Global Health Security: Preparedness and Response: can we do better and stay safe?

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Outline

• What is global health security (GHS)?
• Infections and GHS
• What are the major threats to GHS?
• Players and structures in GHS
• What next and will we do better?
Toronto shut to tourists by bug

SARS WILL KILL MORE THAN AIDS
HOW WE ARE AFFECTED EXPRESS INVESTIGATION - PAGES 8 & 9

Global battle against Sars panic

Toronto is put into ‘quarantine’ over Sars outbreak

Sars travel blacklist as toll rises

Gap year in China and stuck in school

16,000 people a week still fly into Britain from no-go cities
Probable cases of SARS by date of onset, Hong Kong: n = 1 753, as of 13 June 2003

Number of cases


Others
Health care workers
Global SARS – 26 September 2003
Cases with onset from 1 November 2002 to 31 July 2003
Total cases – 8098 (deaths: 774 – 9.6%)

- Hong Kong – 1755 (22%)
- Taiwan – 346 (4.3%)
- China (mainland) – 5327 (66%)
- Singapore – 238 (2.9%)
- Vietnam – 63 (<1%)
- Canada – 251 (3.1%)
Avian influenza
Free range duck farm, Thailand
Chinese live bird market May 2006
- In mid-April 2009, a novel strain of H1N1v emerged in Mexico and California with reports of severe illness;
- Antigenically these newly detected swine-lineage flu viruses were distinct from seasonal human A (H1N1);
- Soon evidence of sustained transmission in North America with rapid global spread
UK epidemiology: post peak
RCGP weekly ILI rate 2009/10 and recent years.

- First UK cases detected
- Switch to 'treatment only' phase
- NPFS Launched and Schools close for summer
- Schools re-open
- School half-term break
- Christmas / New Year school and bank holidays
Number of confirmed human H7N9 cases and deaths, as reported to WHO by week, as of 2017-2-14
Confirmed global cases of MERS-CoV

Reported to WHO as of 14 Dec 2015 (n=1621)

Other countries: Algeria, Austria, China, Egypt, France, Germany, Greece, Iran, Italy, Jordan, Kuwait, Lebanon, Malaysia, Netherlands, Oman, Philippines, Qatar, Thailand, Tunisia, Turkey, United Arab Emirates, United Kingdom, United States of America, Yemen

Please note that the underlying data is subject to change as the investigations around cases are ongoing. Onset date estimated if not available.
Movement of two strains of Carbapenem-resistant *Klebsiella pneumoniae* 2000 - 2008

**KPC**
- **2000**: First found in North Carolina
- **2003**: Isolates spread rapidly through New York
- **2005**: Found to be widespread throughout Israel
- **After 2005**: Spreads to Italy, Colombia and Sweden

**NDM**
- **Before 2008**: Resistance first identified in India
- **2009**: Discovered in Sweden
- **2010**: Discovered in the UK
- **2010**: Discovered in Canada

1 *New-Delhi Metallobetalactamase*
Ebola timeline

- December 2013: Emile Ouamouno, 2 years, Guinea, becomes first Ebola victim
- 22 March 2014: Ebola outbreak declared in Guinea
- 1 April: MSF warns of "unprecedented" outbreak
- 8 April: WHO says outbreak is "difficult" and "very challenging"
- 23 June: MSF says outbreak is "out of control"
- 8 Aug: WHO declares "international public health emergency"
What is global health security?

Global public health security is defined as the activities required, both proactive and reactive, to minimize vulnerability to acute public health events that endanger the collective health of populations living across geographical regions and international boundaries.

What is global health security?

Global Health Security Provides Protection From Infectious Disease Threats

A disease threat is defined by

- the emergence and spread of new microbes;
- globalization of travel and trade;
- rise of drug resistance; and
- potential use of laboratories to make and release—intentionally or not—dangerous microbes.
What is global health security?

The Director of Chatham House’s Global Health Security programme remarked that global health security was “very much like a chameleon” as its meaning varied considerably depending on the eye of the beholder.

*BMJ convened meeting, July 2017*
The International Health Regulations, or IHR (2005), represent an agreement between 196 countries, including all WHO Member States, to work together for global health security.

Through IHR, countries have agreed to build their capacities to detect, assess and report public health events. WHO plays the coordinating role in IHR and, together with its partners, helps countries to build capacities.

IHR also includes specific measures at ports, airports and ground crossings to limit the spread of health risks to neighboring countries, and to prevent unwarranted travel and trade restrictions so that traffic and trade disruption is kept to a minimum.
The Global Health Security Initiative (GHSI) is an informal, international partnership among like-minded countries to strengthen health preparedness and response globally to threats of biological, chemical, radio-nuclear terrorism (CBRN) and pandemic influenza.

This Initiative was launched in November 2001 by Canada, the European Union, France, Germany, Italy, Japan, Mexico, the United Kingdom and the United States. The World Health Organization serves as an expert advisor to the GHSI. The GHSI was envisaged as an informal group to fill a gap for like-minded countries to address health issues of the day, such as global health security. The Initiative was not intended to replace, overlap or duplicate existing fora or networks.

For further details on the origin and objectives of the GHSI, please consult the "Background" section of the website.

COMMUNIQUÉ - SEVENTEENTH MINISTERIAL MEETING OF THE GLOBAL HEALTH SECURITY INITIATIVE (GHSI) BRUSSELS, Belgium — February 24, 2017
What Is GHSA?

The Global Health Security Agenda (GHSA) was launched in February 2014 and is a growing partnership of over 50 nations, international organizations, and non-governmental stakeholders to help build countries’ capacity to help create a world safe and secure from infectious disease threats and elevate global health security as a national and global priority.

GHSA pursues a multilateral and multi-sectoral approach to strengthen both the global capacity and nations’ capacity to prevent, detect, and respond to human and animal infectious diseases threats whether naturally occurring or accidentally or deliberately spread.

Learn more ➤
Global Health Security Agenda

VISION

Our vision is a world safe and secure from global health threats posed by infectious diseases – where we can prevent or mitigate the impact of naturally occurring outbreaks and accidental or intentional release of dangerous pathogens, rapidly detect and transparently report outbreaks when they occur, and employ an interconnected global network that can respond effectively to limit the spread of infectious disease outbreaks in humans and animals, mitigate human suffering and the loss of human life, and reduce economic impact.

Global health security is a shared responsibility that cannot be achieved by a single actor or sector of government. Its success depends upon collaboration among the health, security, environment, and agriculture sectors.

COUNTRY ASSESSMENTS

External assessments are a vital tool to measure progress toward increased capacity, and a continued, transparent, objective assessment process is necessary to validate our collective success in GHSA implementation. The GHSA Steering Group has developed a voluntary assessment process that can independently assess the health security of each country, as well as offer assistance in determining the measures necessary for improving health security. Evaluations can be used to strengthen the countries’ own efforts in the detection, prevention, and control of communicable diseases and biological threats, as well as provide a mechanism to match gaps in capacity to resources.

Review existing country assessments.

The Action Packages

Action Packages [PDF, 257KB]

Driving Outcomes Toward Achieving the GHSA Target [PDF, 1.2MB]

- Prevent 1: Antimicrobial Resistance
- Prevent 2: Zoonotic Disease
- Prevent 3: Biosafety and Biosecurity
- Prevent 4: Immunization
- Detect 1: National Laboratory System
- Detect 2 & 3: Real-Time Surveillance
- Detect 4: Reporting
- Detect 5: Workforce Development
- Respond 1: Emergency Operations Centers
- Respond 2: Linking Public Health with Law and Multisectoral Rapid Response
- Respond 3: Medical Countermeasures and Personnel Deployment Action Package
Mission

Our challenge: Infectious diseases are a global problem
Vaccines are part of a global solution

We want to stop future epidemics by developing new vaccines for a safer world.

Vaccines are one of the world’s most important health achievements. Yet their life-saving potential hasn’t yet been realised for many known and unknown epidemic threats, particularly in low-income countries, where the risks and needs are often greatest.

CEPI folder
Here you can download a high level summary of the scope and activities of CEPI.

PDF FORMAT - 569KB
Download 📄
UK Vaccine Network

The UK Vaccine Network brings together industry, academia and relevant funding bodies to make targeted investments in specific vaccines and vaccine technology for infectious diseases with the potential to cause an epidemic.

Role of the group

Vaccines are widely recognised as an important mechanism in controlling infectious disease outbreaks. However, outbreaks of some of the world’s deadliest diseases only occur intermittently, and often in the world’s poorest countries, meaning that there may not be a strong market incentive to for the pharmaceutical industry to develop vaccines for such diseases.

The UK government is taking concerted and coordinated action to address this market failure. The UK has committed to invest £120 million between 2016 and 2021 on the development of new vaccines for such diseases, in line with the expert advice provided by the UK Vaccines Network.

The focus of the Network is to identify and shortlist targeted investment opportunities for the most promising vaccines and vaccine technologies that will help combat infectious diseases with epidemic potential, and to address structural issues related to the UK’s broader vaccine infrastructure.

Membership

The UK Vaccine Network is made up of leading experts from academia, industry and policy. All members are invited to join the Network in a personal capacity, not as representatives of specific organisations or bodies.

Chair

Chris Whitty, Chief Scientific Adviser to the Department of Health
Where next?
"Together for a healthier world"

Dr Tedros Adhanom Ghebreyesus

Vision

I envision a world in which everyone can live healthy, productive lives, regardless of who they are or where they live. I believe the global commitment to sustainable development – enshrined in the Sustainable Development Goals – offers a unique opportunity to address the social, economic and political determinants of health and improve the health and wellbeing of people everywhere.

Achieving this vision will require a strong, effective WHO that is able to meet emerging challenges and achieve the health objectives of the Sustainable Development Goals. We need a WHO – fit for the 21st century – that is efficient, adequately resourced and results driven, with a strong focus on transparency, accountability and value for money.
WHO priorities

Health for all
Ensuring universal health coverage without impoverishment is the foundation for achieving the health objectives of the Sustainable Development Goals – because when people are healthy, their families, communities and countries benefit. Our top priority must be to support national health authorities’ efforts to strengthen all the building blocks of health systems and to enact policies aimed at ensuring health care is equitable and affordable for all.

Health emergencies
In today’s interconnected world, public health emergencies can affect anyone, anywhere – and the Ebola crisis in West Africa showed us the dangers of being unprepared. The development of resilient and robust global and local health systems capable of preventing, monitoring, detecting and responding to public health emergencies must therefore be a key priority, closely linked to our efforts to achieve universal health coverage.

Women, children and adolescents
We cannot achieve the ambitious health and development targets in the Sustainable Development Goals unless we secure the health, dignity and rights of women, children and adolescents. Yet, in too many places, gender gaps, harmful cultural and social practices and gender-based violence are negatively impacting these individuals. Because of that, we must put the well-being of women, children and adolescents at the centre of global health and development.

The health impacts of climate and environmental change
Climate and environmental change impact many aspects of life that are inextricably linked to health – food security, economic livelihoods, air safety and water and sanitation systems – and WHO estimates that 12.6 million people die each year as a result of living or working in an unhealthy environment. To address this, WHO has a key role to play advancing both mitigation and adaptation strategies for climate and environmental change, working in close partnership with other UN agencies and stakeholders.

A transformed WHO
Building WHO into a more effective, transparent and accountable agency will require striking a balance between bold reform and stability of the organization. To meet the evolving needs and challenges of the 21st century and deliver game-changing, sustainable results, WHO will need to focus its work where it has the most value, broaden and intensify its engagement across stakeholders, attract more predictable, flexible financing, and work to identify and retain the best global talent.

— WHO Director-General
Strengthening health security by implementing the International Health Regulations (2005)

IHR (2005) Monitoring and Evaluation framework
Joint External Evaluation tool (JEE tool) Reporting Template

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Downloads
— English

Overview
This template was developed to assist JEE teams to report findings of the joint external evaluation missions.
What are JEEs and how did they evolve?

• JEEs are an important component of the IHR Monitoring and Evaluation Framework
• Provide objective basis for development of national plans for strengthening IHR core capacities
• Inclusive multi-stakeholder alliance for JEEs is needed to:
  • Accelerate and coordinate objective country assessment process
  • Facilitate engagement between countries, international organizations, donors, and technical experts involved in the assessment process
  • Promote transparency in exchanging information on the results of assessments, in particular to donors interested in funding the development and strengthening of country capacities
Global Health Security Supplement

SUPPLEMENT ISSUE

Global Health Security Supplement

Overview

Progress and Opportunities for Strengthening Global Health Security
F. J. Angulo et al.

PDF Version | PDF - 791 KB - 4 pages

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US Centers for Disease Control and Prevention and Its Partners’ Contributions to Global Health Security
J. W. Tapper et al.

PDF Version | PDF - 2.73 MB - 10 pages