



Public Health
England

Pandemic Influenza Strategic Framework

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through advocacy, partnerships, world-class science, knowledge and intelligence, and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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Foreword



Duncan Selbie
Chief Executive

The prospect of a flu pandemic is one of the highest risks faced by the UK. Ensuring the country is fully prepared and able to respond quickly and effectively is a top priority for PHE and, of course, for the government.

The 2009 H1N1 pandemic certainly tested our plans for dealing with a new pandemic strain. Fortunately it was a mild one, but we need to be confident that our planning and responses are sufficiently flexible to deal with every eventuality.

This strategic plan clarifies PHE's role, responsibilities and response arrangements in each phase of a pandemic. It links to the PHE Pandemic Influenza Response Plan (2004) which further details the operational PHE response.

This document is an annexe to the PHE National Incident and Emergency Response Plan 2013.

A handwritten signature in black ink that reads "Duncan Selbie". The signature is written in a cursive, flowing style.

1. Executive summary

- 1.1 Public Health England (PHE) has a major role in supporting the UK's preparations for, and response to, an influenza pandemic. This includes surveillance, microbiology, statistics and modelling, the provision of expert clinical and infection control advice communications, managing the national stockpiles of countermeasures, developing and validating new diagnostic tests undertaking research and procuring pandemic specific vaccine.
- 1.2 This framework sets out the role and responsibilities of PHE during the preparation for, and response to, a pandemic and describes the response in the context of the overarching national arrangements set out in the Department of Health's UK Influenza Pandemic Preparedness Strategy (2011). The plan also describes the roles and responsibilities of the various centres and divisions within PHE.
- 1.3 This framework is for the use of PHE staff so that a comprehensive and integrated response across the organisation can be developed, and provides a reference document for partner agencies.

2. Introduction

- 2.1 With unpredictable frequency, new influenza subtypes emerge to cause an influenza pandemic. When it emerges, it is likely that a new pandemic strain will spread rapidly throughout the world, affecting large numbers of the population with little or no immunity. However, until the event occurs, the impact, expressed as the severity of the illness and proportion of the population that will be most severely affected, will be unknown. As a guide, the impact could range from a 1918-type pandemic, where there was significant morbidity and mortality in young adults, to a 2009 pandemic, where the illness was mild in most groups of the population. Given the uncertainty and the potential impact of such an event on the UK, pandemic influenza has been classified by the Cabinet Office as the number one threat to the UK population.
- 2.2 Given the unpredictable nature and the potential severity of pandemic influenza, it is important that any response is flexible and proportionate. It is also important that our response builds on currently developed business continuity arrangements, while addressing the specific issues that might emerge during the pandemic. The response will therefore form an integral part of PHE's wider emergency response and preparedness.

3. The need for a PHE response

- 3.1 Preparations for an influenza pandemic have been developed over a number of years but it was in the 2009 pandemic that these plans were put to the test. Although a mild pandemic by twentieth century standards, a number of key lessons were learnt and this has resulted in the development of the Department of Health UK Influenza Pandemic Preparedness Strategy (2011). The strategy sets out the UK-wide plan for responding to an influenza pandemic, taking into account the lessons learnt in 2009.
- 3.2 In developing plans to respond to an emerging pandemic, it is recognised that PHE has key roles and deliverables that include, for example, the capability to develop a diagnostic test to detect the new virus and the rapid collection and analysis of data on cases in order to assess the impact of the new illness; these roles are more fully described in the PHE Pandemic Influenza Response Plan (2014).
- 3.3 Although the roles and responsibilities of providers of NHS-funded care remain largely unchanged, NHS England has assumed responsibility for many pandemic preparedness and response activities previously undertaken by NHS strategic health authorities and primary care trusts.
- 3.4 PHE centre directors work closely with partners, including local authority directors of public health, within local health resilience partnerships in assuring pandemic influenza plans are in place and tested in accordance with current legislation and guidance.
- 3.5 As a new executive agency of the Department of Health, PHE needs to develop a new strategy that integrates and uses the expertise and resources from across public health and incorporates new responsibilities inherited as a result of reorganisation. This document is intended to assist the various divisions/centres within PHE to update and develop operational plans, working to a common framework and purpose.

4. Challenges

4.1 Planning and preparedness for the next influenza pandemic is beset by the uncertainty of when a pandemic may occur, the unpredictability of the severity of a future pandemic, where it will emerge and the speed with which it will spread, both globally and within the UK. It is therefore essential that plans in the PHE response take account of the potential impact of the influenza pandemic on the capacity of the service and the wider societal impact.

5. Strategic approach

5.1 The overall objectives of the UK approach are to:

- minimise the potential impact of a future pandemic
- minimise the potential impact of a pandemic on society and the economy
- instil and maintain trust and confidence

5.2 These are underpinned by three key principles:

- **precautionary** – preparing for the worst
- **proportionality** – the response reflecting the actual risk
- **flexibility** – having a range of options and levels of response

5.3 It is expected that PHE's response and advice should be:

- **evidence-based** or based on best practice in the absence of evidence
- based on **ethical principles**
- based on **established practice** and systems as far as possible
- **co-ordinated** at local and national levels

6. Planning assumptions

- 6.1 PHE will provide independent, expert microbiological, epidemiological and modelling advice as well as operational support to the Department of Health, the NHS and other organisations whose formal responsibilities include responding to an influenza pandemic. In the early stages PHE will also provide some support to the response such as undertaking initial risk assessments and the collection of exposure and clinical details and samples from cases.
- 6.2 The planning assumptions used in this plan are consistent with those outlined in the national strategy. Operational support at local levels will be provided for by the **development and implementation of inter-agency contingency plans.**
- 6.3 The UK response to a future pandemic now takes the form of a series of phases that may be initiated at the time the WHO declares an influenza-related public health emergency of international concern (PHEIC) or based on reliable intelligence. **The phases are: detection, assessment, treatment, escalation and recovery.**
- 6.4 Each phase sets out the actions and priorities for the response, reflecting the situation as it affects the UK. Not all the phases may be activated during a pandemic and, because the phases reflect the circumstances on the ground at the time, it is possible to jump or move back and forth between phases.
- 6.5 **The initial response consists of two distinct phases – detection and assessment.** These may be relatively short depending on the speed of spread or the impact on individuals and communities.
- 6.6 **Detection** – the focus in this stage relates to:
- intelligence gathering
 - enhanced surveillance
 - development of diagnostics
 - information and communications to the public, the media and health professionals

6.7 **Assessment** – the focus here relates to:

- the collection and analysis of clinical and epidemiological data
- reducing the risk of transmission within local communities by:
 - actively finding cases (number of cases will be determined at the time of a response)
 - self-isolation of cases and suspected cases
 - treatment of cases/suspected cases and, depending on a risk assessment of the impact, the possible use of antiviral prophylaxis for close vulnerable contacts

6.8 Once cases are established in the UK the response will **change to a more treatment focused period, consisting of two phases – treatment and escalation.** While escalation measures may not be needed in mild pandemics, it would be prudent to prepare for this.

6.9 **Treatment** – the focus in this stage would be:

- the treatment of individual cases, including making it possible for symptomatic individuals to access antivirals via the National Pandemic Flu Service, if necessary
- enhancement of the health response and public health measures
- preparing for targeted vaccinations as the vaccine becomes available (depending upon the development of the pandemic)
- ensuring that necessary detailed surveillance activity continues in relation to samples of community cases, hospitalised cases and deaths

6.10 **Escalation** – the focus in this stage would be:

- escalation of surge management arrangements in health and other sectors
- **prioritisation and triage of service delivery with the aim of maintaining essential services**
- **scaling down or cessation of non-essential services to release staff for response**
- **resilience measures, encompassing robust contingency plans.**

6.11 Once influenza activity is either significantly reduced compared to the peak or activity is considered to be within acceptable parameters then the response will move into recovery.

6.12 **Recovery** – the focus in this stage will be:

- normalisation of services, perhaps to a new definition of what constitutes normal service
- restoration of business as usual services, including an element of catching up with activity that may have been scaled down
- post-incident review of response
- taking steps to address staff exhaustion
- planning and preparation for resurgence of influenza (second wave), including activities carried out in the detection phase
- continuing to consider targeted vaccination, when available
- preparing for post-pandemic seasonal influenza and winter pressures

7. Key roles and responsibilities of PHE

7.1 The UK pandemic influenza strategy describes a number of key aspects of the planning and response to a pandemic; these include:

- developing and promoting plans in the pre-pandemic period
- exercising plans and training staff in their roles
- detecting and assessing the impact of the virus and identifying the groups most at risk of severe illness
- reducing the risk of transmission of infection through appropriate behavioural interventions, and the provision of personal protective equipment to front line health and social care staff
- minimising serious illness and death through rapid access to antiviral medicines, antibiotics and healthcare
- communicating with healthcare professionals and the public
- protecting the public through vaccination

7.2 PHE will be involved in supporting all these approaches; however, there are specific elements that it will take the lead on.

7.3 **Preparedness** – In the pre-pandemic period the work of PHE will involve supporting and assisting local and national partners in developing and testing their pandemic planning and preparedness. More specifically, it will involve:

- reviewing and updating our information and guidance on pandemic issues
- ensuring appropriate surveillance systems are in place
- maintaining the laboratory capability to detect a new virus and develop appropriate diagnostic tests

- reviewing planning assumptions and models
- horizon scanning and **liaising with international partners**
- managing the stockpiles of antivirals, antibiotics and consumables
- managing the Advance Purchase Agreement for pandemic specific vaccine
- research and development
- **development and co-ordination of multi-agency exercises**

7.4 **Detection and assessment** – The implementation of a **proportionate response** to a pandemic will depend on a detailed assessment of the clinical and epidemiological aspects of the new virus impact of the pandemic, and the effectiveness of the countermeasures. This is a central responsibility of PHE but it will require input from the NHS. The key objectives of PHE will be to:

- identify key clinical epidemiological and virological features of the new virus
- collect and assess data on severe cases and identify the risk groups most affected
- describe the evolving pandemic – spread and impact on the population and health services
- measure the uptake and assess the safety of various pharmaceutical countermeasures
- in the early stages of the pandemic PHE will be leading the rapid assessment of the first cases (number of cases will be determined at the time of a response) and their contacts, and giving an insight into the impact and transmission of the infection
- develop diagnostic tests
- liaise and share data with WHO, the **European Centre for Disease Prevention and Control**, and other countries

7.5 **Reducing the spread** – PHE will have a key role in providing guidance, based on best available evidence, on infection control measures to be adopted. This also includes **managing the stockpiles of personal protective equipment (PPE)** used by frontline health and social care staff.

7.6 **International travel** – PHE will work with the government to develop advice **regarding travel to affected countries and the port health arrangements that would be deployed during a pandemic (this could include guidance to crew and ground staff), information at ports of entry and communications in general for the public.**

7.7 **Minimising serious illness and death** – The health services will have the key role in this area; however, PHE will be involved in developing guidance in relation to the **clinical management and investigation of the cases and contacts**. PHE will also be responsible for:

- management of the national stockpiles of antivirals and antibiotics

- managing vaccine implementation plans
- managing contracts for the provision of the National Pandemic Flu service and advance purchase agreement for pandemic-specific vaccine
- enabling access to antivirals held locally in the very early stages prior to NHS England establishing antiviral collection points using antivirals from the national stockpile

7.8 Public health measures – PHE will:

- evaluate the evidence and advise on the potential benefits of school closures, offsetting this against the subsequent economic and social impact of these closures
- advise on the potential impact of restrictions on public gatherings and public transport

7.9 Communications – Communication to the public will be a key responsibility of PHE as part of the wider government response; it will also have a role in providing statistical data and evidence to inform key messages. PHE will also have a key role in developing and providing healthcare professionals with timely and accurate clinical information and advice to enable them to treat patients appropriately.

8. Divisional and centre roles and responsibilities

8.1 The specific roles and responsibilities of each directorate are set out below.

8.2 Chief executive's office:

- to ensure PHE continues to deliver its core functions during the response and recovery phases
- overall responsibility and command of PHE's response to a national incident
- delegate authority to the director of health protection to oversee the delivery of PHE's response to the incident
- provide liaison between Department of Health, NHS England and central government on public health matters
- decide or review the appropriate level and scale of the response according to the PHE National Incident Response Plan

8.3 Health Protection directorate:

Co-ordination:

- advise the chief executive on matters of public health and governance
- identify and undertake public health investigations to address important gaps in evidence
- assess the need for public health interventions
- lead and co-ordinate development of guidance in relation to the management of patients, outbreaks, advice on infection control and the use of antivirals

Provision of advice:

- provide expert input to the development of information for health professionals and the public
- provide intelligence and expert advice to the CMO and SAGE.
- agree advice and information on port health and travel issues (in conjunction with Operations)

Surveillance:

- ensure appropriate investigation protocols and databases are functioning
- provide early estimates of the likely severity and impact on the UK using data from the first flu cases (number of cases will be determined at the time of a response)
- using enhanced surveillance data, attempt to model the course of the pandemic
- monitor deaths and excess mortality
- collect aggregate data and produce information on trends

Countermeasures:

- manage the national stockpiles of countermeasures held for pandemic influenza preparedness by the Vaccines and Countermeasures Response Department
- undertake vaccine efficacy and safety studies
- manage the contracts for the provision of the National Pandemic Flu Service and the related systems for the distribution of antivirals
- manage the advanced purchase agreement for pandemic-specific vaccine
- work with NHS England on the pandemic-specific vaccine implementation plans

International work:

- contribute to the monitoring and co-ordination of agency responses to international requests
- review international liaison
- gather, assess and verify intelligence from other countries and use this for an initial assessment of the impact on the UK
- contribute to international collaborations and assessments

Staff:

- maintain a pool of trained staff for deployment to support other parts of PHE in emergency response activity (when necessary). This could include another concurrent emergency situation

8.4 Operations directorate:

Co-ordination:

- develop a co-ordinated local response
- support and engage with local and NHS emergency response structures

Provision of advice:

- contribute to the development of expert guidance
- disseminate timely information on the pandemic, to health professionals and local partners working within agreed local communications arrangements
- advise on outbreak detection and responses in institutions and other community settings (working with local partners)

Surveillance:

- support clinical commissioning groups and NHS England to ensure surveillance and management guidance is in place
- collect clinical and epidemiological data on early cases and co-ordinate the collection of clinical samples
- contribute data for any enhanced surveillance schemes

Countermeasures:

- provide local support and guidance on the use of antivirals and vaccines
- in the very early stages, hold and supply stocks of antivirals in the event that cases or small clusters are identified
- support accelerated vaccine development

Diagnostics:

- develop specific diagnostic test for the new influenza subtype, validate this, quality assure and roll out to other laboratories
- support and facilitate the laboratory diagnosis of pandemic influenza virus notification by NHS laboratories
- characterise strains of influenza virus isolated in the UK to assess antigenic drift, genetic mutations and antiviral susceptibility
- liaise with national and international organisations in the development of serology and other diagnostic tests
- collaborate with Health Protection to undertake sero-incidents testing

8.5 Communications directorate:

- develop agreed national and regional communications strategy and media handling plan with the DEPARTMENT OF HEALTH
- develop internal key message documents, Q&As, templates for statements and press releases
- identify national and local spokespersons
- ensure regions and Health Protection teams are kept up to date with key messages
- agree timing of announcements to media and information announcements with comms colleagues at the Department of Health and devolved administrations
- establish daily teleconferences to ensure there is one version of the truth
- facilitate media interviews and provide support to spokespeople
- make use of social media to promulgate public messages
- keep website updated with statements and Q&As
- review national coverage daily and liaise with the DEPARTMENT OF HEALTH on handling issues as they emerge

8.6 Human Resources directorate:

- ensure departments have up-to-date workforce information and staff contact details
- review existing guidance, terms and conditions, and related issues that apply to employees involved in emergency operations
- formulate and use redeployment options with departmental managers
- identify mechanisms for the redeployment of staff from non-influenza areas
- identify mechanisms for supporting staff required to work extended hours
- ensure logistical arrangements are in place for staff accommodation in the event of a 24/7 response
- analyse workforce availability across the organisation
- liaise with managers to ensure staff welfare is a priority
- support managers regarding any absence of staff following bereavement
- support managers with staff work patterns and business continuity arrangements
- ensure adequate downtime and recovery for affected PHE staff

8.7 Finance and Commercial directorate:

- maintain generic procurement framework contracts
- develop and publish procurement procedures for incidents
- ensure advice on legal, finance and other matters is available when needed
- identify non-negotiable contracts and deploy plans to achieve them
- redeploy staff to cover essential roles

8.8 Health and Wellbeing directorate:

- identify staff available to provide support to other parts of PHE and deploy as appropriate
- carry out impact assessment on business operations, stopping other non-essential work to allow additional staff to be made available if needed

8.9 Chief Knowledge Officer's directorate:

- identify staff available to provide support to other parts of PHE and deploy as appropriate
- carry out impact assessment on business operations, stopping other non-essential work to allow additional staff to be made available if needed
- support the Health Protection team monitoring deaths, excess mortality and hospital admissions
- with the Communications team, update the website content and ensure the messages are consistent and content does not include internal contradictions

8.10 Strategy directorate:

- Identify staff available to provide support to other parts of PHE and deploy as appropriate. Carry out impact assessment on business operations stopping other non-essential work to allow additional staff to be made available if needed

8.11 Programmes directorate:

- Identify staff available to provide support to other parts of PHE and deploy as appropriate. Carry out impact assessment on business operations stopping other non-essential work to allow additional staff to be made available if needed.

Appendix 1: Planning assumptions

In developing the PHE response to a new pandemic, account must be taken of a number of assumptions described within the UK strategy:

- 1 The plan should be adaptable, to be used in outbreaks of other infectious diseases
- 2 Stopping the spread or introduction of the pandemic virus into the UK is unlikely to be a feasible option
- 3 Any pandemic activity in the UK may last for a significant period of time and therefore a sustained response will be required
- 4 A novel virus would reach the UK very quickly
- 5 Once established in the UK, sporadic cases and clusters will be occurring across the country in 1-2 weeks
- 6 About 50% of the population may be affected in some way or another
- 7 Up to 50% of staff may be affected over the period of the pandemic, either directly by the illness or by caring responsibilities, thereby creating potential pressures on the response
- 8 The severity of the virus will be unknown and the groups of the population most affected will be unknown, as will the efficacy of antivirals
- 9 No vaccine will be available for 4-6 months

Appendix 2: Reference documents

Public Health England (2013) PHE National Incident Response Plan (available on PHE intranet)

Public Health England (2014) Pandemic Influenza Operational Plan (available on PHE intranet)

NHS England (March 2013) NHS Commissioning Board Emergency Preparedness Framework 2013

<http://www.england.nhs.uk/wp-content/uploads/2013/03/epr-rr-framework.pdf>

NHS England (March 2013) Summary of the published key strategic guidance for health EPRR

<http://www.england.nhs.uk/wp-content/uploads/2013/03/epr-rr-key-guidance.pdf>

NHS England (October 2013) Pandemic Influenza – NHS guidance on the current and future preparedness in support of an outbreak

<http://www.england.nhs.uk/wp-content/uploads/2013/10/guid-overv-pan-flu.pdf>

The NHS England Operating Framework for Managing the Response to Pandemic Influenza 2013 available from:

<http://www.england.nhs.uk/ourwork/gov/epr-rr>

Preparing for Pandemic Influenza: Guidance for Local Planners; www.gov.uk/pandemic-flu#guidance-for-local-planners

UK Influenza Pandemic Preparedness Strategy 2011:

<https://www.gov.uk/government/publications/responding-to-a-uk-flu-pandemic>

Health and Social Care Influenza Pandemic Preparedness and Response 2012

<https://www.gov.uk/government/publications/health-and-social-care-response-to-flu-pandemics>

Public Health England (March 2013) PHE Emergency Preparedness, Resilience and Response Concept of Operations (available on PHE intranet)