



RISK OF WORLDWIDE PANDEMIC AND STATE OF PANDEMIC PREPAREDNESS: FOCUS ON INFLUENZA

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February 4th 2008**

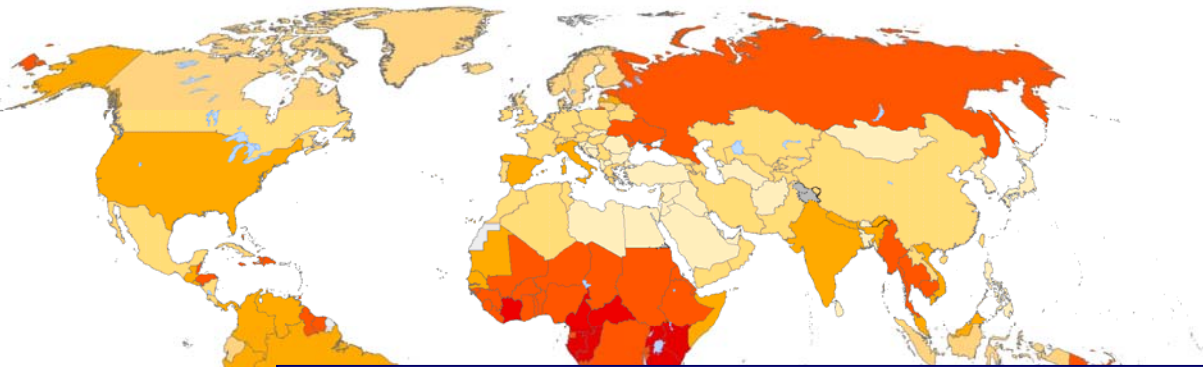


History: Disease Outbreaks and Pandemics

Consequences for societies, economies and human
security

(Slides courtesy of WHO)

The HIV/AIDS pandemic



Adult prevalence rate
15.0 - 34.0%
5.0 - <15.0%
1.0 - <5.0%
0.5 - <1.0%
0.1 - <0.5%
<0.1%

**Human suffering,
+ Economic cost in US\$ Billions**

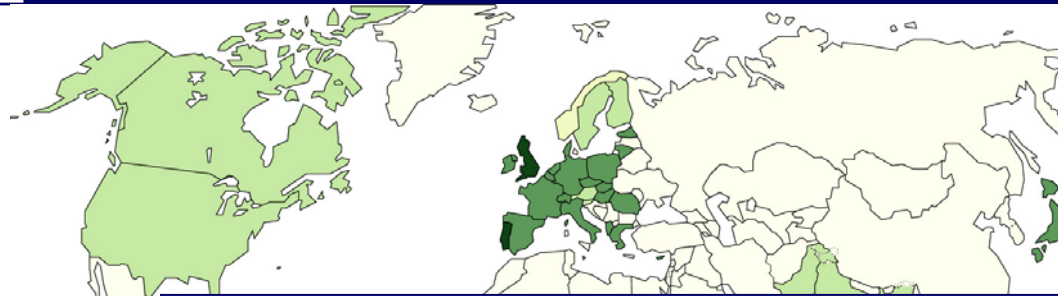


A new virus recognized in the early 1980s

December 2007

- 33.2 Mo HIV infected
- 2.5 Mo deaths in 2005
- Continued spread in Africa
- Challenge for young women
- Drug-Resistance
- No vaccine

Risk Distribution of Bovine Spongiform Encephalopathy (BSE) worldwide

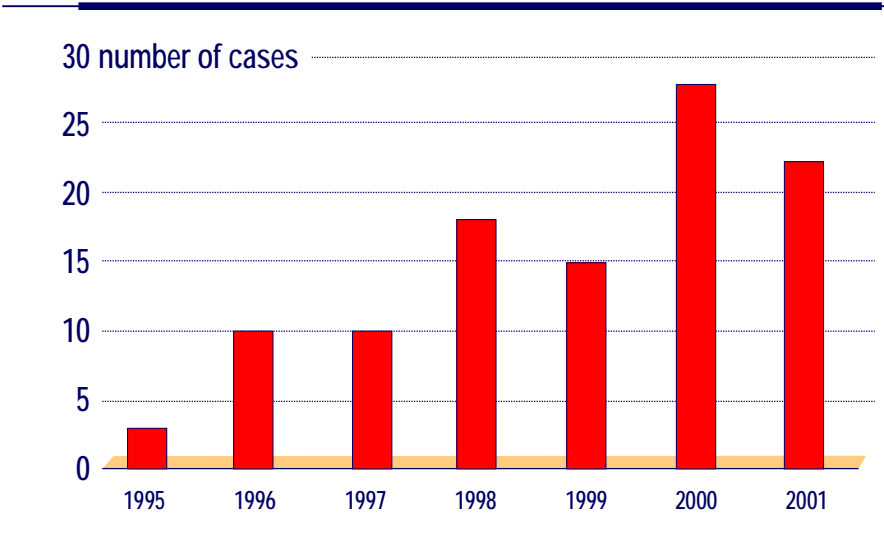


- Category I
(highly unlikely)
- Category II
(risk of BSE is unlikely but cannot be excluded)
- Category III
(likely to present a BSE risk, even if not confirmed, or pre)
- Category IV
(confirmed, at a higher level)

**Human suffering,
+ Economic cost in US\$ Billions**



Global death reports of vCJD over time
n = 122 deceased (11 probable/alive)



France (5/2) Italy (1/1)
Republic of Ireland (1)

Source: UK, France

- A new prion disease
- crossed the species barrier
- spread through the food-chain

March 2003: a new and severe acute atypical pneumonia emerges in Hanoi, Hong-Kong, Singapore and Toronto.



SARS

- 80
- 77
- 26
- A new *coronavirus*

**Human suffering,
+ Economic cost in US\$ Billions**

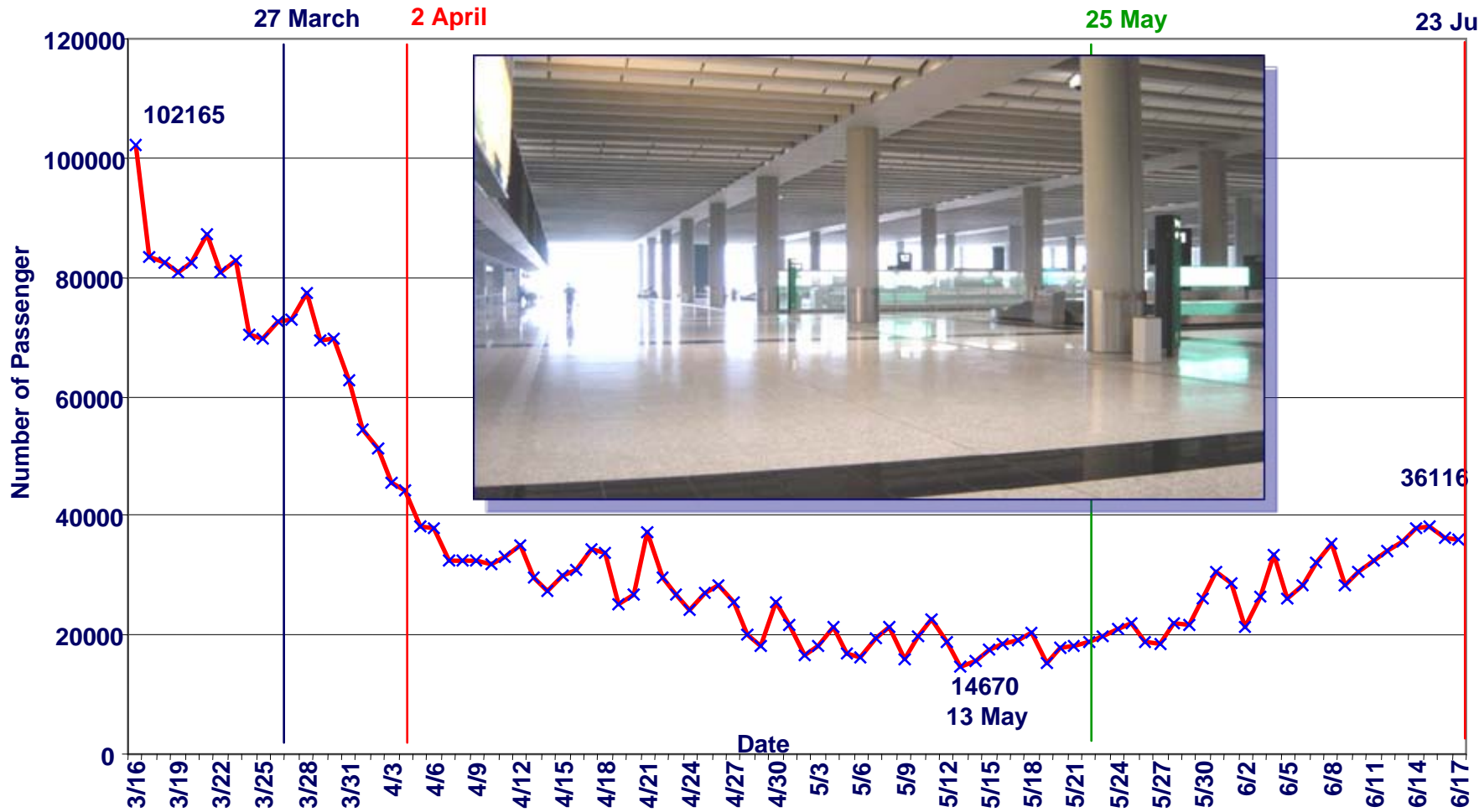


SARS: Trends in airline passenger movement Hong Kong, March - June, 2003



Screening of exit passengers WHO travel recommendations

WHO travel recommendations removed



Nipah Virus, Malaysia, 2001; Bangladesh, Feb 2004, Jan 2005



Nipah outbreak Bangladesh 2004. Epicurve by week of onset January February 2004 (N=22)

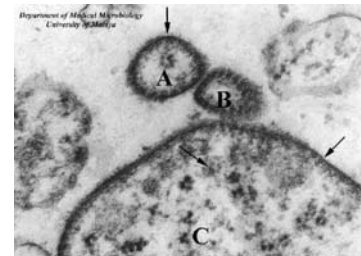
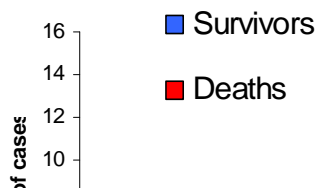
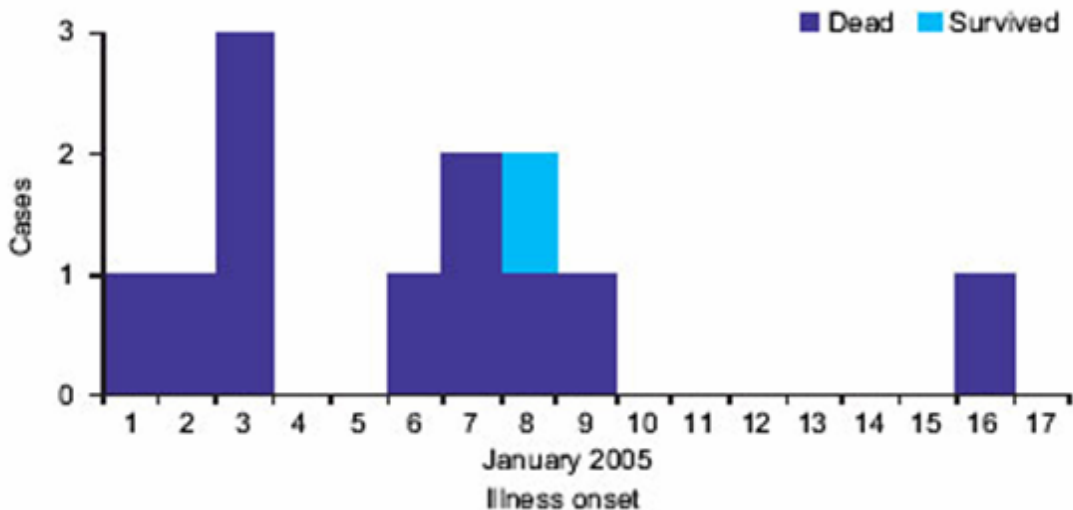
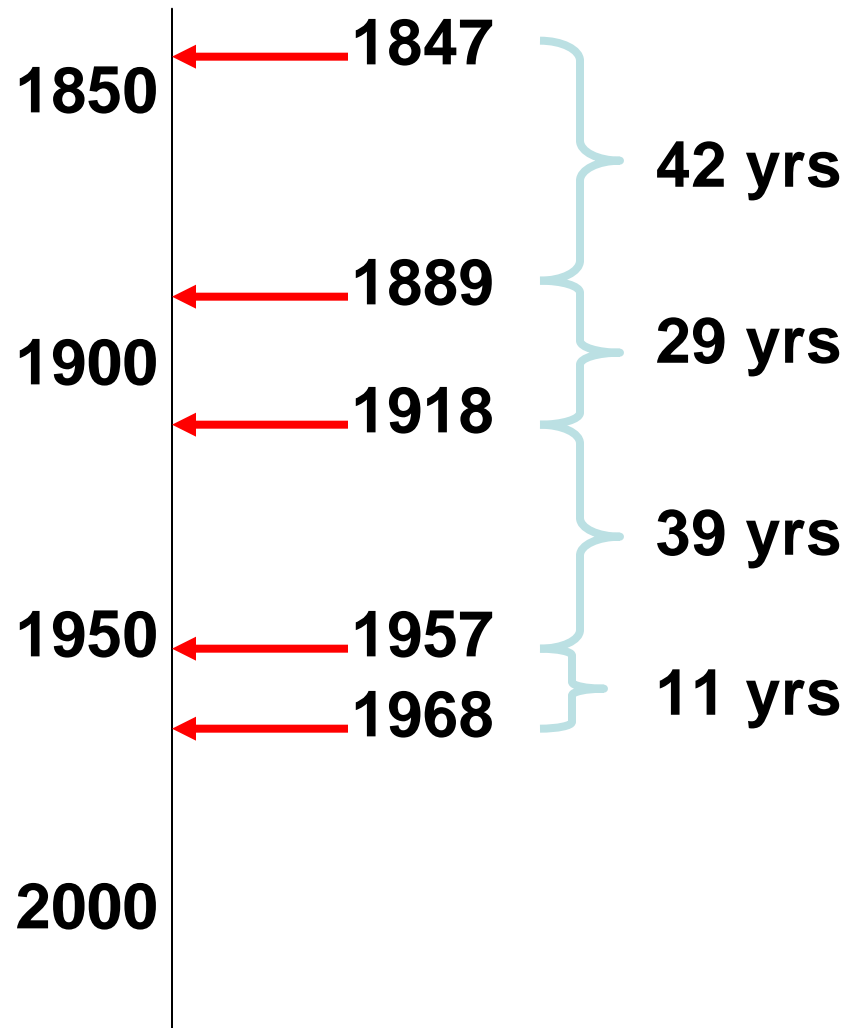


Figure 1: Dates of illness onset--encephalitis outbreak, Habla Union, Bangladesh.

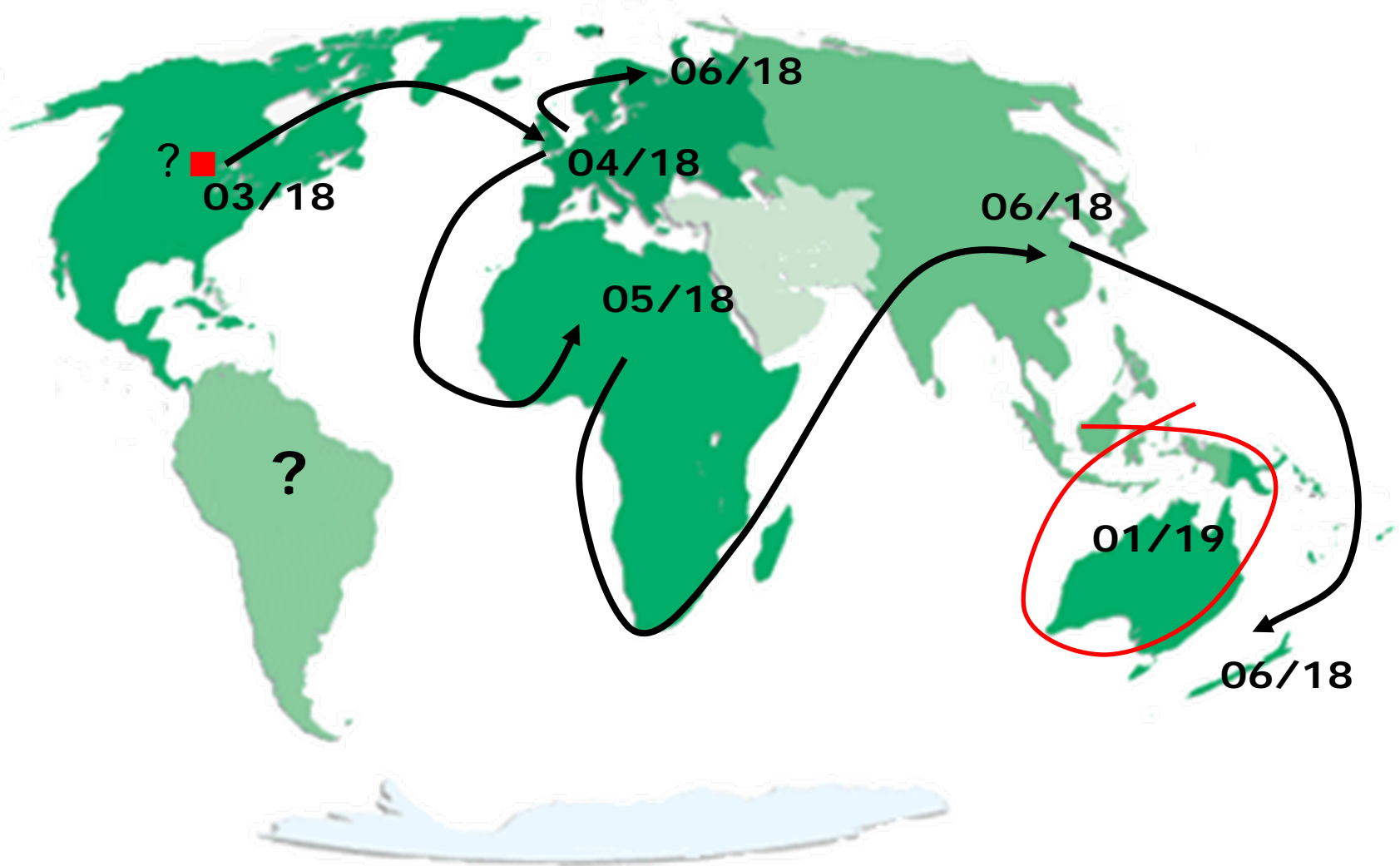




Past Influenza Pandemics



Geographic spread: 1918-19





Anticipating a pandemic and limiting its consequences

The threat from Highly Pathogenic
Avian Influenza (HPAI) H5N1

GLOBAL AVIAN INFLUENZA SITUATION

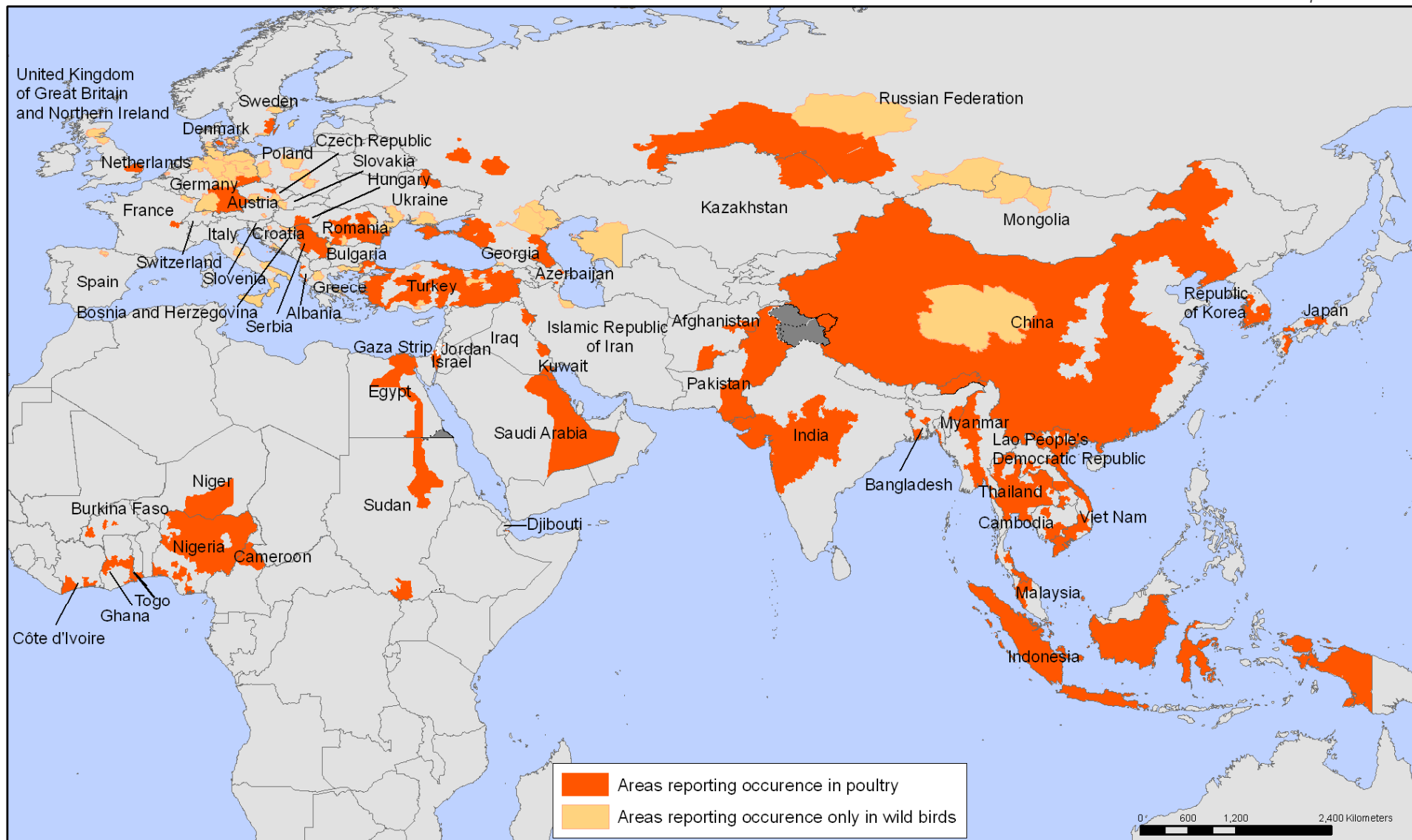
- **Continued H5N1 infections in bird population in parts of Indonesia, Egypt, Nigeria, Bangladesh, India, China and Vietnam**
- **Other countries experiencing outbreaks**
 - **Dangers posed by live bird markets and poultry production units**
 - **Spread through bird movements and trade: come contribution by migrating birds**
 - **Sporadic cases of human H5N1 infection**

SPORADIC HUMAN CASES OF AVIAN INFLUENZA

- Human infection with H5N1 is rare, and usually the result of virus transmission from birds to humans**
- H5N1 infected over 300 people since 2003**
- Over 200 have died, mostly children and young adults**
- Genetic make-up of virus evolves but there is no evidence of sustained human to human transmissibility**

Areas reporting confirmed occurrence of H5N1 avian influenza in poultry and wild birds since 2003

Status as of 31 August 2007
Latest available update



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The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Organisation for Animal Health (OIE) and national governments
Map Production: Public Health Mapping and GIS Communicable Diseases (CDS) World Health Organization

Threat of Human Influenza Pandemic

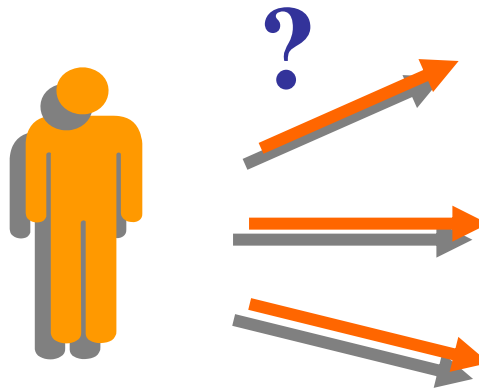
Inter-pandemic Period



H5N1:

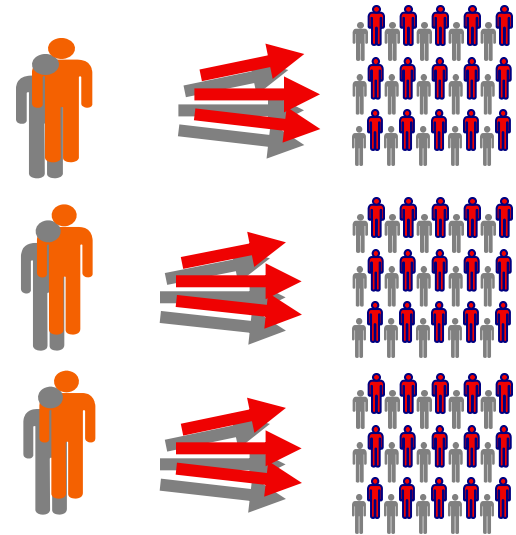
- Circulating in wild birds and poultry since 2003

Pandemic Alert Period



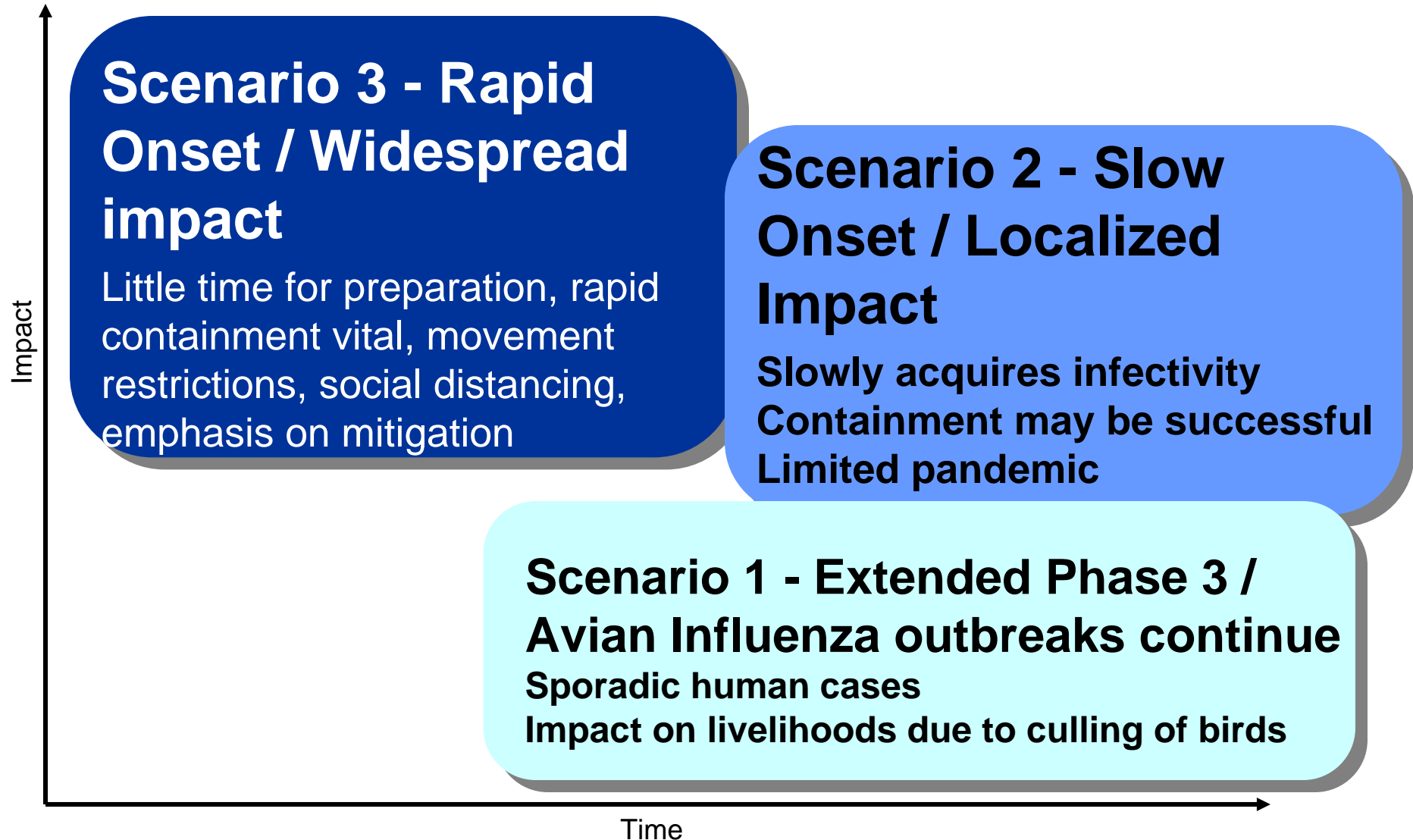
- Has infected humans in rare instances

Pandemic Period



- Will it become capable of human-to-human transmission?

THREE PANDEMIC SCENARIOS



CONSEQUENCES OF INFLUENZA PANDEMIC



Livelihoods

- Income loss due to market changes

Human Health

- High illness & potentially higher death rates
- Overstretched health facilities
- Disproportionate impact on vulnerable

Governance & Security

- Higher public anxiety
- Increased demand for governance & security
- Reduced capacity due absence and illness

Social & Humanitarian Needs

- Deterioration of coping & support mechanisms
- Interruption in public services
- Quarantine policies

Economic Systems

- Trade & commerce disruptions
- Labour shortages
- Interruption of regular supply systems

ECONOMIC IMPACT OF PANDEMIC



- **The next influenza pandemic will start with local outbreaks.**
- **If not contained it will quickly have a global impact - millions of deaths, up to \$2 trillion of economic consequences and as much as 5% reduction in GDP**
 - **Compare with SARS - <1000 dead, \$50 billion economic loss.**
- **Deaths, absenteeism and attempts to avoid infection have consequences for supply and demand side of economy**
 - **Markets close, utilities unreliable, telecoms break, cash in short supply**
 - **Travel and leisure travel reduces, demand for food changes**
- **There may be threats to Rule of Law and Security**
- **Should be a temporary shock: recovery will be painful**



Multi-sectoral Pandemic Preparedness

Being ready to detect, contain, control, mitigate

Global Strategy Agreed Nov 2005



1 Stop influenza in animals through stamping out the disease at the place where the infection starts

2 Prevent emergence of pandemic by limiting human exposure;

- if pandemic does start, contain it quickly;**
- if containment is not possible, mitigate pandemic consequences.**

3 Countries in lead: Support from Global Partnership

GETTING PREPARED 1



- **GOALS**

- Early Detection, Investigation and Confirmation, Containment

- **STRATEGIES**

- Social distancing, personal protection, movement restriction, maintenance of essential infrastructure
- Systematic use of anti-viral therapy (oseltamivir)
- Rapid development and equitable distribution of effective vaccines (Major controversy: will poor countries have access)

GETTING PREPARED 2



- **APPROACH**

- Plan to mitigate effects of pandemic on Local Communities: Economies, Governance, Basic Needs, Border Movements
- Build Resilience through high level of popular awareness, understanding and engagement
- Government reaching out to and working with Private Entities and Voluntary Bodies
- Government and voluntary bodies preparing for large scale Humanitarian Relief

GETTING PREPARED 3



• PROCEDURES

- Robust information systems established
- Protocols developed for use of stockpiles, emergency operations
- Civil society, NGOs, local government, Private Sector synchronized
- Systems for disseminating information to public via media developed and tested
- Continuity plans for different entities simulated and lessons applied
- Concept for putting multiple plans into practice, together, developed and put to test

MULTIPLE SECTORS INVOLVED

Human Health *Containing the pandemic: Medicines, Commodities, Equipment, R and D, Patient Care, Lab services*

Financial Services *Keeping financial systems going: Banking (cash and settlements), financial regulation, risk management and insurance*

Utilities, Personal Services: *Electricity, Water, Food, Telecoms, Postal services, Retailing (Catering for the needs of the most vulnerable)*

Travel – Logistics, Business, Leisure *Supply systems; Air, sea, rail; Ports; Pilgrimages; Sports and other events; Tourism*

Government, Security, Military *Public Services, Rule of law, Judiciary and Correction, Private Security, respect for rights*

Information Management *Transparency Strategic communication; Broadcast and print; Good use of www*

Environment and hygiene *Biosecurity: Cleaning, Maintenance, refuse management, wildlife*

Food and Livestock Production *Growing, Processing, Marketing and Distribution of animal meat for human consumption*

PANDEMIC VACCINES



- Global Influenza Surveillance Network
- Procedure for identifying candidate strains for seasonal vaccines
- Seasonal Vaccine: Manufacture, Marketing, Distribution
- Pre-pandemic and Pandemic Vaccines
- Stockpiles and accelerated production
- Systems
 - Perceived Imperfections
 - Regulation and standardization
 - Increasing access for all



Helping Societies Get Ready for Pandemic Response

Enabling Factors for Success



1. **Good information**: Prompt and precise
2. **Effective interventions**: Right actions, right place, right time evidence-based
3. **Political direction**: From the Top
4. **Rapid Scale Up**: capacities, cash, people, management well tested
5. **Social Mobilization**: around risks & actions
6. **Incentives**: for prompt reporting
7. **Alliances**: all of government & partners
8. **Management**: information, analysis, change



Engaging community members

Use Clear Messages



BUILDING ALLIANCES AND TRUST THROUGH COORDINATION

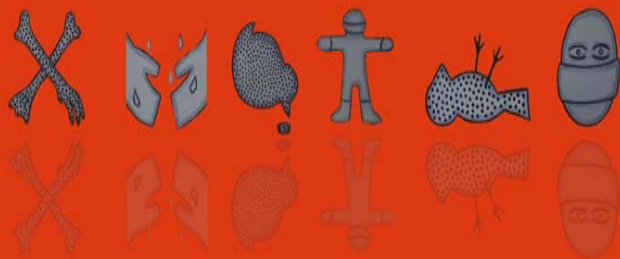


- **Normal business: Meetings and Statements**
- **Sufficient trust to share information and samples**
- **Agreeing to pursue one strategy and review it at intervals**
- **Achieving Harmony and Avoiding Discord**
- **Seeking Synergy (Better than the sum of the parts) and (ideally)**
- **Working as one (Unity)**

Responses to Avian Influenza
and State of Pandemic Readiness

THIRD GLOBAL PROGRESS REPORT

DECEMBER 2007



UN System Influenza Coordinator & World Bank

Measuring Progress UN- World Bank: Assessment of Progress and impact of efforts to control Avian influenza and prepare for the next Pandemic

(Based on responses
from 146 countries)

Assessment of Progress (1)



- The H5N1 virus is being continuously transmitted – and is not yet eliminated - within locations in at least 6 countries
- Countries report improved capacity to respond to Highly Pathogenic Influenza (HPAI) infection (more rapid and more effective): a movement of hundreds of thousands of people
- Veterinary capacity in many countries remains insufficient,
- The H5N1 virus is a clear and present danger: **NO CERTAINTY** about what it will do next.

Assessment of Progress (2)



Reports suggest

- insufficient coordination between animal and human health surveillance and response networks within most regions
- improvement in human influenza virus diagnostic and surveillance capacity globally (within the context of capacity to implement the International Health Regulations). However, this capacity varies significantly between countries
- Over 90% of countries report have developed pandemic preparedness plans but few are prepared for multi-sectoral and multi-level responses

Assessment of Progress (3)



- Few countries have (a) sufficiently tested their plans, (b) included wider social and economic impacts or (c) considered vulnerable groups including migrants. These concerns apply to wealthy and poor countries.
- 73% of countries have implemented communication strategies to create awareness around the threat posed by HPAI H5N1 (with significant assistance from UNICEF): awareness does not always translate into behaviour change
- NB some excellent exercises: Australia, APEC, UK
- Humanitarian organizations and Red Cross Movement preparing for a pandemic at local level

2008 onwards



- **A time to renew energy and focus**
 - **Strengthening community resilience**
 - **Building solidarity between nations (inevitable tensions between foreign and domestic policy)**
 - **Promoting Convergence of disciplines and Synergy of actors**
 - **Public-Private-Voluntary partnerships and global movements**
- **The threats are real...**



Thank you.

www.un-influenza.org