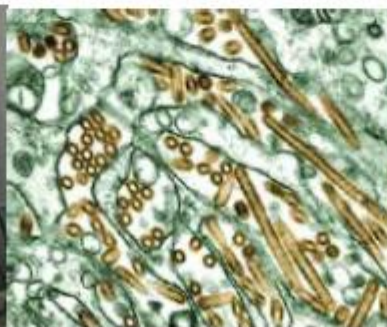


# Pandemic Influenza preparedness and mitigation in displaced populations



# This presentation

General, 'big picture' issues on pandemic influenza

Specific issues regarding pandemic influenza in displaced,  
border populations

Role of humanitarian agencies

# Three Kinds of Influenza

## Seasonal Influenza *"The Flu"*

- Human viral respiratory infection
- Self-limiting, but can be serious & fatal in elderly & very young ~ 500,000 deaths globally each yr.
- Occurs seasonally
- Routine vaccination available

## Avian Influenza *"Bird Flu"*

- Bird virus - different from human influenza virus
- Spreads from birds to birds
- Can sometimes infect humans
- Can sometimes mutate or reassort to a new virus

## Pandemic Influenza *"A Pandemic"*

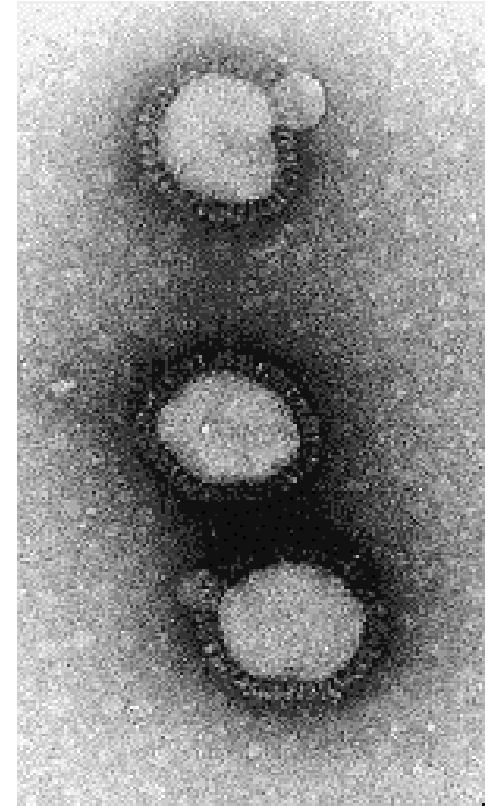
- Global outbreak of new human influenza (different from seasonal and avian influenza)
- Rare but recurrent event (every 10-42 years). Associated with increased morbidity & mortality. Last 3 pandemics in last 100 yrs – 1968 (3m deaths), 1957 (2m deaths) and 1918 (50m deaths)
- Past 3 pandemics - avian viruses became a human virus

# Why Does Avian Influenza Receive So Much Attention?

- | Other infectious diseases cause more human illnesses, disability and deaths
  - Diarrhea, respiratory disease, malaria, TB, HIV .....
  - Seasonal human influenza
- | But none other has same potential to evolve naturally into a pandemic agent and cause as many human infections, illnesses and deaths

# Prerequisites for a pandemic

- ✓ Emergence of a novel virus
- ✓ New virus is able to replicate in humans and cause disease
- | New virus is transmitted efficiently from human-to-human



# We are now at WHO Pandemic Phase 3

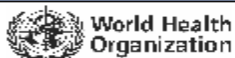
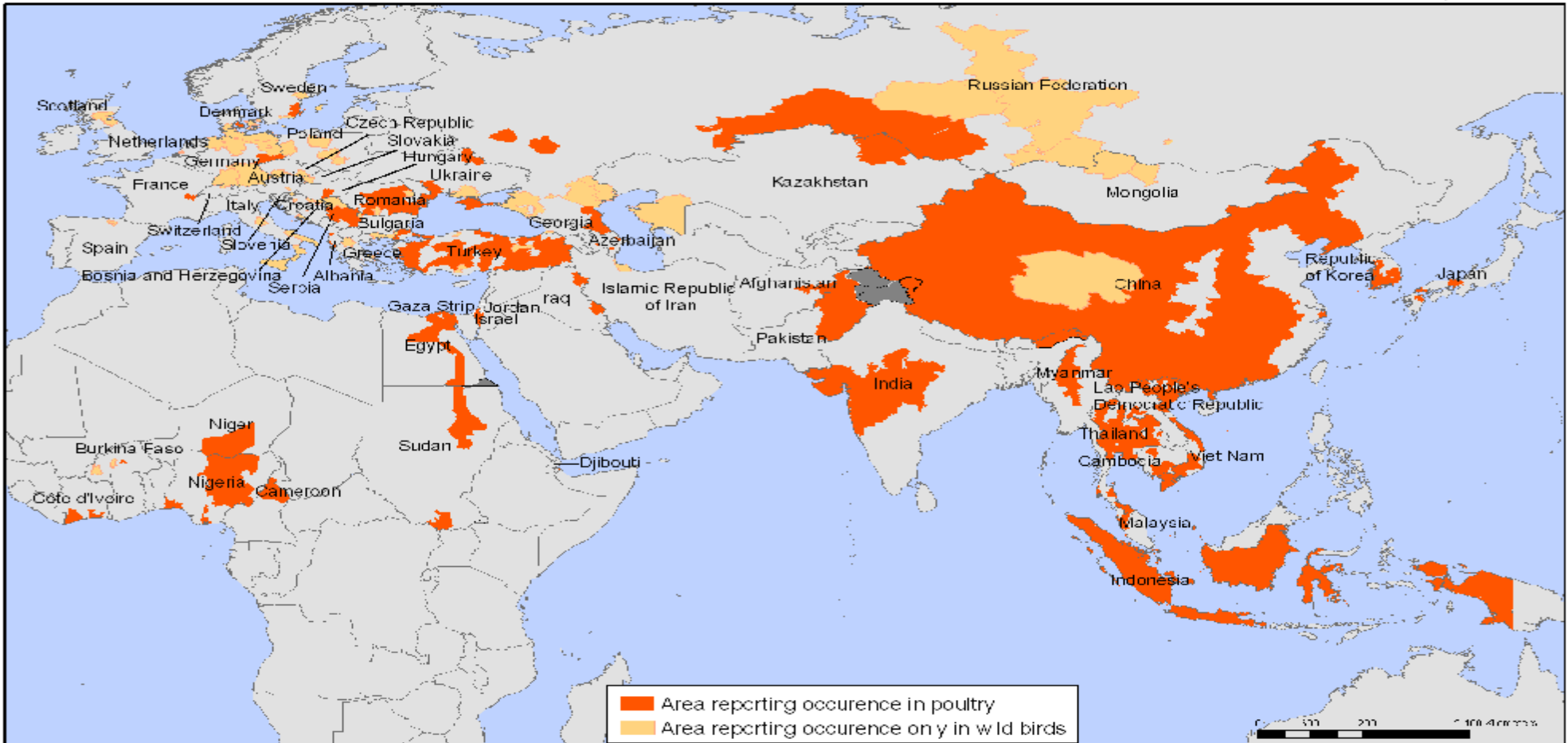
Inter-pandemic period	<i>Phase 1</i>	No new influenza virus detected in humans. If a new influenza virus presents in animals, the risk of human infection is considered to be low
	<i>Phase 2</i>	No human infections, but a circulating animal influenza virus poses a risk to humans
Pandemic alert period	<i>Phase 3</i>	<i>Human infection(s) with a new virus, but no (or very infrequent) human-to-human spread.</i>
	<i>Phase 4</i>	Small human-to-human cluster(s) - less than 25 people, lasting less than 2 weeks, highly localized - virus is not well adapted to humans
	<i>Phase 5</i>	Larger human-to-human cluster(s) - between 25-50 people, lasting from 2-4 weeks, still localized but virus increasingly better adapted to humans
Pandemic period	<i>Phase 6</i>	Significantly increased and sustained transmission in general population

# Outbreaks in Poultry

## - as of October 2006 -

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

Status as of 4 October 2006  
 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

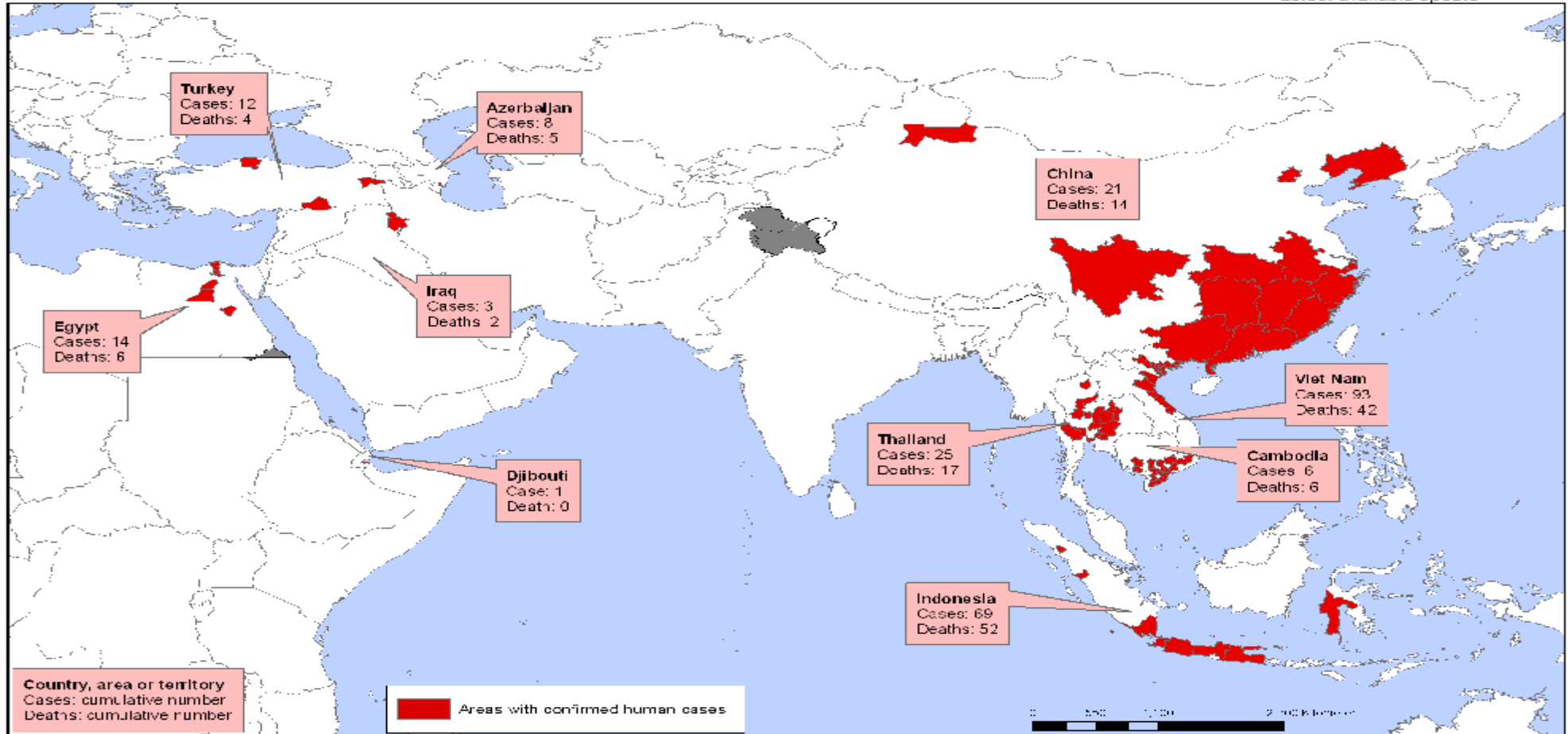
Communicable Diseases (CDS) World Health Organization



# Affected areas with confirmed human cases of H5N1 avian influenza since 2003 as of 3 October 2006

Affected areas with confirmed human cases of H5N1 avian influenza since 2003

Status as of 3 October 2006  
Latest available update



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: WHO / Map Production: Public Health Mapping and GIS  
Communicable Diseases (CDS) World Health Organization

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# Confirmed cases of Human AI H5N1 Dec 2003 to 16 October 2006

## Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO

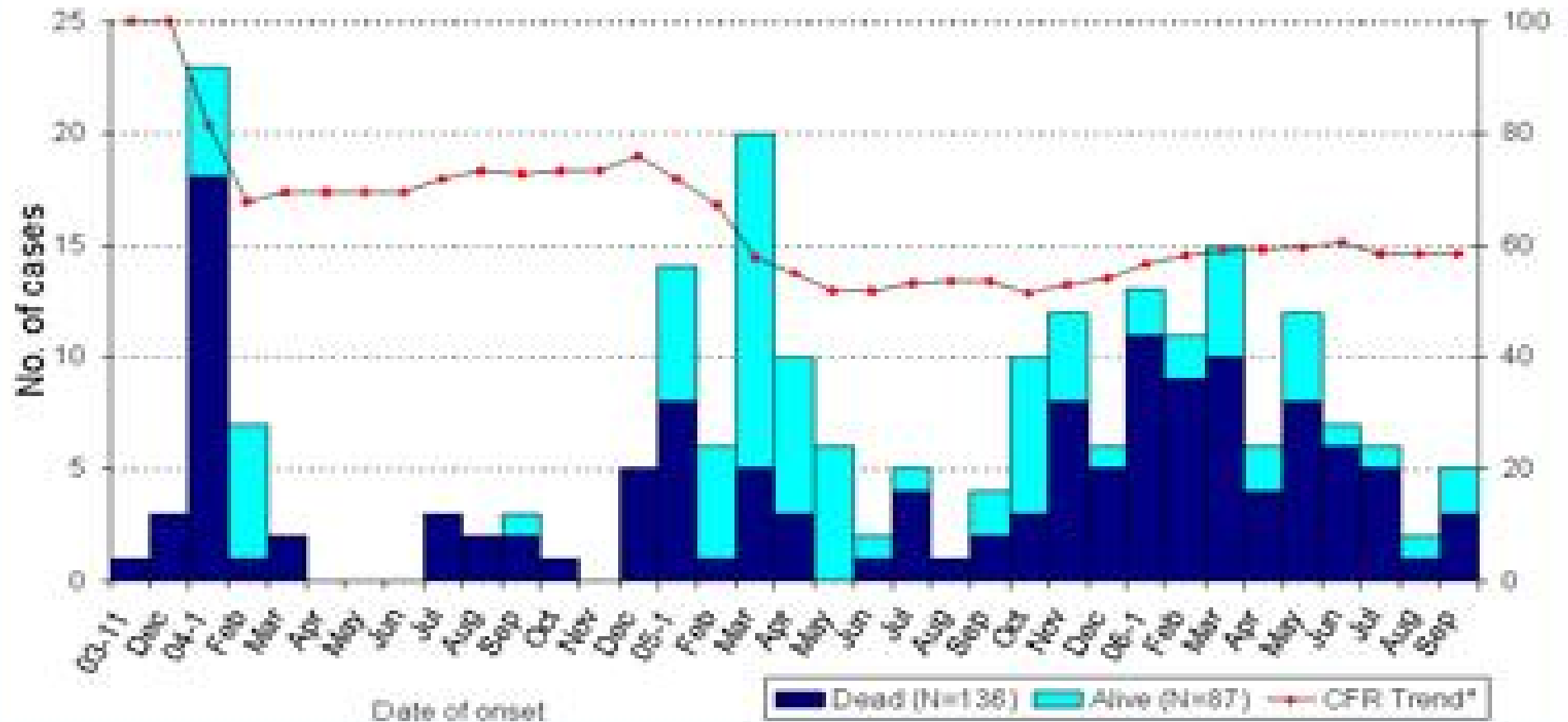
16 October 2006

Country	2003		2004		2005		2006		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	8	5
Cambodia	0	0	0	0	4	4	2	2	6	6
China	1	1	0	0	8	5	12	8	21	14
Djibouti	0	0	0	0	0	0	1	0	1	0
Egypt	0	0	0	0	0	0	15	6	15	6
Indonesia	0	0	0	0	19	12	53	43	72	55
Iraq	0	0	0	0	0	0	3	2	3	2
Thailand	0	0	17	12	5	2	3	3	25	17
Turkey	0	0	0	0	0	0	12	4	12	4
Viet Nam	3	3	29	20	61	19	0	0	93	42
<b>Total</b>	<b>4</b>	<b>4</b>	<b>46</b>	<b>32</b>	<b>97</b>	<b>42</b>	<b>109</b>	<b>73</b>	<b>256</b>	<b>151</b>

Total number of cases includes number of deaths.  
WHO reports only laboratory-confirmed cases.

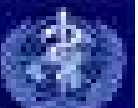


# Human Avian Influenza A (H5N1) Cases by Onset Date and Outcome (11 October 2006)

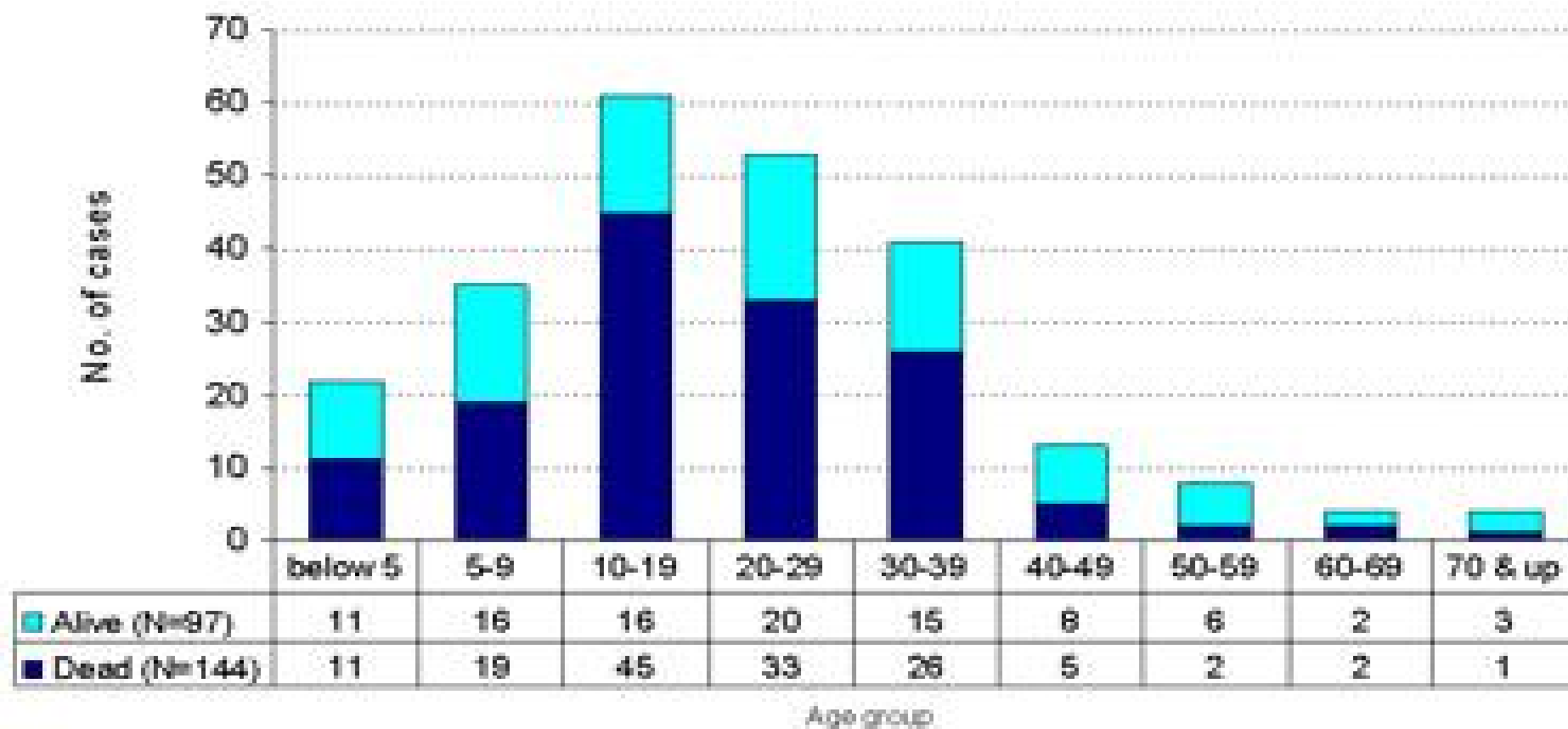


As of 11 October 2006, total of 253 cases were reported officially to WHO.  
 2 asymptomatic cases in Viet Nam were excluded.  
 7 cases in Egypt, 8 cases in Indonesia and 1 case in Iraq were excluded.  
 12 cases in Turkey were excluded.

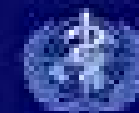
\* CFR Trend\* computed based on cumulative dead & total



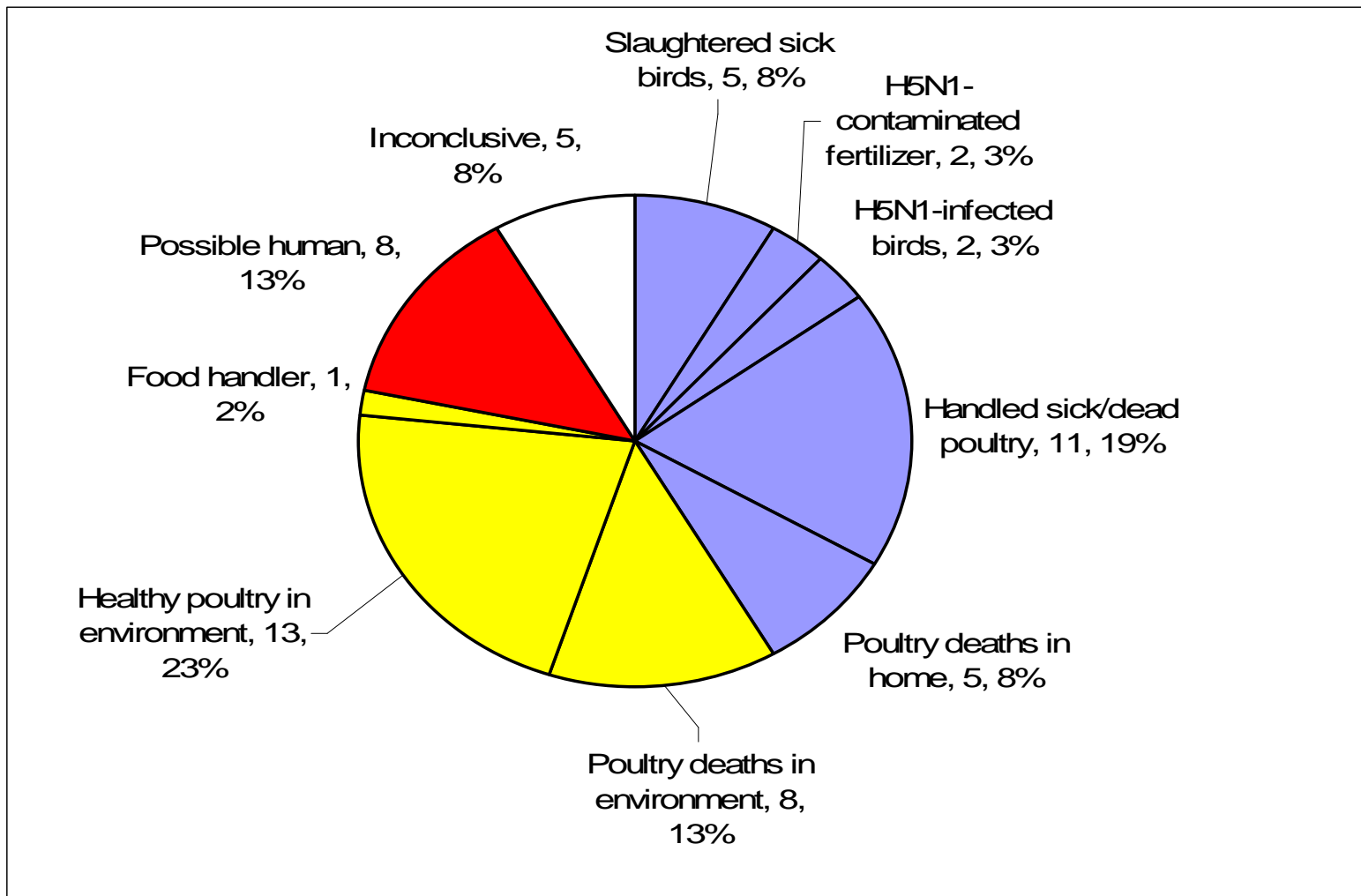
## Human Avian Influenza A (H5N1) Cases by Age Group and Outcome (11 October 2006)



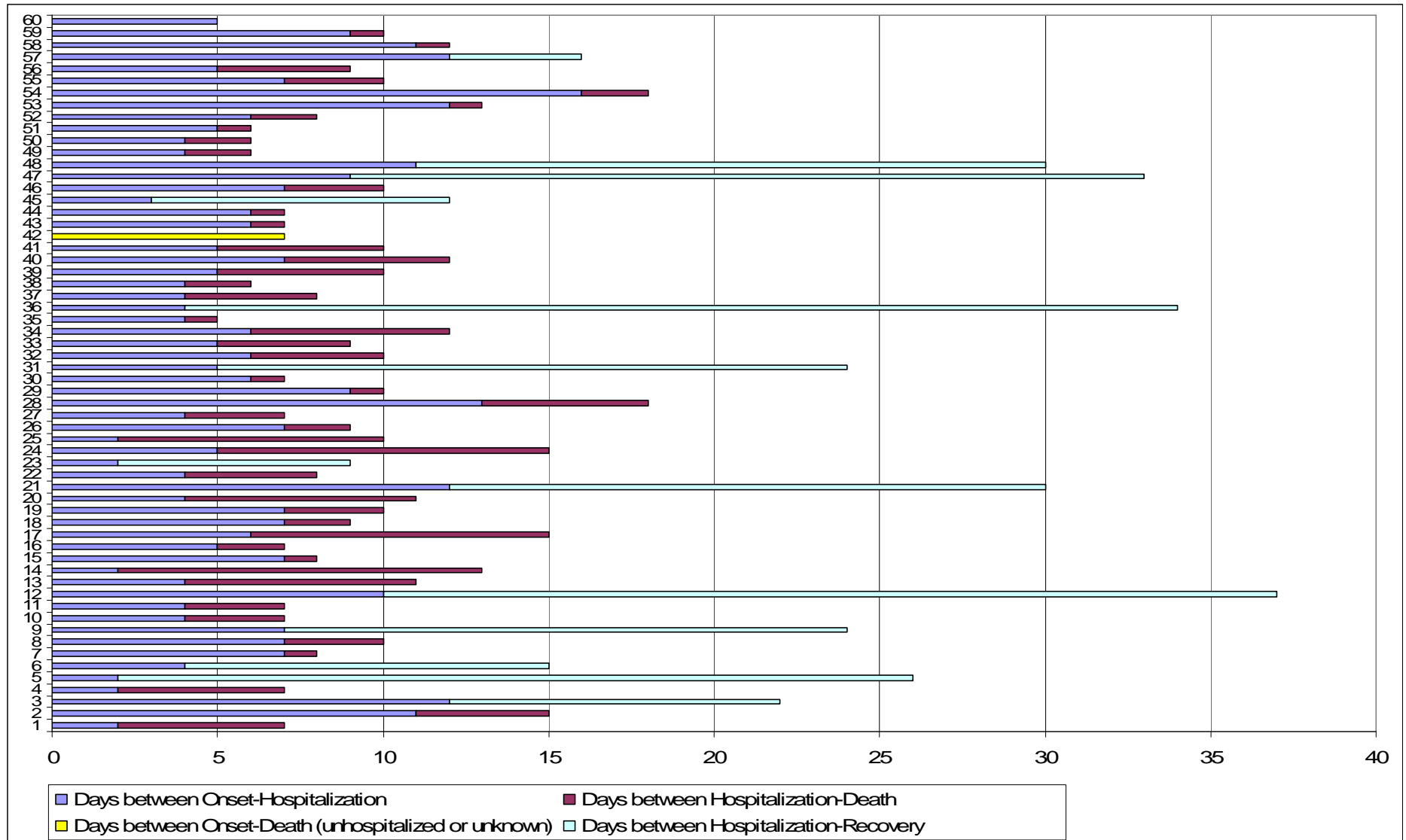
As of 11 October 2006, total of 253 cases were reported officially to WHO.  
The 12 cases in Turkey were excluded.



## Probable source of illness, Indonesia, 1 Jul 05 - 9 Aug 06



# Days between onset of illness, hospitalization and outcome of influenza A/H5N1, Indonesia, 2005-6



# Avian Influenza A (H5N1)

- | Unusually lethal for humans
- | Capable of infecting many species
- | When in close contact, can transmit from infected to uninfected person
  - Family, patient to health care worker
- | Not yet able to sustain community transmission
- | Each cluster, cause for high degree of concern & suspicion

# Pandemic Implications

- | Timing is unpredictable
  - Short term uncertain
  - Medium to long term virtually certain
  - No country considered adequately prepared
- | Disease impact
  - Could be mild (1968) to catastrophic (1918)
  - All age groups in all countries susceptible
  - Young & healthy could be severely affected

# Influenza pandemics in the 20th century



Credit: US National Museum of Health and Medicine



**1918: “Spanish Flu”**

20-40 million deaths

A(H1N1)

**1957: “Asian Flu”**

1-4 million deaths

A(H2N2)

**1968: “Hong Kong Flu”**

1-4 million deaths

A(H3N2)

# Pandemic Implications

- | Global anxieties – independent of disease – will have significant adverse social, economic & political effects
  - Shown by SARS
  - Depressed travel (potential border closures)
  - Disrupted business & depressed economies
  - Political pressures & tensions between countries
  - Popular anger if preparations & response considered inadequate

# WHO Strategic Actions for Pandemic Influenza

1. Reduce human exposure to H5N1
2. Strengthen the early warning system
3. Intensify rapid containment operations
4. Build capacity to cope with a pandemic
5. Co-ordinate global science and accelerate vaccine development & expansion of production capacity

# Country Implications

## Rapid Response

- | Country (local) response will potentially be critical factor for stopping or slowing early pandemic flu spread
- | Rapid response and rapid containment protocol
  - Approach for trying to stop (or slow) initial pandemic
  - Framework for coordinating actions of affected country & global community
  - Initiation depends on whether first affected country detect, investigates & report event rapidly to WHO

# Early containment/rapid response to pandemic influenza

## Several issues to be addressed

Security, equity, ethics, knowledge gaps

Operational issues related to governance, management, rotation, deployment/reception of stockpiles

Off-label use of anti-virals, informed consent, adverse events

Harm of half-measures (e.g. quarantine)

Inter-agency cooperation with and support to WHO in guiding/leading the early containment period

# Specific implications for displaced populations

- | May not be completely 'covered' in national influenza preparedness and response plans
- | May be at increased risk
- | May have less access to services
- | Civil society critical to help with early warning/notification of suspect events, response efforts, communications
- | Civil society collaboration with national authorities is critical

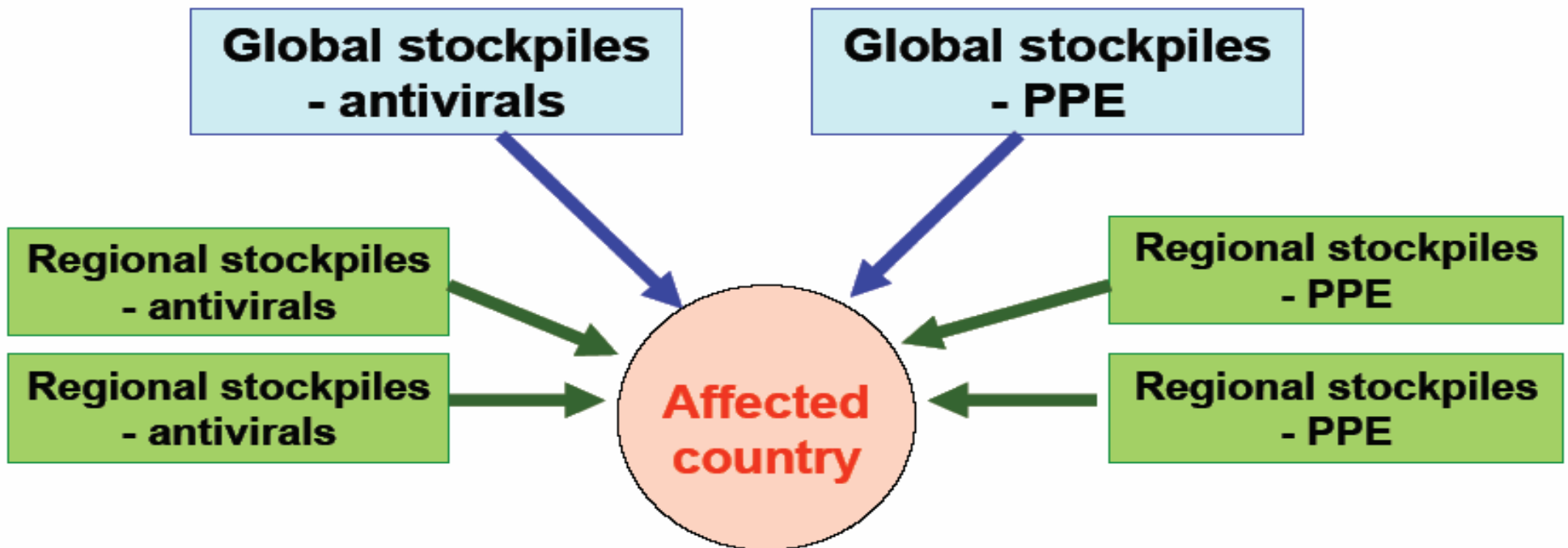
# Interventions for mitigation of impact

## I Primary mitigation strategies are non-pharmaceutical

- Risk communication, health education
- Social distancing
- Hygiene measures
- Supportive case management
- Isolation and infection control
- Travel restrictions
- Define priority groups for antivirals (if available)

# Interventions for mitigation of impact

## Mobilizing global and regional stockpiles



# Pandemic Influenza preparedness and mitigation in displaced populations: WHO guidelines for humanitarian agencies

- | Role of humanitarian agencies
- | Preparedness (phase 3-5)
  - General: coordination, critical functions, surge capacity, stockpiles, security, travel restrictions
  - Specific: early warning, social mobilization, health facility planning, protection of staff,
- | Pandemic mitigation (phase 6)
  - Maintenance of essential services/critical functions
  - Surveillance, social mobilization, infection control, clinical mgt

Pandemic Influenza preparedness and mitigation  
in displaced populations  
**5 training modules (field test version)**

Module 1. Transmission

Module 2. Surveillance/early warning

Module 3. Informing and mobilizing the public

Module 4. Infection prevention/control

Module 5. Case management

# Module 1: Transmission

- | The differences between seasonal, pandemic and avian influenza.
- | Symptoms and signs of influenza.
- | Mechanisms of influenza transmission
- | Key methods to limit transmission based on an understanding of the mechanisms of transmission.

# Module 2: Surveillance/early warning

- | Rapid detection of the first cases of pandemic influenza in a settlement/camp setting so that early implementation of initial control measures can begin.
- | Monitoring impact during the pandemic.

# Module 3: Informing and mobilizing the community

- | Protecting the community and others against influenza transmission
- | Taking care of the sick at home
- | Communicating messages to the community

# Module 4: Infection prevention and control

- | Measures to prevent infection in health care facilities and at home.
- | Specific measures to take for patients, caregivers, health and other essential staff.
- | Risk assessment to determine PPE usage.
- | Practise the use and disposal of gloves and masks.
- | Management of waste and disposal of dead bodies

# Module 5: Case management

- | Managing patients at home.
- | Managing patients in health care facilities.
- | What to stockpile.
- | Prioritizing resources such as antibiotics and antivirals.

# Take home message

Civil society important in for early detection/response to PI

- | early warning, surveillance, notification
- | response measures
- | Clinical management
- | Communication, social mobilization within the community

Collaboration with national authorities and WHO is critical

Guidelines & training modules available

# Many resources on WHO website

Guidelines for humanitarian agencies in complex emergencies

[http://www.who.int/diseasecontrol\\_emergencies/guidelines/en/](http://www.who.int/diseasecontrol_emergencies/guidelines/en/)

Training modules for humanitarian agencies on pandemic influenza

[http://www.who.int/diseasecontrol\\_emergencies/training/influenza/en/index.html](http://www.who.int/diseasecontrol_emergencies/training/influenza/en/index.html)

Other WHO guidelines on pandemic influenza:

[http://www.who.int/csr/disease/avian\\_influenza/guidelinetopics/en/index1.html](http://www.who.int/csr/disease/avian_influenza/guidelinetopics/en/index1.html)