affordability for common childhood illnesses is under question in many countries,
- 24-hour media cycles where media reports about diseases shake a country's economic prosperity in a matter of days.

Currently there are five major uses of term “Public Health”

1. Equates the word public with gov. Action
2. The participation of organized community
3. Equivalent to non personal health services
4. Focuses on provision of certain preventive health services
   - Particularly to vulnerable / high risk groups
5. Refers to organized responses to “Public Health Problems” that are common or life threatening disease

(J. Sepulveda et.al)
MMWR 41/Suppl

Opportunities

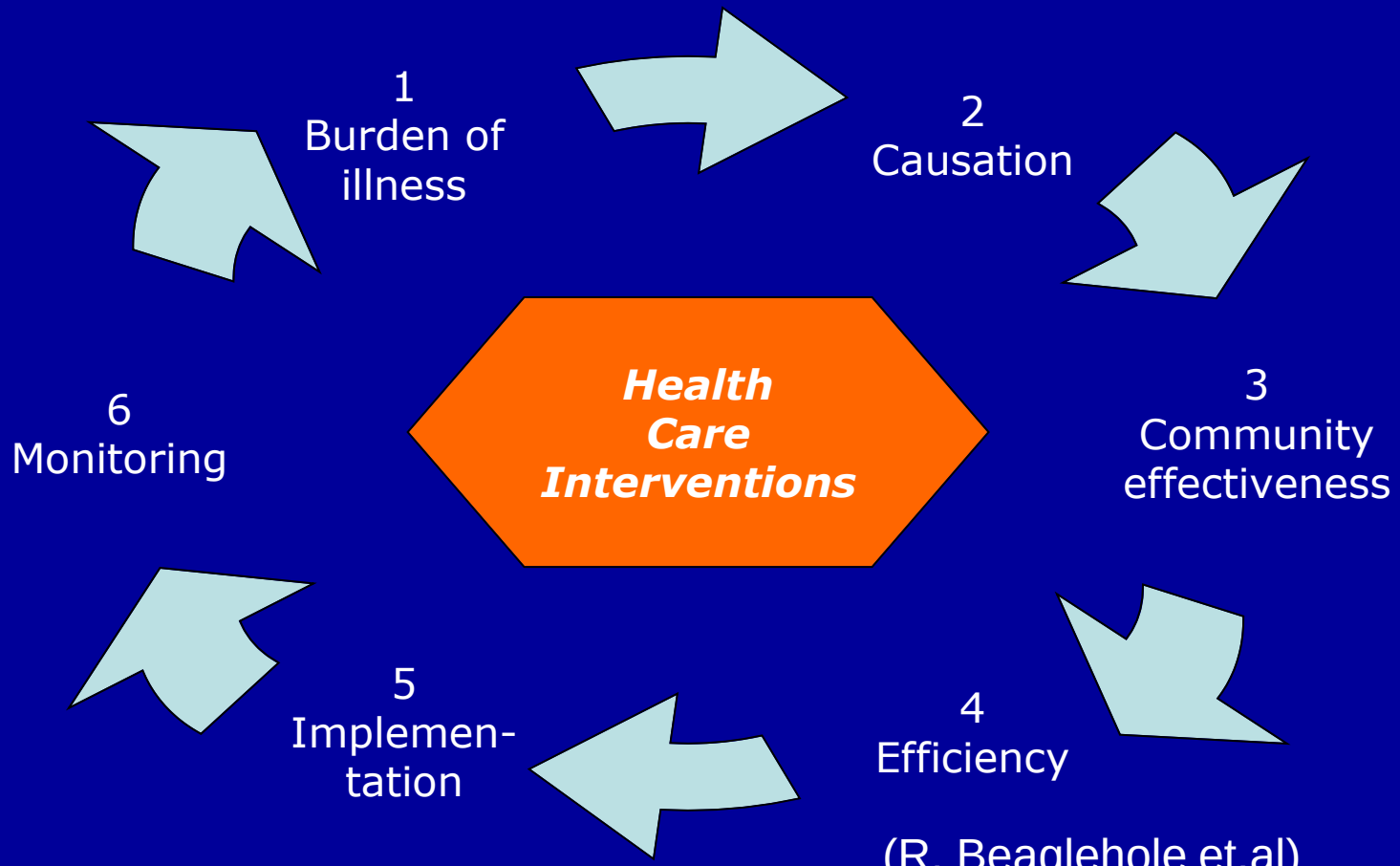
Health managers have to look at certain opportunity in the crisis. They have to find out ways to have health share of the stimulus because by doing so they will not only help in getting rid of the crisis but also minimizing the threat of emerging diseases and strengthening international health security.

Opportunity in crisis

- Forward planning and budgeting is needed to address real needs.
- This is useful for activities such as:
  - Building up laboratories, vaccine and drug factories
  - Primary health care centers
  - Isolation rooms
  - Establishing schools of public health
  - Recruiting health personnel in areas where the number of health personnel is inadequate
  - Building up networking of information
  - Improving environmental health: markets, towns, cities, hygienic water supply, good sewage systems etc.

Epidemiology, Health Services and Health Policy

The health care planning cycle



(R. Beaglehole et.al)
Basic Epidemiology

Health and Sustainable Development

– “Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony in nature”

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Fact sheets for candidate diseases for control ,elimination or eradication

1. Brief description of the condition/disease
2. Current burden and rating within the overall burden of disease
3. Feasibility (Biological) of control/elimination/eradication.
4. Estimated cost and benefits of control,elimination/eradication
5. Key strategies to accomplish the objectives
6. Research needs
7. Status of control/elimination/eradication efforts to date
8. Principal challenges to control/elimination/eradication.

Ebola: Failure in Early Response to Outbreak

26 Dec 2013 — **Spread** of the Disease

21 Mar 2014 — **Ebola** Identification

8 Aug 2014 — **Ebola confirmed** by **PHEIC**

A 'mysterious disease spread in Guinea on 26 December 2013, and identified as Ebola on 21 March 2014

Failure in IHR 2005 implementation

2012 79% member countries failed to achieve targets

2014 69% member countries failed to achieve targets

Global Health Security Agenda: Action Packages

Preamble

The Global Health Security Agenda (GHSA) is an effort by nations, international organizations, and civil society to accelerate progress toward a world safe and secure from infectious disease threats; to promote global health security as an international priority; and to spur progress toward full implementation of the World Health Organization (WHO) International Health Regulations 2005 (IHR), the World Organization for Animal Health (OIE) Performance of Veterinary Services (PVS) pathway, and other relevant global health security frameworks.

In order to encourage progress toward these goals, the "Action Packages" concept was developed to facilitate regional and global collaboration toward specific GHSA objectives and targets. Following the May 2014 GHSA Commitment Development meeting in Helsinki countries identified eleven discrete GHSA Action Packages, which were discussed further at the August 2014 Global Infectious Diseases Meeting in Jakarta. All countries that support the GHSA are welcome to participate in one or more Action Packages and are asked to consider specific commitments across these areas on a national, regional, or global basis.

The 11 Action Packages in this document have been agreed upon by Action Package leaders and contributing countries, with the understanding that they may be changed or added to over time. Technical experts from countries around the world have worked collaboratively over the past months to shape these Action Packages and will continue to lead and implement them following the GHSA meeting at the White House on September 26, 2014. As of this date, 39 countries have committed to contribute to the Action Packages, and others are encouraged to join as the GHSA moves forward. In developing these Action Packages, the goal has been to translate political support into action and to recruit countries to join in working to achieve GHSA objectives.

These Action Packages are being publicly released at this stage to further increase understanding and encourage entities outside of government to take part in the GHSA as part of a whole-of-society approach. We encourage non-governmental stakeholders—including foundations, development banks and non-governmental organizations—to contribute to the development and implementation of these Action Packages.

Purpose and Organization

The purpose of Action Packages and the underlying Prevent-Detect-Respond framework is to:

- Focus international discussion toward specific, coordinated actions in support of the GHSA;
- Highlight measurable approaches countries can adopt to accelerate, monitor and report GHSA progress; and
- Provide a mechanism by which countries can make specific commitments and take leadership roles in the GHSA. Countries can consider commitments to one or more Action Packages and may agree to lead, co-lead or actively participate in work with other countries regionally or globally to implement a unified set of actions.

2014

GHSA declaration to **accelerate** the implementation of the IHR 2005

***Early diagnostic and surveillance** are keys to improve outbreak response*

Global Zoonotic Disease Control Commitments

Global Health Security Agenda (GHSA)

	Action Packages	Activities
Prevent	1. Antimicrobial Resistance	12
	2. Zoonotic Disease	14
	3. Biosafety and Biosecurity	12
	4. Immunization	18
Detect	1. National Laboratory System	27
	2. Real-Time Surveillance	20
	3. Reporting	3
	4. Workforce Development	12
Respond	1. Emergency Operations Centers	23
	2. Linking Public Health with Law and Multisectoral Rapid Response	11

International Health Regulation (2005)

	Area of Works	Strategic Approaches
Global Partnership	1. Fostering global partnership	5
Strengthen National Capacity	1. Strengthen National Disease Prevention, Surveillance, Control, and Response System	13
	2. Strengthen public health security in travel and transport	8
Prevent and Respond	1. Strengthen WHO global alert and response systems	6
	2. Strengthen management of specific risks	2
Legal Issues & Monitoring	1. Sustain rights, Obligations & Procedures	3
	2. Conduct Studies & Monitor Progress	4

Indonesia Role

1. A model country to prevent and control Avian Influenza in 2003 with multi-sectoral coordination and collaboration
2. Leading country for zoonotic disease action package on GHSA
3. Global Chair for GHSA in 2016

Strategic action to combat zoonotic diseases is needed to comply with global health commitments' goals

One Health Approach to Deal with Zoonotic Disease

Identify	Predict	Prevent	Respond
Identify the agent, source, mode of transmission, and associated risk of disease	Predict the disease manifestation, potential outbreak, through epidemiology investigation & surveillance	Effort to prevent transmission & outbreak by minimizing contact & exposure with the risks	Action to respond and to mitigate the outbreak by working collaboratively across-professions & sectors
• Strengthening laboratory capacity • Report common animal and human pathogens	• Strengthening surveillance and laboratory capacities	• Characterizing risks associated with disease transmission • Developing risk-mitigation strategies	• Strengthening outbreak response capacity with multi-sector work