Is the UK prepared for an influenza pandemic?

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Why we take this seriously

• Influenza pandemics have occurred throughout history

• Influenza viruses continue to evolve and further pandemics are anticipated

• Experts are increasingly concerned about the H5N1 avian influenza virus currently causing outbreaks in birds, and associated human cases, in SE Asia
Why we take this seriously

• Influenza pandemics cause illness far in excess of ‘normal’ seasonal influenza

• A pandemic will put huge demands on health and other services and will require a sustained response

• We may have little time between a pandemic starting elsewhere in the world and its reaching the UK
UK Pandemic Plan

• Sets the framework
• Sets the planning parameters
• Outlines the response
• Identifies who does what
• Provides a technical information resource for others
A Phased Response

• Allows an escalating response, both before and as a pandemic evolves

• Based on international phases set out by the World Health Organization

• Additional alert levels relevant to the UK response - common to other major infectious disease emergencies
## Pandemic Influenza: Five Alert Levels

<table>
<thead>
<tr>
<th>Alert level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No cases anywhere in the world</td>
</tr>
<tr>
<td>1</td>
<td>Cases only outside the UK</td>
</tr>
<tr>
<td>2</td>
<td>New virus isolated in the UK</td>
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<tr>
<td>3</td>
<td>Outbreak(s) in the UK</td>
</tr>
<tr>
<td>4</td>
<td>Widespread activity across the UK</td>
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</tbody>
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Model Parameters for Contingency Planning Model

- 25% clinical attack rate over one wave
- Additional 25% asymptomatic infection
- Transmission rate
- Uniform attack rate across age groups
- Hospitalisation and death rates derived from previous pandemics and seasonal influenza data
- Epidemic above baseline for about 16 weeks
- No vaccine, at least initially

Source: HPA modellers
Thematic maps: Estimated numbers of deaths in each UK county in the 75+ high-risk group during an 16 week epidemic of influenza with an overall attack rate of 25%

Source: HPA Modellers
Impact of Movement Reduction on the Spread of Pandemic Influenza

Clinical Cases (millions)

Time (weeks)

Possibly delay, blunt but lengthen

Hospitalisations (000s)

Time (weeks)
The UK Pandemic Influenza Contingency Plan: Key Objectives

- Strong surveillance and alert system
- Containing infection to the extent that this is possible
- Treating patients to reduce illness and deaths
- Ensuring the continuation of essential services to minimise social and economic disruption
- Ensuring that the public, health professionals and media have up-to-date, comprehensive information
Risk Management

- Year round global surveillance
- Effective and accurate methods of diagnosis
- Vaccines (once they become available)
- Antiviral drugs
- Social interventions
- Local resilience plans
Antiviral drugs (1)

- May initially be the only specific medical intervention available
- UK strategy based predominantly on treating cases
- Efficacy unknown in a pandemic situation – based on experience during seasonal flu
Antiviral drugs (2)

- Need to build a stockpile in advance of pandemic
- UK is procuring sufficient to treat 25% of the population
- Delivery over the next 18 months
- Strategies for the most effective use currently being developed
Vaccines

- Ideally would protect whole population by vaccination
- There is no ‘pandemic influenza vaccine’
- Influenza vaccines are strain-specific
- Highly unlikely that vaccine will be available at the onset of a pandemic and may not be available until after the first wave
Vaccines

• Preparatory work to facilitate availability of vaccine:
  - Prepare ‘seed stocks’ of possible future pandemic strains ready for manufacture
  - Carry out trials necessary to determine optimum type of vaccine, dose and dose schedule
  - Address regulatory issues
Challenges

• Management of influenza patients in the community and hospital
  - Logistics of where
  - Triaging arrangements
  - Management protocols
  - Provision of high dependency care
  - Laboratory services
  - Pharmaceutical and other supplies
  - Staff protection
  - Infection control
  - Mortuary arrangements
Challenges

• Contribution to the public health response
  - Vaccination programme as and when vaccine becomes available
  - Use of the national stockpile of antivirals according to national protocols
  - Other public health measures
  - Data and information gathering and management
Challenges

- Communication, Communication,
- Communication……..