

Is the UK prepared for an influenza pandemic?

Dr David R Harper

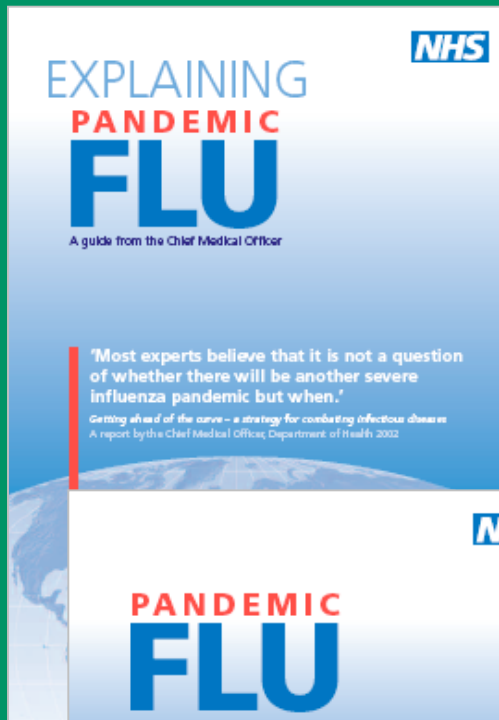
Director of Health Protection, International Health and Scientific Development & Chief Scientist

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



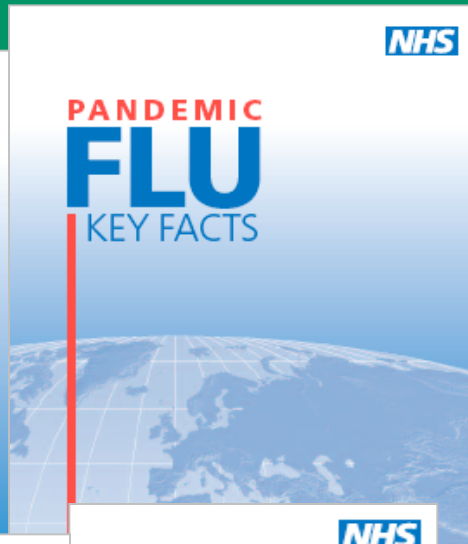
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EXPLAINING PANDEMIC FLU

A guide from the Chief Medical Officer

"Most experts believe that it is not a question of whether there will be another severe influenza pandemic but when."

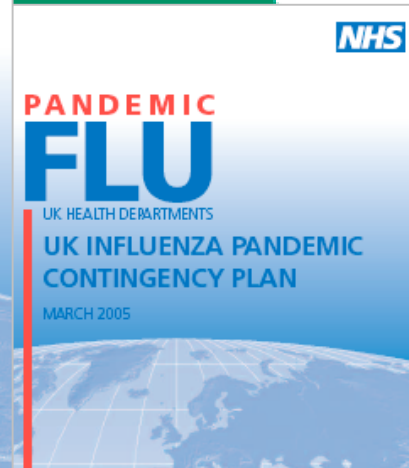
Getting ahead of the curve - a strategy for combating infectious diseases
A report by the Chief Medical Officer, Department of Health 2002



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PADEMIC FLU

KEY FACTS



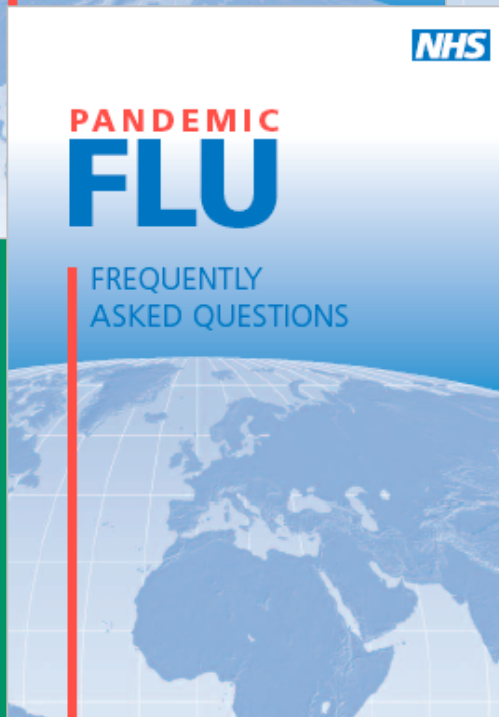
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UK HEALTH DEPARTMENTS

UK INFLUENZA PANDEMIC CONTINGENCY PLAN

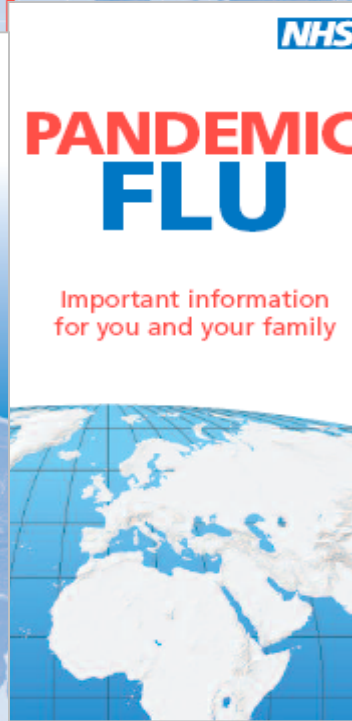
MARCH 2005



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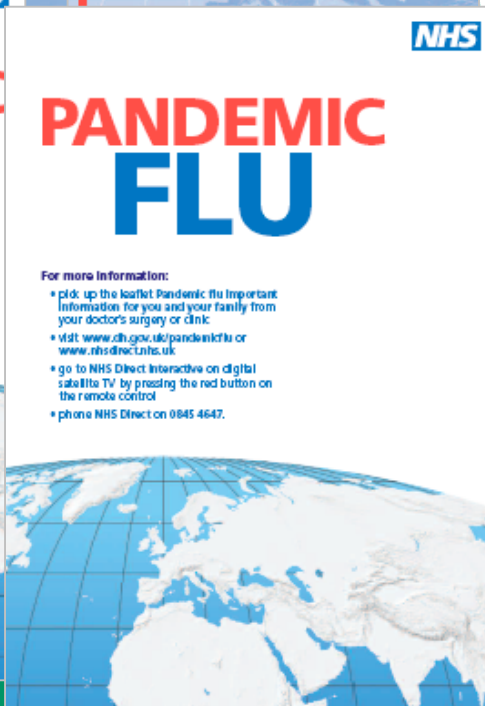
FREQUENTLY ASKED QUESTIONS



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PADEMIC FLU

Important information for you and your family



NHS

PADEMIC FLU

For more information:

- pick up the leaflet Pandemic flu Important information for you and your family from your doctor's surgery or clinic
- visit www.dh.gov.uk/pandemicflu or www.nhsdirect.nhs.uk
- go to NHS Direct Interactive on digital satellite TV by pressing the red button on the remote control
- phone NHS Direct on 0845 4647.

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

Alert level

0 No cases anywhere in the world

1 Cases only outside the UK

2 New virus isolated in the UK

3 Outbreak(s) in the UK

4 Widespread activity across the UK

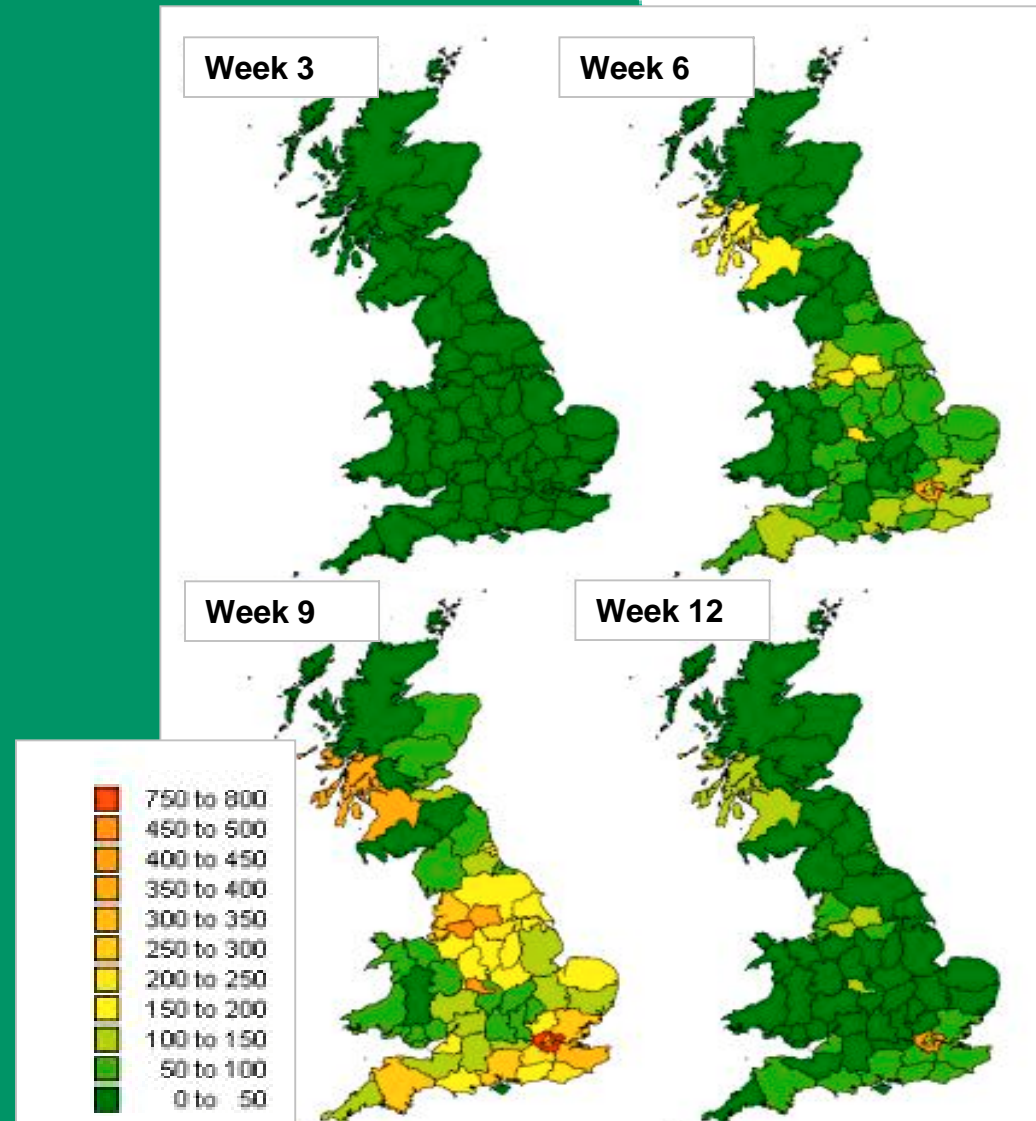
Model Parameters for Contingency Planning Model

- 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

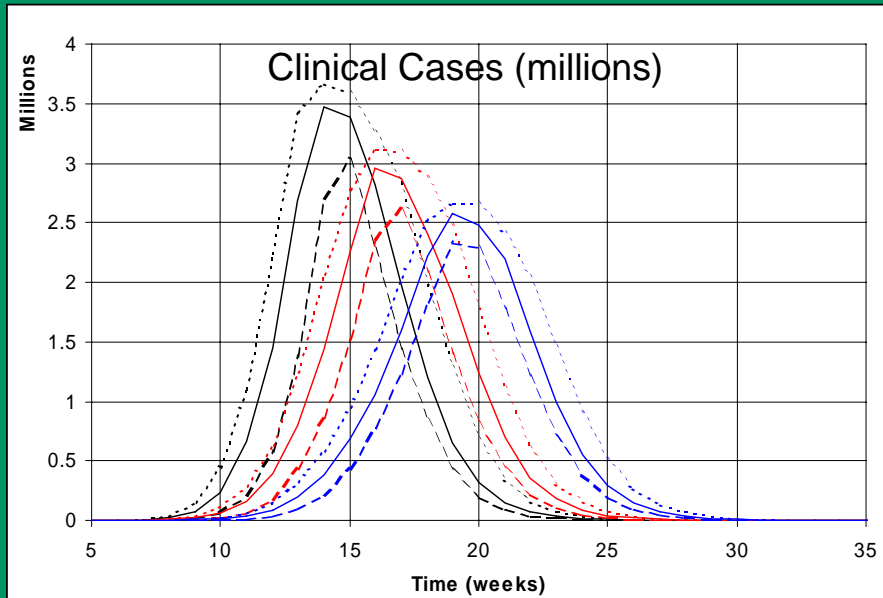
Source: HPA modellers

Spatially Referenced Outputs from the Contingency Planning Model

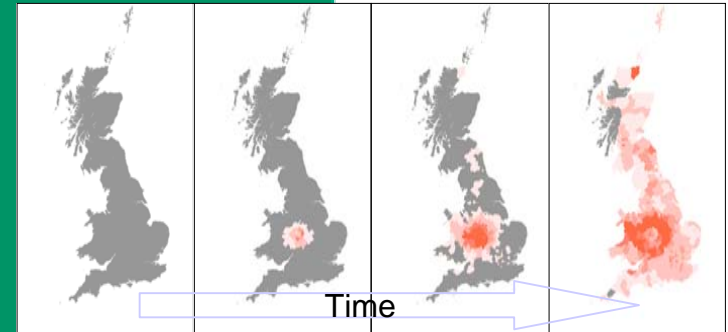
Thematic maps:
Estimated numbers of deaths in each UK county in the 75+ high-risk group during an 16 week epidemic of influenza with an overall attack rate of 25%



Impact of Movement Reduction on the Spread of Pandemic Influenza

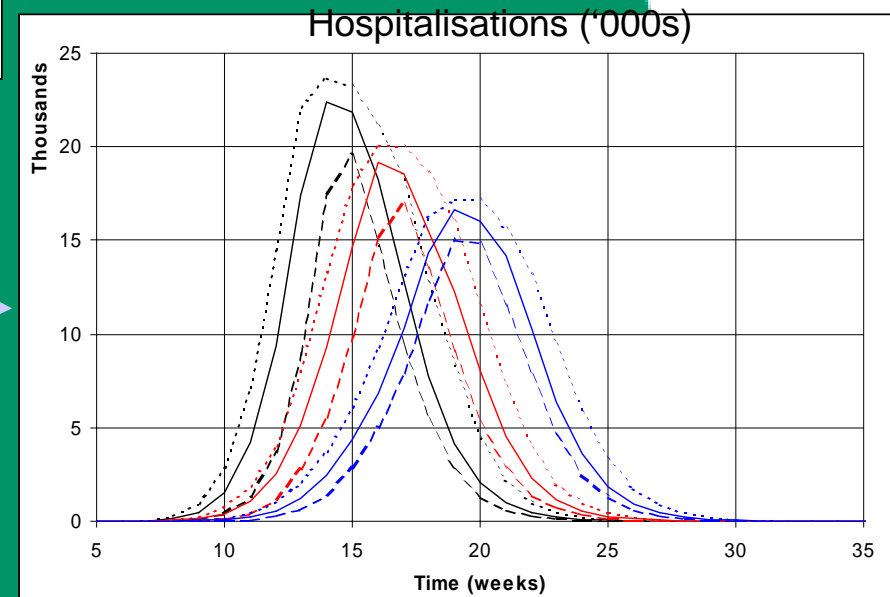


Stochastic meta-population district model



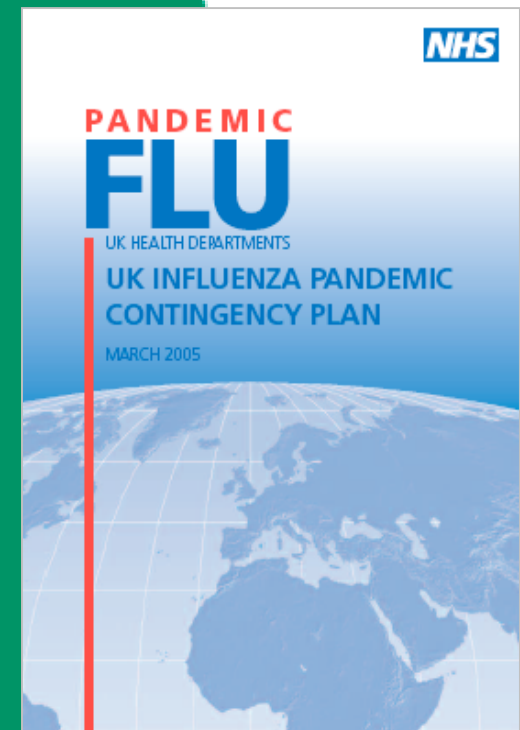
- No reduction
- 25% reduction
- 50% reduction

Possibly delay, blunt but lengthen



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.....