

# Implementation of Intervention Strategies – the Multisectoral Approach in Europe

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and Control

# Acknowledgements



- World Health Organisation
- UNSIC, OCHA and WHO
- Eurogrippe and the French Presidency
- The London Workshop
- European Commission & WHO Workshops
- ECDC Colleagues
- European Union and European Economic Area Member States

# Cat Herding?

# Estimated additional deaths if a 1918-1919 Pandemic occurred now

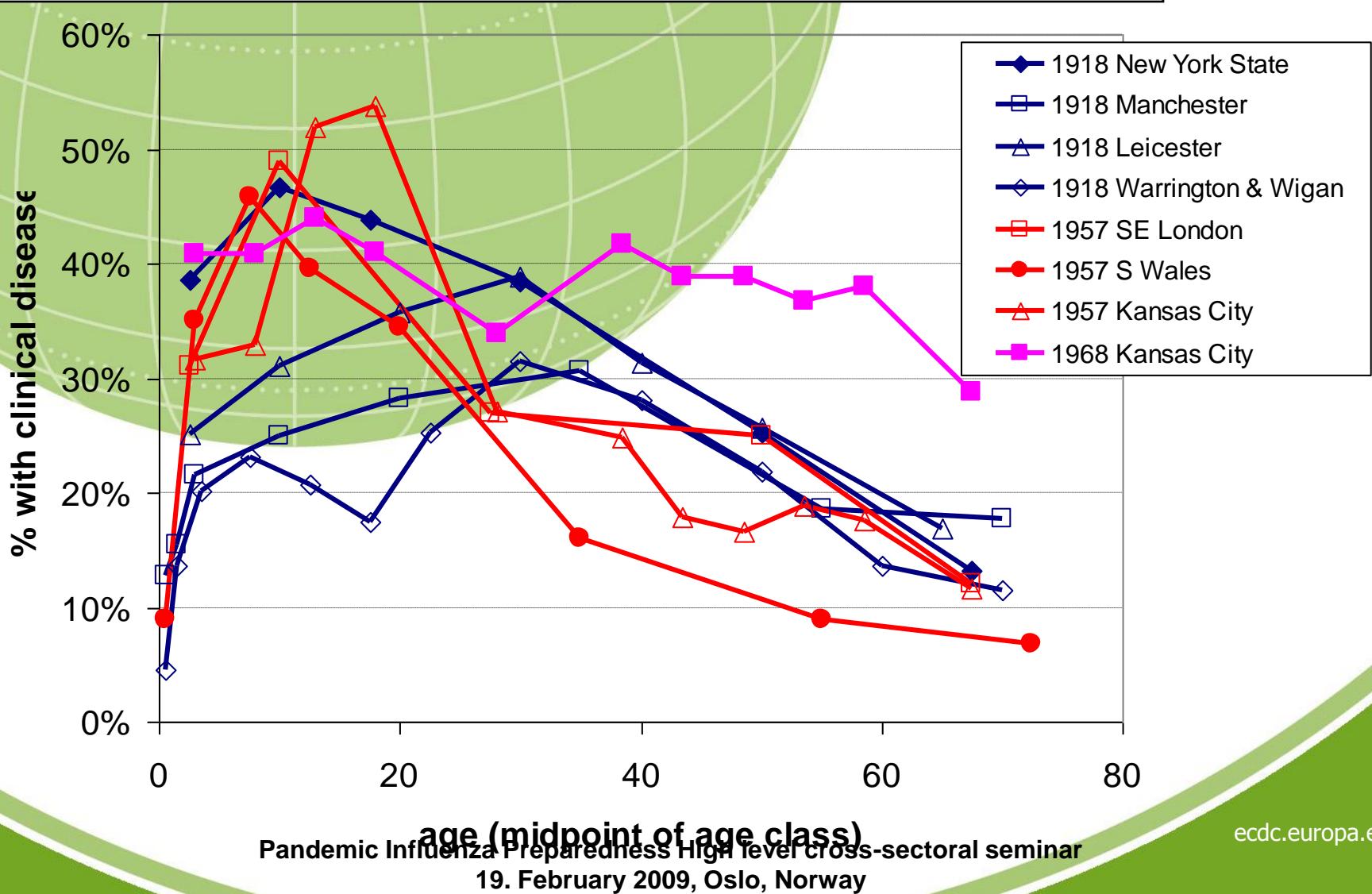
(Murray et al - Lancet 2006 368: 2211-2218) Probably an underestimate

Austria	13000	Latvia	13 800	Netherlands	23100
Belgium	14900	Lithuania	18800	Poland	155 200
Bulgaria	47100	Germany	116400	Portugal	25 100
Czech Rep	34100	Greece	27400	Romania	149 900
Cyprus	1900	Hungary	37700	Slovenia	5000
Denmark	7300	Ireland	6700	Slovakia	20600
Estonia	6100	Italy	95200	Spain	87100
Finland	8100	Luxembourg	500	Sweden	13300
France	89600	Malta	1100	UK	93000
EU Total	1.1m	Iceland	420	Norway	5800

# The Problem

## Pandemics are not standard

# Age-specific clinical attack rate in previous pandemics – who is affected

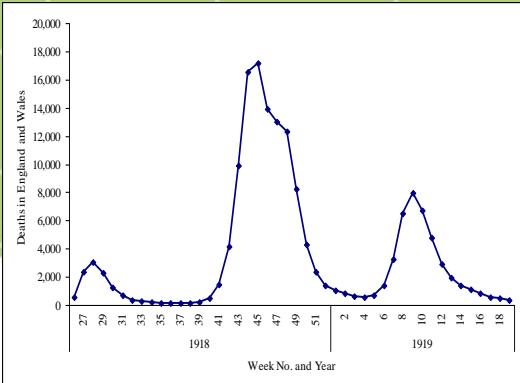


# Uncertainty - Pandemic

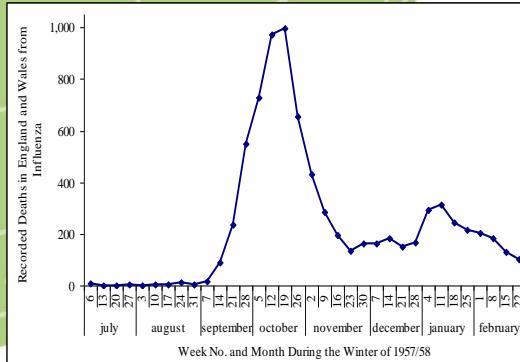


- Three pandemics (1918, 1957, 1968)
- Each rather different

## 1918 Pandemic



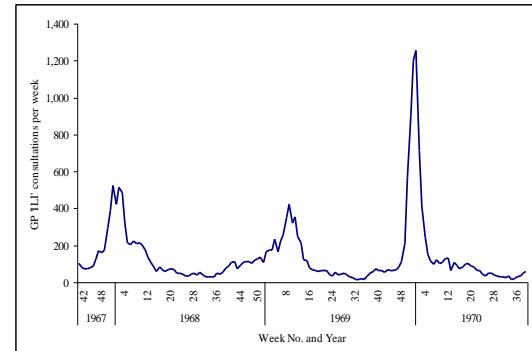
## 1957 Pandemic



1918/9: Flu Deaths Eng. and Wales

2-3 (US) Mills, Robins, Lipsitch (Nature 2004)  
1.5-2 (UK) Gani et al (EID 2005)  
1.5-1.8 (UK) Hall et al (Epidemiol. Infect. 2006)  
1.5-3.7 (Geneva) Chowell et al (Vaccine 2006)

## 1968 Pandemic



1968/9: GP consults Eng. and Wales

1.8 (UK) Vynnycky, Edmunds (Epidemiol. Infect. 2007)  
1.65 (UK) Gani et al (EID 2005)  
1.5 (UK) Hall et al (Epidemiol. Infect. 2006)  
1.68 Longini et al (Am J Epidemiol. 2004)

1.5-2.2 (World) Cooper et al (PLoS Med. 2006)  
2.2 (UK) Gani et al (EID 2005)  
1.3-1.6 (UK) Hall et al (Epidemiol. Infect. 2006)



# Three planning scenarios

Impact ↑

## Scenario 3 - Rapid Onset / Widespread impact

Little time for preparation, rapid action vital, movement restrictions, emphasis on mitigation: Major pandemic

## Scenario 2 - Slow Onset / Localized Impact

Slowly acquires infectivity  
Containment may be successful  
Limited pandemic

## Scenario 1 - Extended Phase 3 / Avian Influenza outbreaks continue

Sporadic human cases  
Impact on livelihoods due to culling of birds  
No Pandemic

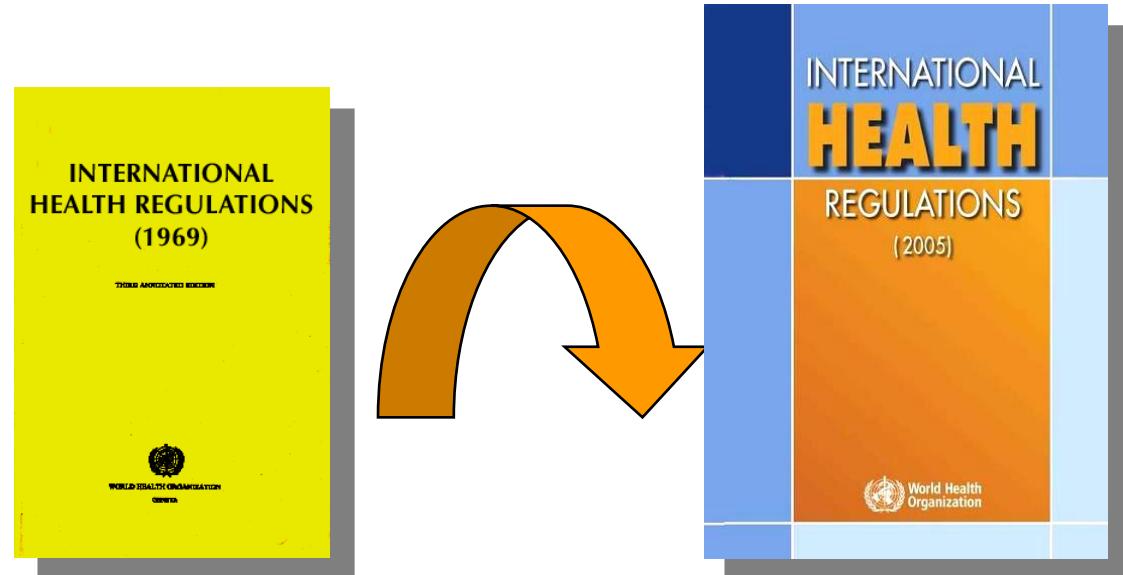
# Why New WHO Guidance 2009?

## *Global Landscape is Changing*

- More national experience has changed gaps & needs
  - H5N1
  - Pandemic preparedness
- New concepts & tools are available
  - International Health Regulations, stockpiles, rapid containment protocol ...etc
- New uncertainties & realities
  - Decreasing media attention & increasing national fatigue
  - Intergovernmental influenza virus & benefits sharing process

# Important Underlying Developments

- International Health Regulations (2005) now in force
- Provides over-arching international framework
- Covers all critical aspects for responding to global threats
  - Reporting
  - Communications
  - Decision making
  - Response
  - Capacities



# Important Underlying Needs

- More "whole of society" perspective while retaining unique & leading role of health sector
- More emphasis on ethical considerations to strengthen decision making
- Stronger emphasis on central role of communications
- Clarification or refinement of existing concepts such as pandemic phases

# Important Underlying Needs

- Incorporation of new concepts such as pandemic severity assessment
- More detailed guidance such as community-level disease control & response recommendations
- Incorporation of rapidly increasing new scientific & technical knowledge

# WHO Guidance on Pandemic Influenza

## Preparedness and Response:

### Core Document – March 2009

## Supporting Technical Documents

Recommended  
Disease  
Control  
Measures  
for  
Pandemic  
Influenza

Outbreak  
Communicat  
ions

Global  
Pandemic  
Influenza  
Surveillance

Laboratory  
Preparedness  
for  
Pandemic  
Influenza

Surge  
Capacity in  
Health  
Care  
Facilities

Non-  
Health  
Sector  
Preparedness

## Tools

Self-  
Assessment  
Checklist for  
Preparedness

Planning and  
Executing a  
Preparedness  
Exercise

Training  
CD-ROMs  
for Trainers

Rapid  
Containment  
Training  
Package

Handbook  
for the  
Public

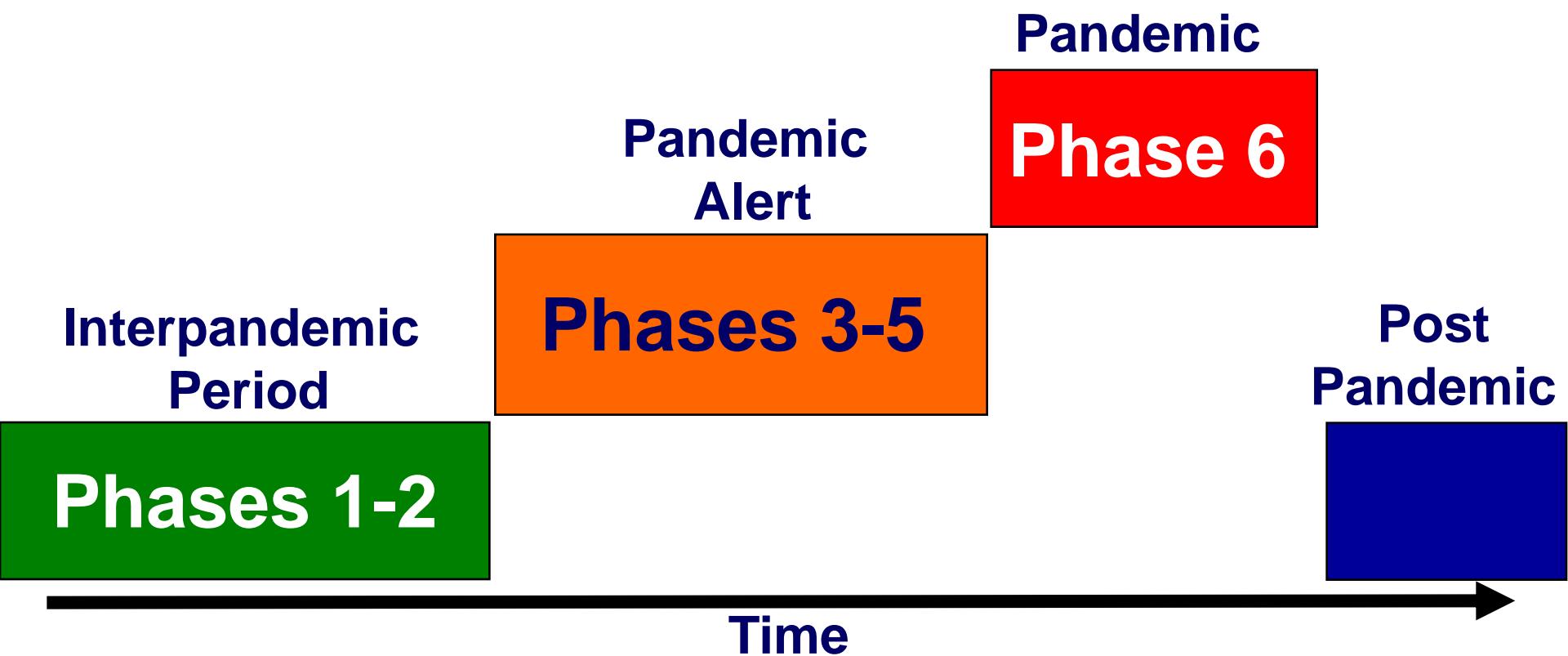
Sample  
Preparedness  
Plans

# Pandemic Phases

- Originally intended as planning tools to help decide when actions should take place
- 2005 guidance
  - 6 pandemic phases + post pandemic period
  - Simpler than phases in 1999 guidance
- Most national plans based on these phases

# 2005 Phases

## Structure & Pandemic Disease "Risk"

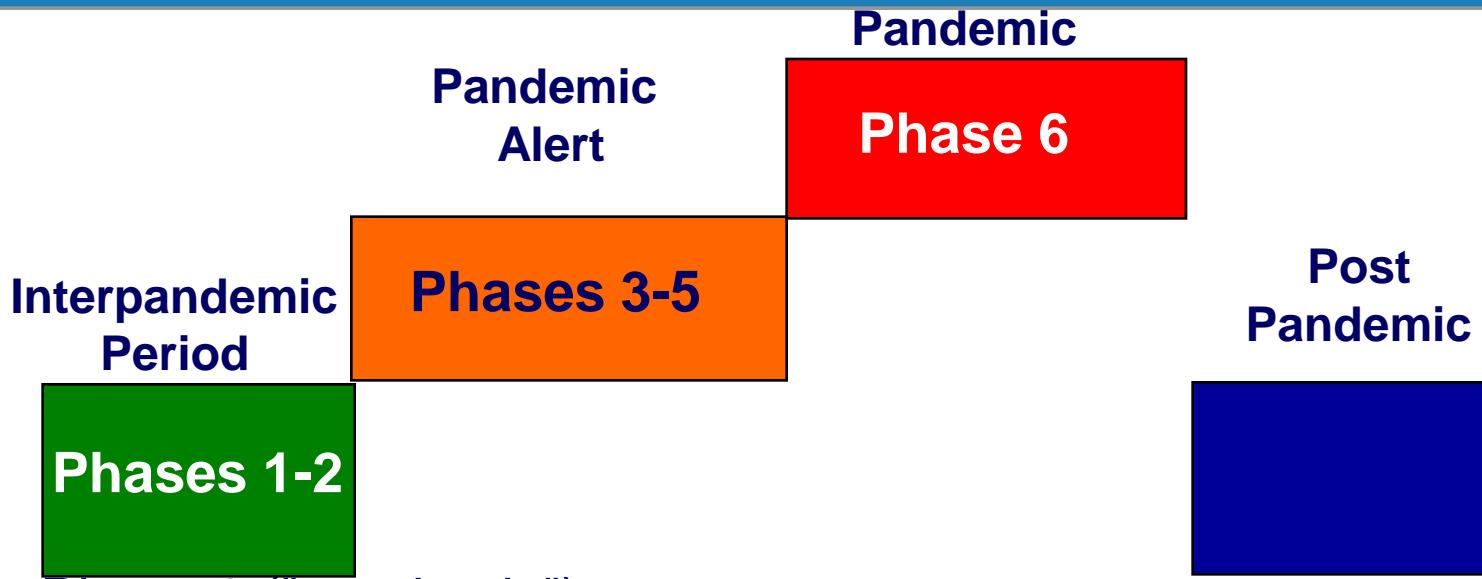


Epidemic and Pandemic Alert and Response



World Health Organization

# Issues With 2005 Phases

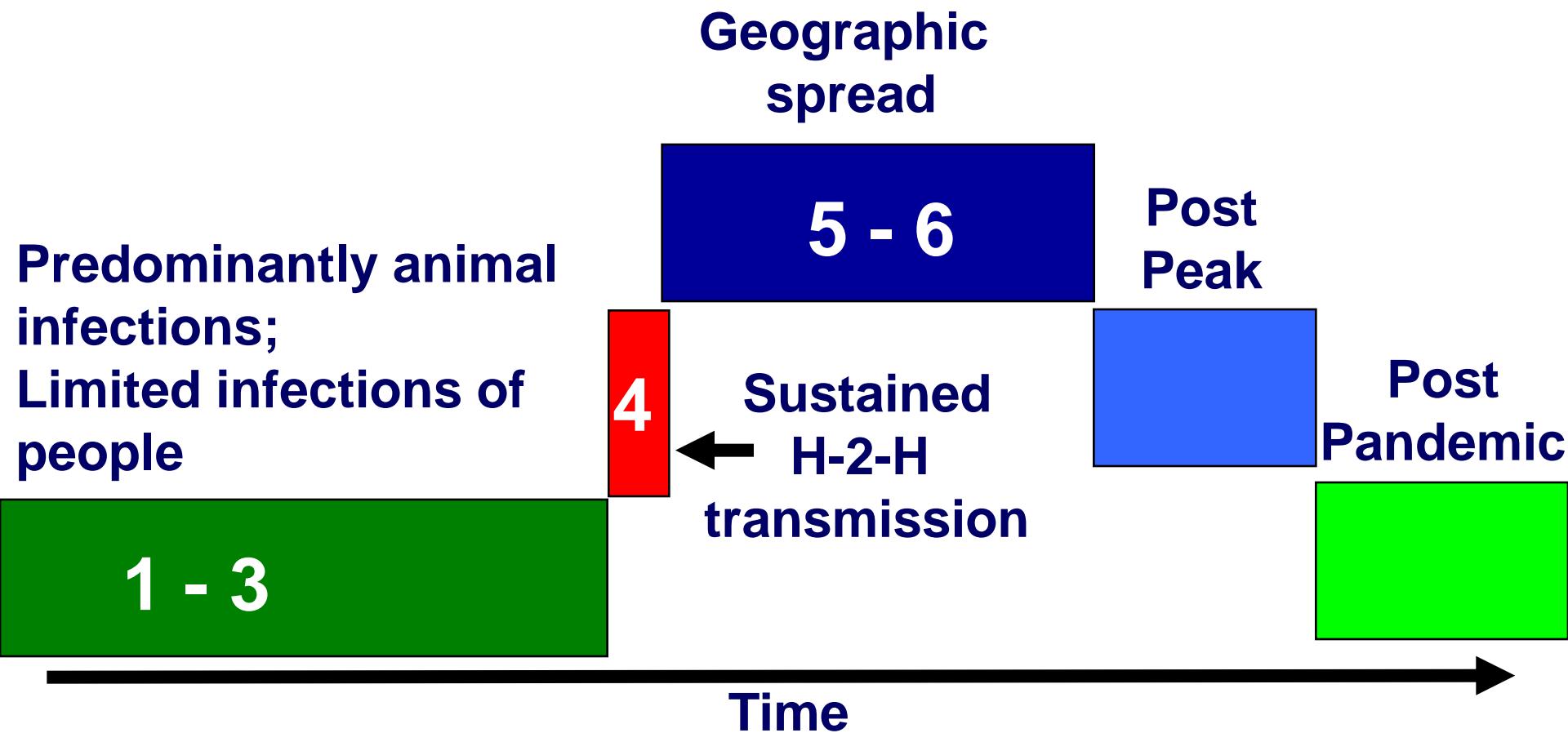


- Builds up to Phase 6 ("pandemic")
- Earlier phases much more critical for preparedness
- Progression does not convey epidemiological risk very well

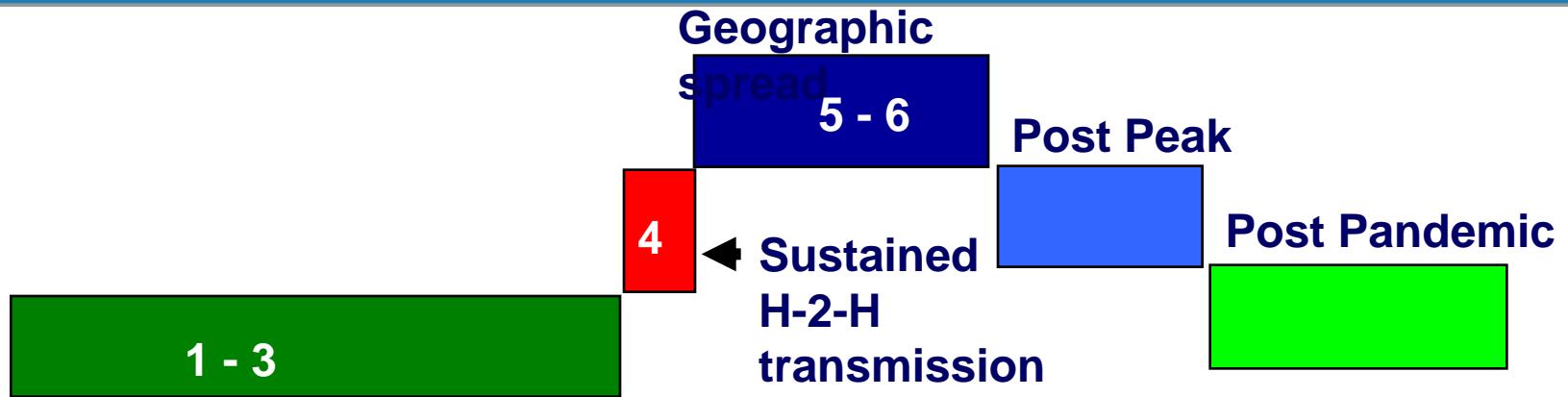
# Other Issues Related to 2005 Phases

- Difficulties with interpretation, especially Phase 4  
"small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting virus is not well adapted to humans"
- Why aren't we in phase 4 now?
- What does "well adapted" mean?

# Proposed 2009 Phases



# Advantages of 2009 Phases



- More accurate representation of epidemiological "risk"
- Identifies sustained H-2-H transmission as most pivotal event
- Better distinguishes between time for preparedness & response
- Defines post pandemic peak to facilitate recovery activities

# Simpler Definitions Based on Concrete Directly Visible Events

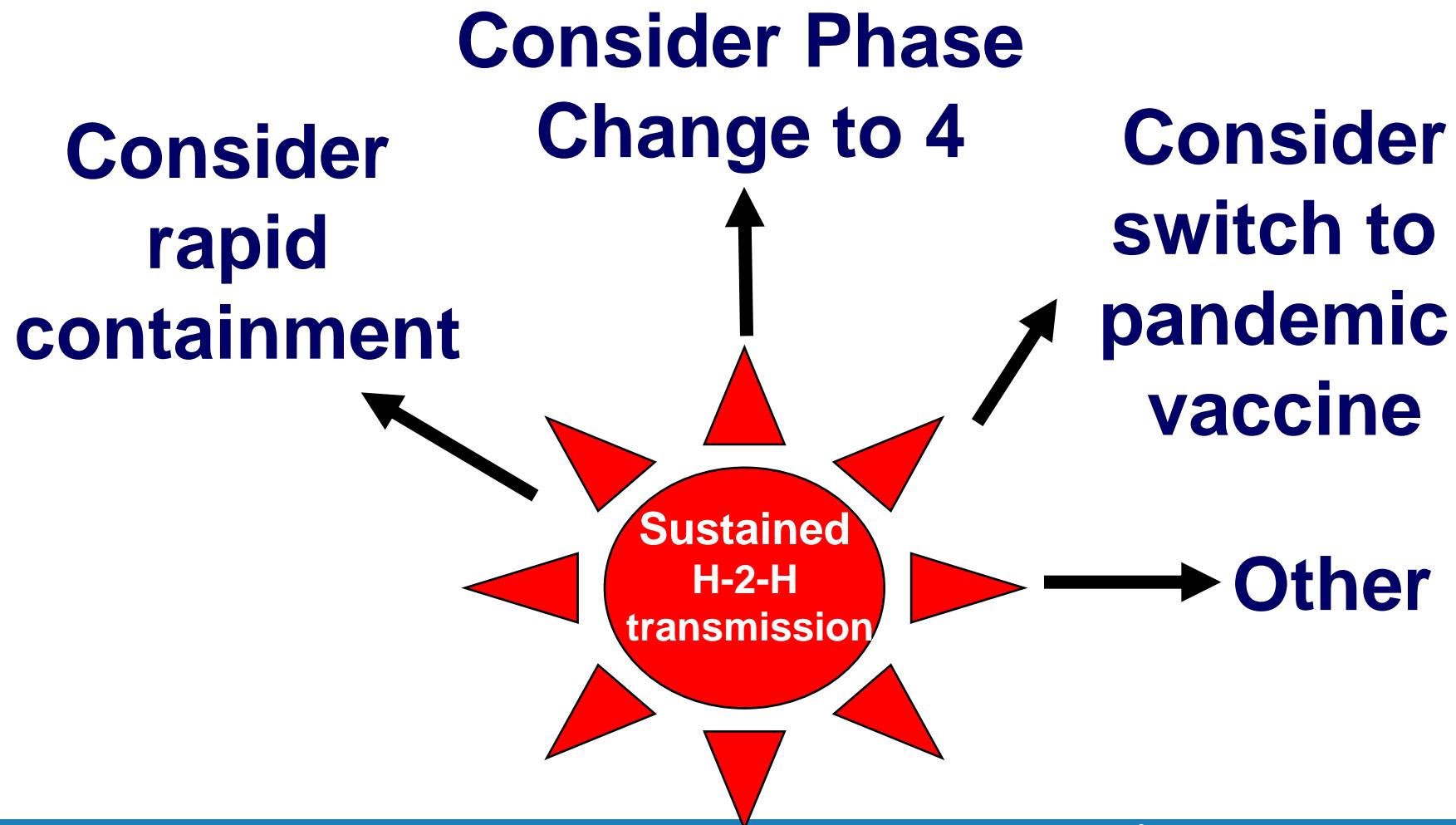
2005

Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.

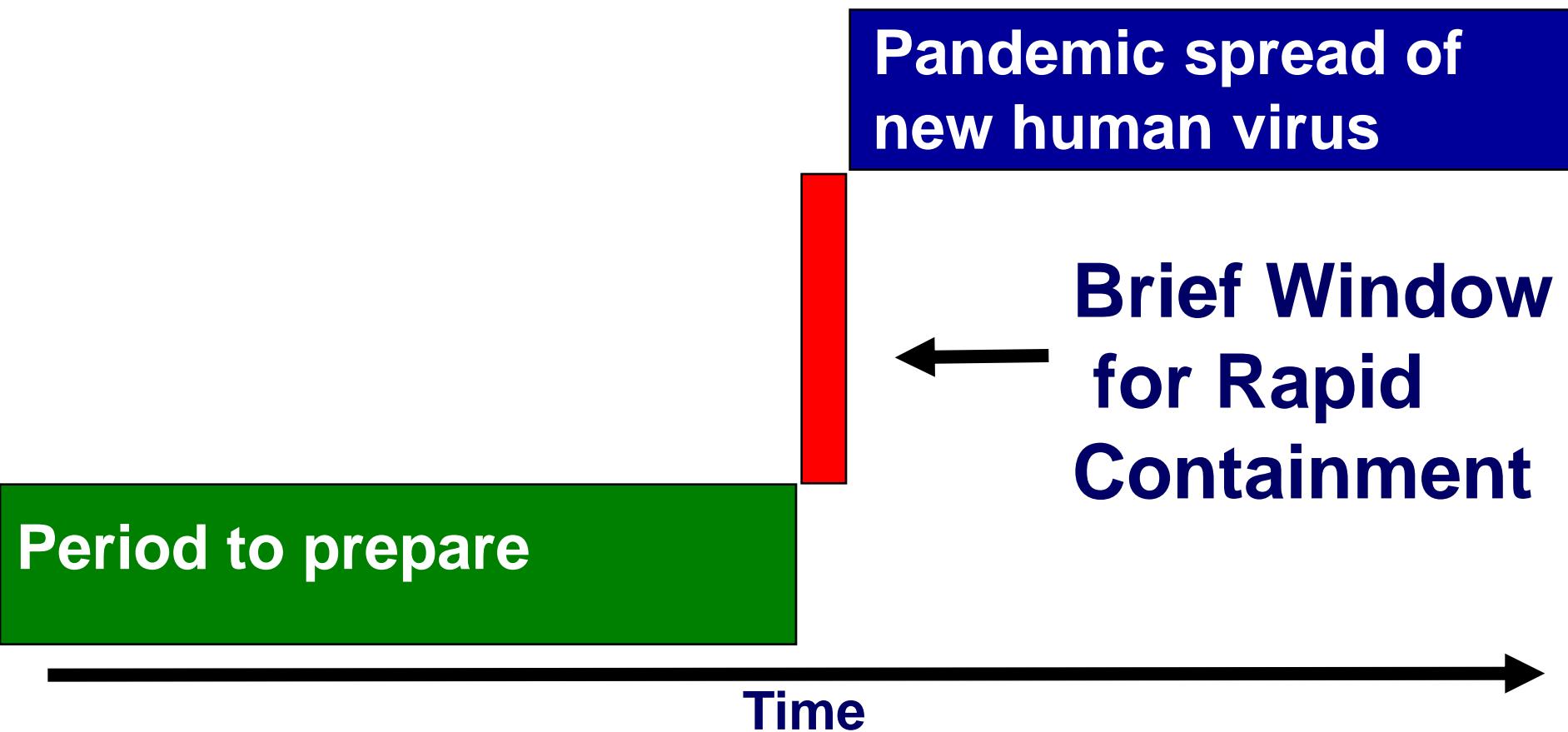
Current Draft

***Human-to-human transmission of an animal or hybrid animal-human influenza virus able to cause community level outbreaks has been verified.***

# First Detection of Community Level Outbreaks Will Require Several Urgent Decisions



# Rapid Containment of Initial Emergence of Pandemic Influenza



# Severity Assessment of Pandemics

- Anticipated need for early, public assessment by WHO
  - National decisions whether to implement potentially disruptive counter measures
  - Public communications & confidence
- Assessment will focus on direct health effects rather than social or economic consequences
  - For example, case fatality, age specific mortality or complications
- Simple 3 point scale
  - 1) mild 2) intermediate 3) severe

# New Discussion on Disease Control Measures

- School closings
  - Be prepared to suspend classes
- Mass transport
  - Insufficient evidence to advise on restriction for decrease disease burden
- Travel within borders
  - Restriction not recommended

# Where are we now A global perspective?

## **State of Pandemic Readiness – A Global Perspective**

**Very few** Comprehensive Whole-of-Society Planning

**FEW** Essential Infrastructure interdependencies and the role of other sectors of society is identified but critical sectors not fully involved in planning, lack concrete operational plans

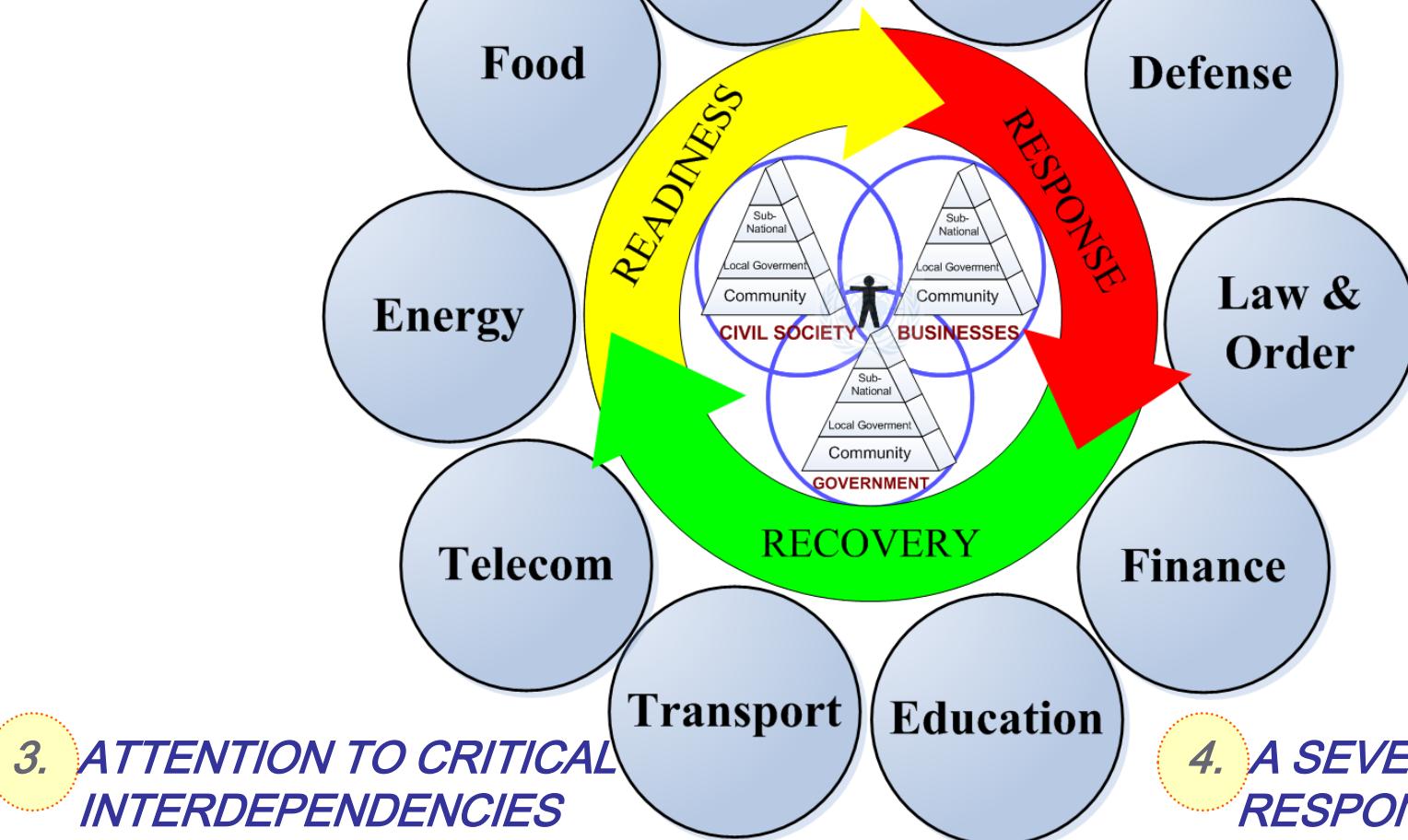
**MAJORITY** Pandemic Preparedness limited mainly to the Ministry of Health and Agriculture with some involvement of the disaster management structures



# The 5 Pandemic Readiness Principles

1. *A WHOLE-OF-SOCIETY APPROACH*

2. *PREPAREDNESS AT ALL LEVELS*





# Proposed Whole-of-Society Approach

Ministry of Health

Ministry of Agriculture

Multisectoral Government Pandemic Preparedness Core Group\*\* within NDMA

Committee Secretariat

Working Groups\*



1. Critical Infrastructure
2. Law and Order
3. Economy and finance
4. Education
5. Welfare
6. Border responses
7. Bilateral, regional and global cooperation

→\* Similar structures and processes should be developed in parallel at the state and district levels

→\*\* Similar to the Core Groups constituted for Earthquakes, Cyclones and Landslides

Pandemic Influenza Preparedness High level cross-sectoral seminar 19. February 2009,  
Oslo, Norway



1. Determine legal and regulatory changes that maybe necessary to enact pandemic preparedness measures
2. Provide BCP guidance to businesses and public institutions in the sector and monitor the compliance
3. Plan for the continuity of the essential functions of the line ministry
4. Test the above through simulation exercises



1. Identify the personnel, supplies and equipment vital to maintain essential functions
2. Identify the critical functions
3. Consider how to deal with the anticipated level of staff absenteeism
4. Provide clear command structures, delegations of authority and orders of succession for workers
5. Assess the need to stockpile strategic reserves of supplies and equipment
6. Determine the ability of the organisation to continue operations if critical infrastructure services and/or supplies become unavailable



7. Agree on a system of communication with suppliers and customers
8. Identify business units that could be downsized or closed to reallocate human and material resources
9. Assign and train alternates for critical posts
10. Plan for security risks to operations and supply chain
11. Consider alternative methods of working, e.g. changes to shift patterns, working from home
12. Consider the implications of travel restrictions and develop procedures to follow if such restrictions are imposed



13. Train staff on infection control and communicate essential safety messages
14. Consider whether there are ways of reducing social mixing (e.g. home working and reducing meetings and travel) and test these
15. Consider the need for family and childcare support for essential workers
16. Consider the need for psychosocial support services to help workers to remain effective
17. Consider and plan for the recovery phase



# 7 Success Factors for Whole Society Approach

1. High level political endorsement of the Multisectoral Whole of Society Approach from the Prime Minister and/or Parliament
2. Active leadership and technical support by MoH
3. Buy-in from key stakeholders – public and private – involvement of the private sector from the start
4. Each of the working groups lead by a key ministry but with participation of other relevant ministries and agencies and MOPH in all working groups
5. Working proactively with the media
6. Contribute to broader emergency preparedness and use pandemic preparedness to refine the national disaster management mechanisms
7. Develop local sub-national and national level plans in parallel and use results to inform the refinement process



# Thank You

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# Categories of Risk

## Livelihoods

- Food and income loss from poultry deaths, culling & decreased economic activity

## Human Health

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

## Governance & Security

- Increased demand for governance & security
- Higher public anxiety
- Reduced capacity due to illness & death

## Social & Humanitarian Needs

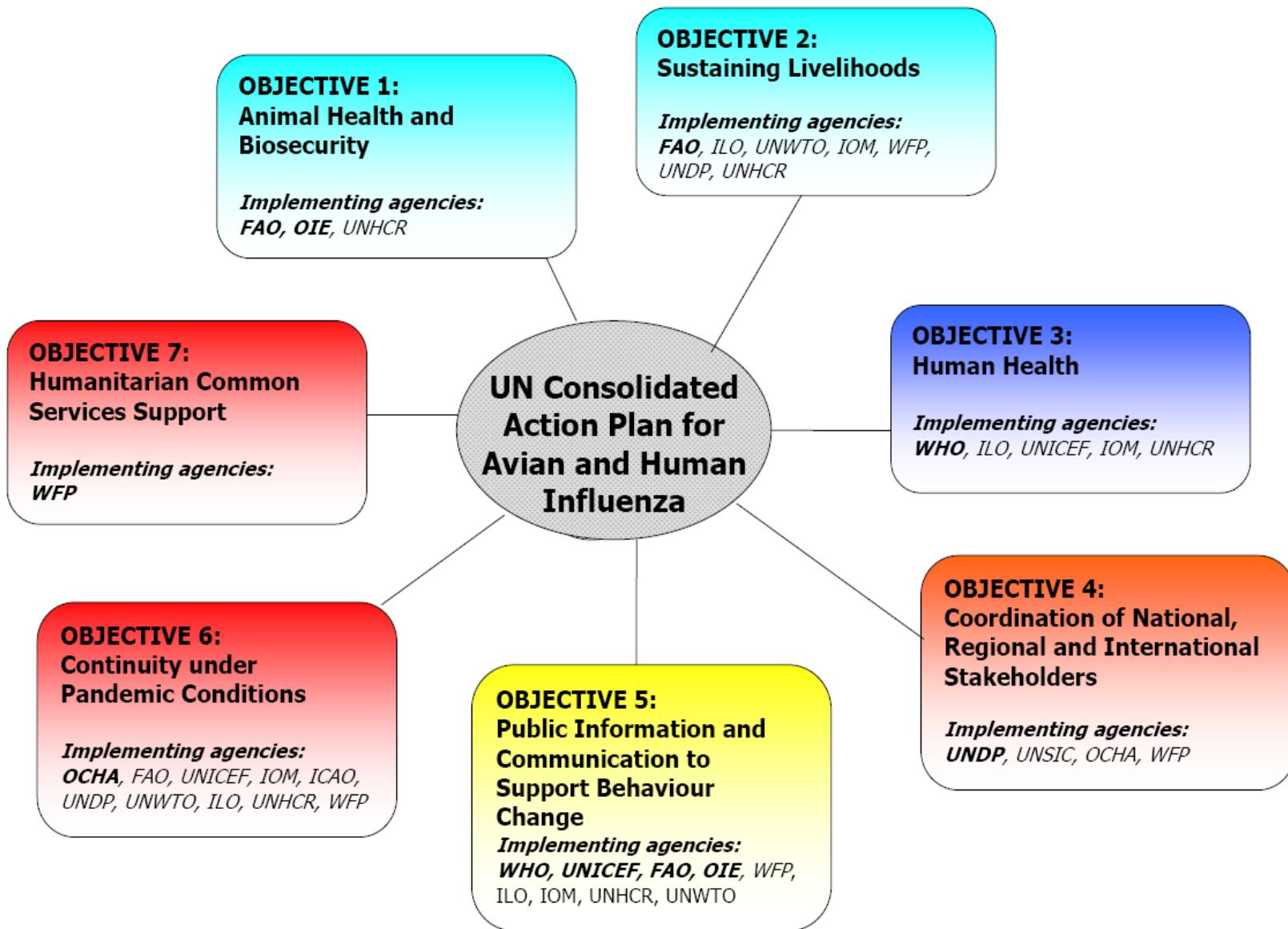
- Deterioration of coping & support mechanisms
- Interruption in public services
- Quarantine policies

## Economic Systems

- Trade & commerce disruptions
- Degraded labour force
- Interruption of regular supply systems



# United Nations System Strategy



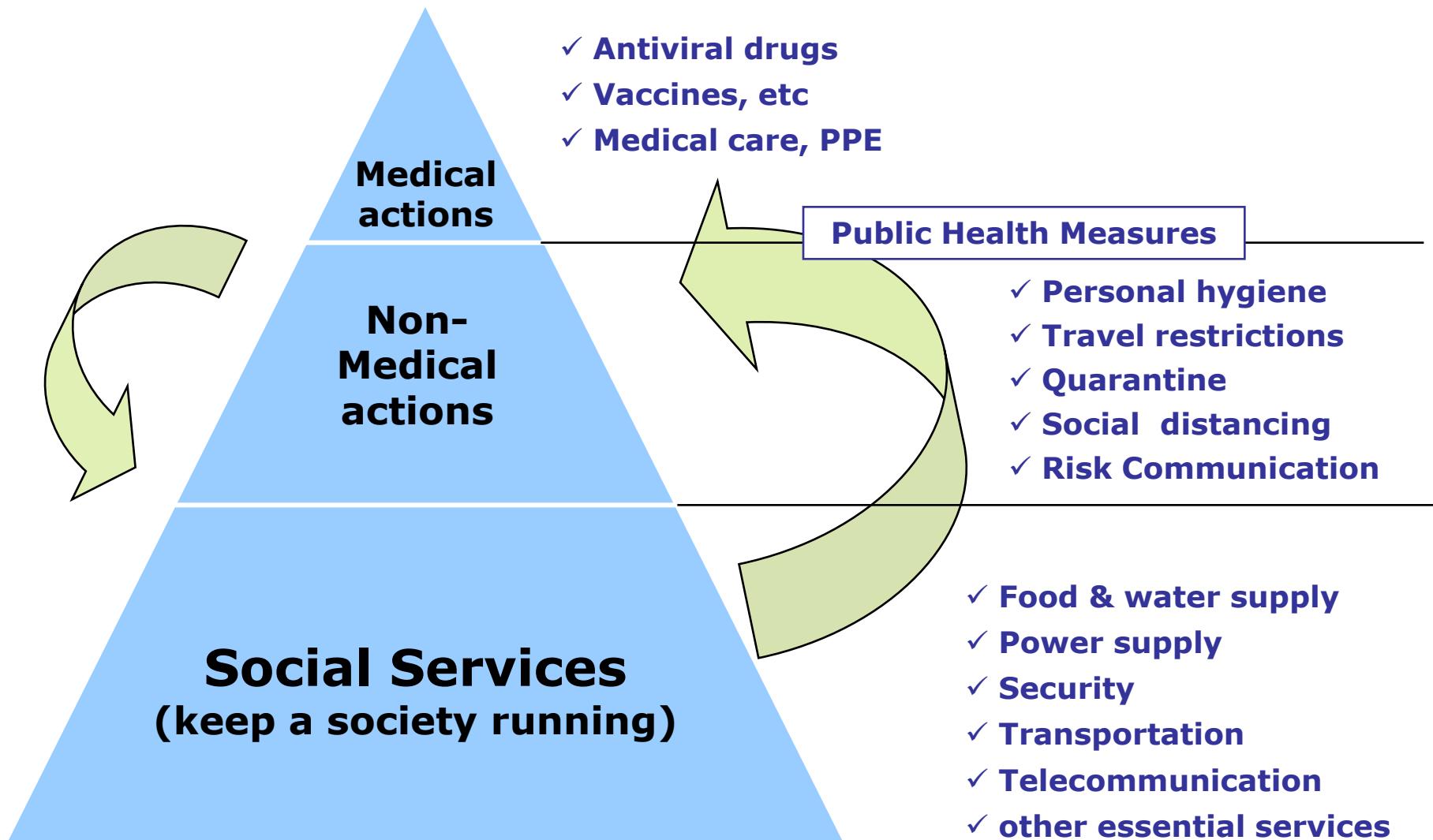


# Global Priorities for 2008

- 1: Multi-sector, multi-stakeholder and multi-economy pandemic preparedness, particularly within highly decentralized economies**
- 2: Joint working between governments, private sector and voluntary organizations**
- 3: Tracking inter-country planning: joint action (scientific cooperation, exercises and responses)**
- 4: Longer-term preparation for emerging diseases outbreaks and pandemics (human, animal, environment interface)**



# Pandemic Response



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(source) Dr T Kasai, WHO WPRO



# WHAT are we preparing for? Pandemic ABC

## Seasonal Influenza

- Viral respiratory infection in humans
- Self-limiting, fatal in elderly & very young
- ~ 500,000 deaths globally/year
- Occurs seasonally

## Avian Influenza

- Bird virus - spreads from birds to birds
- H5N1 strain highly lethal to poultry
- Can sometimes infect humans

## Pandemic Influenza

- Global outbreak of a new human influenza
- Causes increased morbidity & mortality.
- Last pandemics originated from animal viruses

&

## other MEGA-PAN-CATASTOPHES

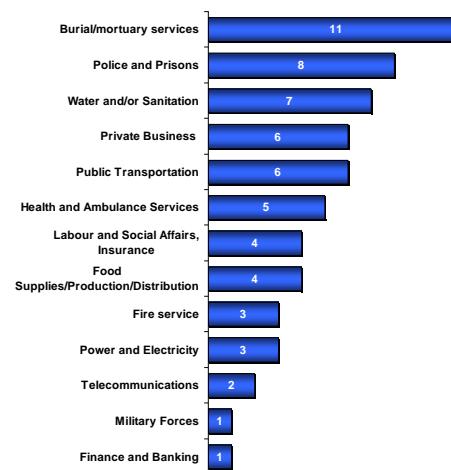
- Large scale Bio- and other terrorist attacks
- Global or regional IT disasters
- Simultaneous major natural disasters



# The potential pandemic impact

The next influenza pandemic will start with local outbreaks that 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





- **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*

# WHO Enhancements to Pandemic Planning being undertaken in 2008



- Review of global pandemic planning document (2005) with some changes

[http://www.who.int/csr/resources/publications/influenza/WHO\\_CDS\\_CSR\\_GIP\\_2005\\_5/en/index.html](http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5/en/index.html)

- New documents on interventions and counter-measures especially public health measures – compatible with the ECDC 'Menu'  
[http://ecdc.europa.eu/Health\\_topics/Pandemic\\_Influenza/phm.html](http://ecdc.europa.eu/Health_topics/Pandemic_Influenza/phm.html)
- A document on the *whole-society approach* to pandemic preparedness from the Office of the UNSIC (United Nations System Influenza Coordinator)
- Draft guidance on Surveillance in a Pandemic – continuing the work by ECDC

<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=3300>

