

Health and Social Care Influenza Pandemic Preparedness and Response

Health and Social Care pandemic preparedness and response

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Executive Summary

This document focuses predominantly on the operational aspects of pandemic response in the health and social care sectors, incorporating the lessons identified from the H1N1 (2009) influenza pandemic. It supports, and should be read in conjunction with, the *UK Influenza Pandemic Preparedness Strategy 2011*¹ and reflects the key changes set out in the strategy, namely the need to:

- develop improved plans for the initial response to a new pandemic;
- ensure a response that is proportionate to a range of scenarios;
- allow for differences in the rate and pattern of spread of the disease across the country and internationally;
- further explore statistical population-based surveillance, such as serology to measure the severity of a pandemic in its early stages;
- take better account of information from behavioural scientists about how people are likely to think, feel and behave during an influenza pandemic, and
- develop improved plans for managing the end of an influenza pandemic – the recovery phase.

The document outlines the key areas where public, independent and voluntary sector health and social care organisations should work together to maintain and improve integrated operational arrangements for planning and response in order to deliver the best outcomes possible during an influenza pandemic. It reflects the structures and roles of the NHS and public health organisations in England during the transition period and will need updating to reflect the new structures post 2013.

Multi-agency plans, covering NHS, public health and social care, need to be in place in each local health economy to provide for:

- a clear definition of responsibilities;
- reporting and collation of surveillance data, in line with national requirements;
- contact tracing, swabbing and testing of samples, and issue of antivirals before Antiviral Collection Points (ACPs) are set up;
- surge plans for primary, secondary and critical care;
- establishment and operation of ACPs in line with the national specification;
- implementation of the National Pandemic Flu Service (NPFS), in line with national requirements;
- implementation of a pandemic-specific vaccination programme, and
- recovery and return to business as usual.

All plans need to be tested and exercised at regular intervals. Further details are set out in this document.

¹

www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_130903

A key theme is the unpredictability of any pandemic virus and the uncertainty that this presents in quantifying the response required. Given this, there are three key principles that underpin both planning and response:

- **Precautionary**
- **Proportionality**
- **Flexibility**

The indicators for action in the UK in a future pandemic response have been revised and decoupled from those used by the World Health Organisation (WHO) to describe the global pandemic. These UK indicators are described as phases named: **Detection, Assessment, Treatment, Escalation and Recovery**. The document outlines the key objectives for the phases together with actions that will be required by organisations to respond to the capacity and capability challenges of pandemic scenarios which may range in impact on services from low to moderate or high.

The technical advisory section of this guidance provides a summary of advice on management of respiratory failure, facemasks and respirators, and antiviral distribution. Annexes A, B and C provide a summary of roles and responsibilities during a pandemic for NHS and social care commissioners and providers and the Health Protection Agency (HPA).

1. Introduction

- 1.1 **This guidance is intended to support local preparedness and response planning in the transition period through to 2013, in England. The Devolved Administrations are producing their own guidance. It will be updated to reflect preparedness and response structures for the longer-term as they develop. This guidance should be read together with the *UK Influenza Pandemic Preparedness Strategy 2011*.**

Local leadership and accountability are a key plank of the health and social care reforms in England. The responsibility during 2012/13 for ensuring that pandemic preparedness and response plans are drawn up and tested at the appropriate sub-national levels rests with the Clustered Primary Care Trusts (PCTs) and Strategic Health Authorities (SHAs). Local plans should align with the guidance in this document, as well as the *UK Influenza Pandemic Preparedness Strategy 2011*. Plans will need to allow for the balance between national decisions and priorities, and local operational flexibility during the pandemic response.

- 1.2 The *UK Influenza Pandemic Preparedness Strategy* sets the strategic context for planning for an influenza pandemic across wider society. In response to the consultation on the Strategy, people in many areas of care delivery raised questions on operational issues. Where possible we have addressed these in this document. This guidance is therefore relevant to all local and national commissioners and providers of health and social care services including acute, community and mental health providers, ambulance services, local authorities, voluntary and independent sector providers and clinicians, all of whom are central to the successful planning and delivery of the response and recovery.
- 1.3 The potential for a new influenza pandemic remains unchanged although the timing and severity of a future pandemic remains unpredictable. Public health, NHS and social care organisations have already undertaken considerable planning for a pandemic event and, although the H1N1 (2009) influenza pandemic proved to be relatively mild for the majority of people, it was a helpful initial test of plans. However, plans now need to be revised to reflect the learning from the pandemic in 2009 and the latest scientific evidence. Public health services, NHS providers, Local Authorities and other partner agencies need to collaborate closely in revising and testing these plans.

2. Context

Guiding Points from the Strategy

2.1 Paragraph 1.10 of the *UK Influenza Pandemic Preparedness Strategy 2011* sets out the key changes to the previous approach, reflecting the lessons learnt from the H1N1 (2009) influenza pandemic. These are to:

- develop better plans for the initial response to a new virus, when the focus should be on rapid and accurate assessment of the nature of the pandemic virus and its effects, both clinically and epidemiologically;
- put plans in place to ensure a response that is proportionate to a range of scenarios reflecting pandemic viruses of low, moderate and high impact, rather than focusing on the “worst case” planning assumptions;
- take greater account of age specific, geographic and other differences in the rate and pattern of spread of the disease across the country and internationally;
- further explore statistical population-based surveillance, such as serology, to measure the severity of a pandemic in its early stages;
- take better account of information from behavioural scientists about how people are likely to think, feel and behave during an influenza pandemic, and
- develop better plans for managing the end of an influenza pandemic – the recovery phase and preparation for subsequent seasonal influenza outbreaks.

2.2 It is uncertain when a new pandemic virus might appear. Until it emerges and affects a significant number of people, it will not be possible to identify the key features of the disease, such as any pre-existing immunity, the groups most affected, and the effectiveness of clinical countermeasures. Given this, there are three main principles that must underpin planning and response.

- **Precautionary** – plan for an initial response that reflects the level of risk, based on information available at the time, accepting the uncertainty that will initially exist about the scale, severity or level of impact of the virus.
- **Proportionality** – plan to be able to scale up or down in response to the emerging epidemiological, clinical and virological characteristics of the virus and its impact at the time.
- **Flexibility** – plan for the capacity to adapt to local circumstances that may be different from the overall UK picture – for instance in hotspot areas.

These principles are set out in more detail in Chapter 3 of the Strategy.

2.3 Chapter 4 of the Strategy sets out the key elements of the UK's 'Defence in Depth' approach, which are also reflected in the actions required during each phase of the pandemic response. The primary objective of the Strategy is to protect health, with the aim of reducing the proportion of the population that may develop influenza or become critically ill. This will be achieved by:

- maintaining **surveillance** to detect the emergence of a novel virus strain or any illness attributable to it, monitoring its spread, assessing the impact of the virus and identifying the groups most at risk of severe illness and death and monitoring the uptake, effectiveness and safety of the various clinical counter-measures including vaccination;
- **reducing risk of transmission and infection** by applying individual and community infection control measures and assisting self support by providing public advice and information and promoting messages of good respiratory and hand hygiene;
- **reducing illness and complications** and minimising deaths of symptomatic individuals by rapid access to health assessment, providing antiviral medicines promptly where they are needed and providing other effective treatment including antibiotics for those suffering from secondary bacterial infections;
- **protecting the public through preventing** the disease when possible and appropriate, through pandemic specific vaccination, and
- **promoting work during the inter-pandemic period** to increase capacity and resilience in the UK.

2.4 A summary of the scientific evidence which supports this approach was published alongside the Strategy².

Pandemic phases

2.5 The WHO adopts a series of phases to describe and monitor the progress of a pandemic at a global level. Whilst useful for planning and monitoring the worldwide pandemic, this is not sensitive enough to direct the pace and scope of the response within individual countries. The H1N1 (2009) influenza pandemic virus affected the UK prior to WHO declaring a global pandemic.

2.6 The *UK Influenza Pandemic Preparedness Strategy 2011* outlines a new approach to the indicators for action in the UK in a future pandemic response that is no longer linked to the WHO global phases. This takes the form of a number of phases named: **Detection, Assessment, Treatment, Escalation and Recovery**. A pre-pandemic planning and preparation period precedes these.

²www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_125318

- 2.7 Although the strategy incorporates indicators for moving from one phase to another, the phases are not numbered as they are not linear and it is possible to move back and forth, overlap or jump phases.
- 2.8 In each phase, health and social care providers may face different challenges to both capacity and capability, dependent upon the characteristics of the new virus and whether the impact on local or national services is low, moderate or high. The tables throughout the document display what the response may look like in each of these theoretical scenarios. Given the unpredictability of any influenza pandemic, it is not possible to quantify numbers of cases or hospitalisations for specific scenarios. Much may also depend on other pressures such as winter pressures, co-existing viral outbreaks, public reaction and media coverage, all of which may add to increased pressure on services.
- 2.9 The health response required for a pandemic predominantly reflects established issues in managing other adverse incidents or events, such as winter pressures or severe weather, such as:
- *uncertainty* – there may be little or no information available initially so rapid gathering and sharing of reliable data will be important to inform the response;
 - *speed* – in local areas the increase in demand on services can develop very rapidly, requiring an agile and coordinated response;
 - *profile* – media pressure and public demand for information will be intense, requiring frequent, consistent and coherent communications;
 - *cross-sector* – the response will span different sectors and organisations, requiring close working and mutual support, and
 - *local hotspots* – the demand in each area may not be uniform with different geographic areas being under pressure at different times, requiring good information exchange and flexibility of local plans.

However, the *duration* of the pandemic may be much longer than for other emergencies (up to several months) requiring resilience and a sustained response.

The planning context

- 2.10 The planning assumptions are discussed at Chapter 2 of the Strategy. Due to the unpredictable nature of influenza pandemics, response plans should be flexible and adaptable. During a pandemic, the assumptions on which to base the response will be updated in the light of emerging knowledge about the developing scenario.
- 2.11 Despite this unpredictability, there are some key assumptions that will help to inform planning:

- A pandemic is most likely to be caused by a new subtype of the Influenza A virus but plans could be appropriately adapted and deployed for any epidemic infectious disease.
- An influenza pandemic could emerge at any time of the year anywhere in the world, including in the UK. Regardless of where or when it emerges, it is likely to reach the UK very rapidly and, from arrival, it will probably be a further one to two weeks until sporadic cases and small clusters of cases are occurring across the country.
- The potential scale of impact, risk and severity from related secondary bacterial infection and clinical risk groups affected by the pandemic virus will not be known in advance.
- It will not be possible to completely stop the spread of the pandemic influenza virus in the country of origin or in the UK, as it will spread too rapidly and too widely.
- Initially, pandemic influenza activity in the UK may last for up to three to five months, depending on the season. There may be subsequent waves of activity of the pandemic virus weeks or months apart, even after the WHO has declared the pandemic to be over.
- Following an influenza pandemic, the new virus is likely to persist as one of a number of seasonal influenza viruses. Based on observations of previous pandemics, subsequent winters are likely to see increased seasonal flu activity compared to pre-pandemic winters.

Pandemic planning assumptions

2.12 Influenza pandemic planning in the UK has been based on an assessment of the 'reasonable worst case', derived from experience and scientific analysis of influenza pandemics and seasonal influenza in the 20th Century. These considerations suggest that, in a worst case scenario, up to 50% of the population could experience symptoms of pandemic influenza spread over one or more pandemic waves each lasting 15 weeks, although the nature and severity of the symptoms would vary from person to person. For deaths, the analysis suggests that up to 2.5% of those with symptoms could die as a result of influenza if no treatment proved effective. These figures might be reduced by the impact of countermeasures but the effectiveness of such mitigation is not certain. The combination of particularly high attack rates (circa 50%) and a severe case-severity is relatively improbable but not quantifiable.

Health and social care planning assumptions

2.13 Taking account of the above, when planning for excess deaths local planners should prepare to extend capacity on a precautionary, but reasonably practicable, basis. Planners should aim to be able to cope with between 210,000 to 315,000 additional deaths nationally, possibly over as little as a 15 week period, with potentially half of these over three weeks at the height of the outbreak. More extreme circumstances

would require the local response to be combined with facilitation or other support at a national level.

- 2.14 Health services should continue to prepare to provide advice and treatment for up to 30% of all symptomatic people in the usual pathways of primary care. Between 1-4% of symptomatic patients could require hospital care, depending on the severity of illness caused by the virus. Of these, up to 25% may require critical care.
- 2.15 Staff absence is likely to follow the wider community profile. In a widespread and severe influenza pandemic affecting 50% of the population, between 15-20% of staff might be absent on any given day during peak weeks. However, these figures may be reduced by the impact of antiviral and antibiotic countermeasures depending on the effectiveness of these measures.

Flexible/scenario planning

- 2.16 Three interdependent factors influence the impact of the new virus on all services:
- the characteristics of the disease;
 - available service capacity, and
 - the behaviour of the population.
- 2.17 The situation remains complex. For example, if an influenza pandemic occurs at a time of existing high demand on health services, eg winter, even an influenza virus that produces mild clinical symptoms may have a high impact on some aspects of health service provision. Impacts are also likely to vary across the UK.
- 2.18 The tables in Chapters 5 and 6 of this document describe the likely indicators for low, moderate and high service impact pandemics, the actions to be taken by health and social care staff, and the public messages to be given. This should be seen as a continuum, including reverting to plans used earlier in the pandemic as the peak of the wave subsides, as it will not be possible to clearly differentiate between each scenario. A number of factors contribute to the different scenarios, which will be slightly different in each health and social care setting. Therefore, quantitative triggers for moving from one scenario to another are unlikely to be helpful.

3. Health and social care structures – pandemic preparedness and response

3.1 A pandemic is a global outbreak requiring coordination at a national level with close working between the NHS, public health and social care services. At the start of a pandemic, there will be a transition from business as usual, where operational decisions are devolved to local level, to a command and control system led at a national level that is able to coordinate the response, as outlined in the *UK Influenza Pandemic Preparedness Strategy*. A balance between nationally determined actions and a locally flexible approach will be critical in ensuring an effective response.

3.2 Key national level information sources, decisions and actions include:

- national scientific advice to the Government through the Scientific Advisory Group for Emergencies and the Joint Committee on Vaccination and Immunisation (JCVI) – also communicated to all areas to inform local response;
- a national communications strategy (allowing for appropriate local communications, eg in hotspots);
- any departure from normal practice recommendations, eg National Institute for Health and Clinical Excellence guidelines;
- national advice on social distancing actions (but allowing for local discretion according to the situation on the ground);
- any alteration to the schedule of GP or pharmacy contractual payments agreed nationally;
- any alteration of health and social care “targets” or nationally commissioned service-level agreements;
- any decision to deploy and/or cease the NPFS;
- development and use of clinical algorithms/protocols to support treatment;
- managing antiviral medicine and other consumable stockpiles and distribution (but with continuity plans at local level until supplies received);
- managing vaccine purchase and distribution and policy on priority groups, and
- consideration and decision on legislative and regulatory changes if required.

At the time of the pandemic, national decisions, guidance and general information will be issued to planners via the usual channels.

3.3 Local flexibility in implementing any nationally mandated plans and actions will incorporate:

- communications plans – integrated with the national communications strategy;
- individual school closures, within the guidelines specified in the *UK Influenza Pandemic Preparedness Strategy 2011*;
- receipt, storage and onward distribution of national countermeasure stockpiles across each local area;
- location and operation of ACPs;
- movement from initial response phases of Detect and Assess to Treatment and Escalation in hotspot areas with advice from local and national public health services;
- escalation and de-escalation of response in local service areas – within the context of national arrangements;
- mutual aid arrangements across local and sub-national organisations;
- flexibility in commissioning plans to enable money to follow appropriate interventions in different settings, eg the vaccination of at risk groups;
- vaccination implementation plans, including those for health and social care staff;
- recovery, audit and return of unused national countermeasures, and
- real-time feedback on coverage across local areas.

Local Directors of Public Health will be able to offer advice.

Core Principles

3.4 The changes to the NHS and public health systems in England alter the roles and responsibilities of some organisations that are contributors to an emergency preparedness and response. However, the key ‘must do’s’ in planning will not change and these are reflected throughout this document. They are:

- **a future influenza pandemic remains a threat** and may have a more severe impact than in 2009;
- **joint planning** between all organisations, together with a cohesive approach for every response phase is essential;
- **exercises and testing** are still needed on an ongoing basis within individual organisations and with partner organisations to test assumptions and interrelated aspects of plans;
- **coordination** of a pandemic response is key to ensure best use of resources and to achieve the best outcome for the local area, and
- **continuity** plans are needed to underpin pandemic influenza response, in common with many other emergency response plans.

3.5 The key principles described below for emergency preparedness and response in the transition period until April 2013 underpin the approach for preparing and dealing with a pandemic.

- It is the responsibility of each local area to ensure that preparedness and response plans are drawn up and tested. For a pandemic, these plans will be based on the *UK Influenza Pandemic Preparedness Strategy 2011* and this guidance, and should involve all organisations involved in the response in their preparation and testing.
- Clustered PCTs and SHAs will continue to have responsibility for the health aspects of emergency preparedness and response in this transition period. They will continue to work with the wider government resilience hubs established by the Department for Communities and Local Government, including the Local Resilience For a (LRFs) which provide the focus of multi-agency planning to emergencies (and which become Strategic Coordinating Groups (SCG) when responding to emergencies);

3.6 A summary of roles and responsibilities for commissioners and providers during a pandemic is included at Annex A-C.

Responsibilities for pandemic preparedness and response from April 2013

- 3.7 The Health and Social Care Bill updates and extends the Secretary of State for Health's powers of direction during an emergency, such as a pandemic. Arrangements for the new structures in the NHS Commissioning Board (NHS CB) and Public Health England (PHE) will be developed during 2012-2013 and will become operational from April 2013.
- 3.8 The new arrangements will provide Secretary of State with a clear line of sight to front line responders through PHE and the NHS CB. Throughout an emergency, the Chief Medical Officer (CMO) for England with PHE will provide the Secretary of State with consolidated health advice to inform response and recovery. The Department of Health will continue to commission response exercises, and issue policy guidance.

Directors of Public Health will be appointed by the Local Authority jointly with the SofS and will carry out the Local Authority's new public health functions, Local authorities will continue with their existing responsibilities for planning and responding to emergencies as Category 1 responders under the Civil Contingencies Act 2004. The Health and Social Care Bill will make consequential amendments to the Civil Contingencies Act 2004 making the Secretary of State (supported by PHE) and the NHSCB Category 1 responders and Clinical Commissioning Groups Category 2 responders.

PHE will provide, at all levels, the health protection services, expertise and advice currently provided by the HPA. It will deliver specialist public health services to national and local government, the NHS and the public, working in partnership to protect the public against infectious diseases such as pandemic influenza.

The following proposed arrangements are part of the wider reform of the health and care system underpinned by the Health and Social Care Bill:

- Each provider of NHS funded care and PHE units will comply with relevant legal emergency preparedness requirements including the Civil Contingencies Act 2004 and will ensure 24/7 response capability for emergencies. Each provider of NHS funded care will also be required to ensure the appointment of an accountable Emergency Officer to take executive responsibility and leadership at service level.
 - The NHS CB will identify an NHS Emergency Lead Director for each LRF area. The Lead Director would have authority to act on behalf of the NHS Commissioning Board and will have clear accountability upwards through the system to the NHS Commissioning Board to discharge their responsibilities in accordance with legislation.
- 3.14 Local Health Resilience Partnerships (LHRPs), co-chaired by the NHS Emergency Lead Director and a lead Director of Public Health, will be the forum at the LRF level for developing and testing joint health sector response plans for emergencies including a future pandemic.
- 3.15 For pandemic preparedness, the new Local Health Resilience Partnerships will need to ensure that the 'must do's' at para 3.4 are achieved in each local area, and that there is a clear process to develop and test both health and wider plans based on national and local risks and challenges.
- 3.16 In the event of a pandemic, there will be significant impact on NHS resources and the NHS will lead the overall response. PHE will provide the specialist health protection services previously provided by the HPA (see Annex C), working in close collaboration with the relevant NHS leads at all levels.
- 3.17 Further guidance on the how the emergency preparedness and response arrangements, including for a pandemic, post transition (2013) will be issued as structures and relationships develop.

4. Preparing to respond

4.1 Health and social care services are characterised by complex interdependencies between a wide range of organisations operating at different tiers. A unified and comprehensive response across the health and social care sector will therefore be necessary to achieve the best outcome for all potential patient groups. For normal and out of hours services (including pharmacies), arrangements should be in place for collaboration, buddying or other support at times of increased pressure to ensure continuity of services for those that need them most. Many attributes of good local plans build on the same basics of good practice already set out in “Transforming Community Services”³ including targeting need, effective health and care partnerships, access and availability, care planning and case management, and education and training.

4.2 People infected with the virus are likely to experience typical influenza symptoms of varying severity. Pivotal to all local plans are:

- a **sustainable community-based response** - with effective arrangements for providing initial assessment, access to antiviral medicines (and vaccines, when available), treatment of complications, home care and access to hospital care;
- an **integrated approach to planning and response** that effectively employs all of the health and social care services in a local area, using flexible working across all agencies and making best use of potentially scarce facilities and resources, including the skills of volunteers;
- **clear and comprehensive arrangements for admission, discharge and transfer between appropriate levels of health and social care** based on established ethical (see para 4.6) and equalities frameworks to assist in managing local demand;
- **effective monitoring and communications systems** and dialogue to permit: (i) timely exchange of essential information needed for management of the influenza pandemic and; (ii) local messaging to the public and staff, and
- **effective management of the increases in demand** resulting from the pandemic including:
 - a **graded approach** to configuring services, (ie identifying non-essential activity that can be reduced or ceased to increase capacity, and indicating when these changes will need to take place) allowing the local response to be proportionate to the severity of the pandemic and be escalated and de-escalated as needed;
 - **continuation of essential care** including mechanisms for recognition and management of patients with urgent non-flu medical conditions, other emergencies and individuals with long-term conditions requiring regular intervention, and

³ www.dh.gov.uk/en/Healthcare/TCS/index.htm

- **psychosocial support for staff and patients/clients** when needed including plans to afford necessary rest time for hard-pressed staff.

Ensuring an effective response

4.3 Besides effective joint planning there are some key common aspects of any response that contribute to ensuring the best possible outcome for all involved.

Leadership

4.4 In an influenza pandemic, leadership challenges may include high levels of uncertainty during the initial response phase requiring flexibility and rapid adaptability of plans, and increased pressures and demand on services, which may be exacerbated by staff absence. Key issues include:

- visible director level leadership, direction, and ownership of plans;
- engagement, motivation and support for staff;
- pre-established and tested command and control arrangements;
- good coordination, and
- appropriate channelling of communications to maintain public confidence.

Ethical principles

4.5 Ethical considerations are important in determining how to make the fairest use of resources and capacity. Decisions should be in proportion to the demands of the pandemic and other existing pressures and should be aimed at minimising the overall harm caused by the pandemic. Many people will also face personal dilemmas such as tensions between their personal and professional obligations. Decisions are more likely to be understood and the need accepted if these have been made in an open, transparent and inclusive way and based on widely held ethical values.

4.6 The Committee on Ethical Aspects of Pandemic Influenza (CEAPI) developed an ethical framework, which was first published in 2007⁴. It has been reviewed by CEAPI in the light of the experience in the H1N1 (2009) influenza pandemic. The committee has concluded that it remains appropriate and fit for purpose in planning for a future pandemic. The routine use of these principles can act as a checklist to ensure that all ethical concerns have been considered. This will support professional groups of staff in resolving ethical issues that may arise from the demands of their work.

Clinical and user engagement

4.7 Clinical leadership within an organisation will be vital to gain professional support, for example by engaging with the range of healthcare providers when formulating local plans. Using established ethical practice advisory groups to support decision making

⁴ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_080751

during any escalation phase will help in managing triage and early discharge decisions. Encouragement of vaccine uptake by healthcare workers, eg 'leading by example', will also be valuable.

- 4.8 Carefully specified commissioning arrangements will help to facilitate engagement and effective partnership working between medical, nursing and other clinical professions in shaping local plans. Where possible, clients and service users should be engaged in planning for any proposed service change. Open discussion with stakeholder groups on the issues and choices that may become necessary in a high impact pandemic will result in plans that reflect what most people will find acceptable proportionate and fair.

Communication

- 4.9 The aim of the national communication strategy will be to instil and maintain trust and confidence by ensuring that the public and professionals know:

- what is going on, both nationally and in their local area;
- where they can find reliable answers to questions they may have, and
- how to access relevant information on self-care and medical support if required.

Details of this are set out in Chapter 5 of the *UK Influenza Pandemic Preparedness Strategy 2011*.

- 4.10 Good liaison between local and national communications teams is essential so that both are aware of the content and changes in their respective outputs. Local public communication plans should be drawn up to include:

- roles, responsibilities and methods during a pandemic;
- arrangements for communications with the public about necessary prioritisation of services;
- location of, and how to access, ACPs;
- strategies to challenge incorrect information to mitigate the risk of misinformation (such messages need to be communicated clearly and promptly to the local population as their behaviour will contribute to the effectiveness of the response);
- public messages that encourage good hygiene behaviours, such as respiratory and hand hygiene (those used for seasonal influenza and the lessons from the H1N1 (2009) influenza pandemic should be reviewed when preparing these messages), and
- transparent and open communication of the risks and benefits, for example of vaccination.

- 4.11 Use of social media and other modern communication channels may assist in meeting these goals. For example, Facebook was used effectively to communicate accurate messages during the H1N1 (2009) influenza pandemic.

- 4.12 Local communications between health and social care providers, and their partners in other agencies, will also be important in supporting a cohesive response. The aim is to ensure a clear understanding of the overall pandemic situation and pressures on healthcare providers, as well as direction of movement of any change, changes in protocols, any additional clinical at risk groups and any other key information. During the 2009 pandemic, for example, a daily blog for health staff was successfully used in one area as a means of regular local updates.
- 4.13 Timely, consistent and clear communication to health and social care professionals will also be important throughout the pandemic. This will include guidance on the best clinical approaches. The British Thoracic Society, British Infection Association and HPA have produced joint provisional guidelines for the clinical management of patients with an influenza-like illness (ILI), with and without bacterial complications, during a pandemic⁵. They describe the clinical features, assessment and treatment of adults and children in either hospital or community settings once cases are identified in the UK. The guidelines are based on a range of expert guidance, agreed standards of care and best practice consensus and are regularly reviewed and updated in the light of emerging knowledge. They may need to be adapted to reflect capacity, shortages or constraints as the pandemic develops.

Infection control

- 4.14 The incubation period can range from one to four days. People are most infectious soon after they develop symptoms, though they can continue to shed the virus, for example in coughs and sneezes, for up to five days (longer in children). Generally, people become less infectious as their symptoms subside. Once the symptoms are gone they can be considered as no longer infectious to others. People who have been infected with a particular strain of the virus will become immune to that strain.
- 4.15 The meticulous use of infection control procedures such as segregation, isolation and cohort nursing are fundamental in limiting the transmission of the virus. Local risk assessment for required levels of infection control should be regularly performed in hospitals, communal living environments such as residential homes, social care environments and supervised mental health residences or prisons⁶. Stringent attention to hand and respiratory hygiene should also be observed.
- 4.16 Surgical masks and respirators have a role in protecting healthcare workers, provided that they are used correctly in conjunction with hand hygiene and other infection control practices. Employers will need to undertake risk assessments to determine whether the provision of facemasks or respirators is appropriate for their staff. They must also

⁵ www.brit-thoracic.org.uk/guidelines/pandemic-flu-guideline.aspx

⁶ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_122604

ensure that appropriate training and fit-testing are provided for staff who need to use them. More detail on facemasks and respirators can be found in para 8.5.

- 4.17 Many dental procedures have the potential to generate aerosols so risk assessment and effective risk-management actions must be taken to avoid aerosol exposure. Emergency dental care should remain available throughout a pandemic, although non-urgent services may be reduced if there are shortages of staff and specialist consumables.
- 4.18 Vaccination of frontline health and social care workers should be carried out as soon as pandemic influenza vaccine becomes available.

Resilience / Business continuity

- 4.19 Given the potential duration of an influenza pandemic, business continuity planning for all aspects of each organisation's operational activity will be important in underpinning resilience. BS NHS 25999, the British standard for business continuity management has been developed to help minimise the risk of disruptions and to provide a basis for effective recovery. Under the Civil Contingencies Act, 2004, Local Authorities have a duty to provide advice to their local business community and voluntary sector on business continuity.
- 4.20 When contracting, commissioners should require providers to have robust and tested business continuity plans in place to help ensure continuation of services, specifically addressing the potential effect of staff absenteeism. For providers of health and social care services, plans should include mutual aid and/or shared agreements to support service delivery and to sustain an integrated response. This may be informed through the completion of Business Impact Assessments.
- 4.21 It is important that provider organisations have continuity plans in place to maintain services for those who are already known to be in vulnerable groups. Local authorities and NHS provider organisations should have systems in place so that during the pandemic they are able to establish quickly and accurately which additional individuals and groups are vulnerable and why.
- 4.22 During a pandemic, the ongoing ability of commissioned services to assess and accept referrals should be closely monitored. Information on levels of infection, staffing status and other emerging issues should be regularly reviewed. Information about local services provided via independent sector providers may be sourced from Joint Strategic Needs Assessments. This could supplement information from the Regulator (the Care Quality Commission).
- 4.23 Assurance of sufficient supplies requires a detailed understanding of the potential impact of a pandemic on the supply of consumables, medicines and other services that

are critical to maintaining necessary services. Organisations should ensure that their suppliers have business continuity plans in place that are resilient to the potential challenges to the supply chain during a pandemic. One of the lessons identified from the H1N1 (2009) influenza pandemic was to use existing systems where possible.

- 4.24 Facilities, equipment, plans, protocols, and staff training must be regularly refreshed and tested to ensure that preparedness and business continuity is maintained between events.

Human Resources

- 4.25 The whole range of responsible organisations and statutory providers must be engaged in developing response plans to ensure adequate staffing support for the maintenance of health and social care services. Planning should cover training, appropriate health protection and welfare for staff and volunteers and should take account of the specific needs of those who are pregnant or who may be in risk groups. Multiple roles and responsibilities should be carefully reviewed to manage the risk of double counting or possible double assignments.
- 4.26 Once a pandemic specific vaccine becomes available, encouraging uptake by frontline health and social care workers – depending upon vaccine policy at the time – will be an important factor in protecting them, their patients, clients, families and colleagues and in improving resilience of the services they provide.
- 4.27 An influenza pandemic could put staff under considerable pressure. Conflicts may arise between staff members' professional obligations and personal responsibilities. Support should be made available for individual staff and professional groups to address ethical dilemmas that may arise out of their work. Guidance on psychosocial care for staff is provided in *Psychosocial care for NHS staff during an influenza pandemic*⁷ and from the Intensive Care Society⁸.
- 4.28 Flexible planning to make best combined use of staff skills and competencies may enable better quality of services to be maintained, even if high sickness absence levels occur during moderate or severe pandemics. For example:
- pharmacist and nurse prescribers could play an important role in prescribing medicines for those people who cannot access their usual prescriber;
 - in hospitals, clinical pharmacists can play a role in supporting other clinicians in areas such as adult and paediatric intensive care units;
 - voluntary and community organisations offer a wide range of skills and experiences, and can offer specific contributions, including providing social support: assisting those experiencing stress, anxiety and grief, staffing help-lines, or acting as 'flu

⁷ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_103168

⁸ www.ics.ac.uk

friends'⁹. Early engagement in planning with voluntary organisations is important as they will also need to plan for continuity and the sharing of their resources across organisational and geographical boundaries;

- there may be opportunities to use the assessment and treatment skills of dental practitioners or other health professionals to support the wider delivery of healthcare in a pandemic, and
- a helpline for staff may be useful. One was established by one Trust during the H1N1 (2009) influenza pandemic, which provided advice on clinical and HR management issues.

4.29 For all service providers it may be helpful to know further information about staff, such as:

- whether they have dependants (as they are then more likely to need care leave);
- whether they have underlying conditions, or are pregnant, and may therefore be at increased risk from influenza;
- where they live and how they usually travel to work (this will help with planning if transport is disrupted), and
- whether they may be prepared to 'live in' during the pandemic (if possible and if required).

4.30 Any changes to normal working patterns must include adequate time off work to prevent absence due to exhaustion or stress caused by pressure over a sustained period or the cumulative impact of the emergency such as bereavement, additional care responsibilities or ill health.

Training

4.31 Ongoing staff training throughout the inter-pandemic period is an important part of routine continuity plans. For example:

- in Mental Health Trusts, staff training in infection control and basic physical care skills may avoid the need to transfer patients with flu like symptoms to other services;
- in general Intensive Care Units (ICUs), ensuring that staff have the necessary skills and confidence to enable them to stabilise and provide basic care for children will increase the flexible availability of critical care beds for patients of all ages if regional Paediatric Intensive Care Units (PICUs) are under pressure. Guidance is available on the Royal College of Paediatrics and Child Health website¹⁰;
- core training for theatre recovery staff in support of general intensive care should also be maintained on a regular basis, and
- maintaining the skills (and numbers) of ambulance control room staff will assist resilience of ambulance assessment and dispatch systems.

⁹ A flu friend is someone who can be relied upon to collect medication for a symptomatic individual

¹⁰ www.rcpch.ac.uk/child-health/medical-conditions/h1n1-influenza/h1n1-influenza

4.32 Where there may be a need for staff to work outside their normal role or in unfamiliar situations, it is important that this work remains within their scope of competence. Prior discussions with local staff organisations, appropriate protection, training, supervision, and indemnity for the role that they may be expected to fulfil will all be important. Useful activities for consideration include:

- carrying out an audit of staff secondary skills (eg driving skills) that may be helpful in maintaining service capacity;
- identifying training needs of other staff, such as pharmacists and physiotherapists, who may not be based in the unit, but without whom care would be compromised;
- providing generic training packages that could be used as part of general surge planning to tertiary centres which support District Hospitals in order to continue care of paediatric cases on-site;
- providing competency-based training for staff involved in vaccination to include detailed knowledge of any new vaccines;
- liaising with voluntary organisations to identify human and training resources that may be available from them, and vice-versa, and
- identifying those retired professionals who would be willing to work if necessary, and preparing refresher training for them as required.

4.33 There are a number of professional bodies that provide training and support to members in emergency preparedness and response. Amongst them, the Royal Colleges of General Practitioners, Physicians, Paediatrics and Child Health, and Obstetricians and Gynaecologists provide important information, leadership, training and support to their Members and Fellows in the professions. They, as well as the Royal Colleges of Nursing and of Midwives and the Nursing and Midwifery Council, also play an important role in validating training and supporting indemnity in professional roles. The Intensive Care Society, Paediatric Intensive Care Society, Faculty of Intensive Care Medicine, and the Royal College of Anaesthetists have a key role to play in advising their specialties and in providing protocols and training to ensure and maintain preparedness.

5. Health and social care response – Detection and Assessment phases

- 5.1 The Detection and Assessment phases start when human-to-human transmission of a novel influenza virus with pandemic potential which poses a substantial risk to human health is detected in the UK. During these initial phases the main requirement is to identify the virus and to gain an understanding of its clinical, epidemiological and virological characteristics such as risk groups for severe disease and transmissibility. The Detection and Assessment phases therefore focus on intelligence gathering, enhanced clinical surveillance, the development of laboratory diagnostic tests, swab testing by GPs and testing in hospitals of suspect cases, presumptive treatment for affected individuals, possible prophylaxis of contacts, and good public communication.
- 5.2 As data becomes available, scientific advice and modelling at a national level will help inform the response. However, modelling is a quantitative assessment of the available data, not a definitive prediction, and the levels of uncertainty inherent in such models will reduce only as more data becomes available over time. Research protocols may also be activated.
- 5.3 The UK has extensive international transport links so the virus may arrive here at an early stage in the global pandemic. It will not be possible to prevent the arrival or to contain a new virus but good infection control procedures and appropriate public health advice may help to reduce to rate of transmission and limit cases.
- 5.4 At the outset, the eventual severity of the pandemic will not be clear, nor will its impact on health systems. Initial response plans should therefore adopt a risk-based approach but remain flexible and capable of proportionate scaling up or down. Whilst key elements of the response will be determined at national level, arrangements for implementation of measures in the initial response will be decided locally, based on the pressures being faced at the time. Clear communication will be essential to ensure that the public understands any variations in approach between local areas.
- 5.5 The initial response will be resource intensive for public health and primary care services. GPs, public health services and NHS providers will need locally agreed mechanisms to share tasks and collaborate, to minimise the risk of individual service failure and to sustain the response, especially in hotspot areas.
- 5.6 The urgent national need for detailed information on the epidemiological, clinical and virological characteristics of the new virus will add to pressures. Given the potential range of organisations involved, unified plans with clear roles, responsibilities and resource commitments will be required. Despite pressure on services, the aim must be

to ensure increased epidemiological and clinical surveillance, and rapid diagnosis, in order to gain a clearer picture of the virus and its effects.

- 5.7 Geographic distribution of pandemic activity may remain variable for days or even weeks. Overall many services are likely to continue 'business as usual' during this time, but with pressure on some services in 'hotspot' areas with large local outbreaks.

Public Health services

- 5.8 At a local level, public health services will take a lead role in informing the response whilst contributing to the overall national picture. Comprehensive surveillance arrangements are essential to provide information on the characteristics of the virus as it emerges, estimating severity and risk groups affected, tracking the spread and impact of the virus and measuring uptake and safety of various pharmaceutical countermeasures.

- 5.9 Pandemic influenza surveillance is based on established seasonal influenza arrangements. However, as for any infectious disease outbreak, rapid and more intensive data collection and analysis will be necessary and there will be requirements of more frequent reporting of data at the start of an influenza pandemic. Surveillance activities are likely to be required from a mix of health organisations such as GPs, community services and hospitals, and are likely to include:

- rapid assessment of the first cases and their close contacts to provide an early insight into the clinical, virological and epidemiological features of cases;
- field investigation of the first clusters of cases and outbreaks of pandemic influenza in closed settings such as schools;
- regular syndromic surveillance data on consultation behaviour for patients with acute respiratory illness through telephone help-lines, in primary and secondary care;
- establishment of virological sampling schemes ensuring links with the surveillance arrangements put in place eg to administer antivirals or in primary care;
- collection of detailed clinical information on cases of severe disease admitted to hospital and intensive care;
- clinical, epidemiological and virological investigation of early deaths caused by the pandemic virus;
- rapid monitoring of age-specific excess mortality using data from the General Registry Office on-line system;
- rapid assessment through community surveillance, eg telephone surveys to determine the rate of illness and healthcare seeking behaviour in the general population;
- establishment of specific systems to monitor the uptake, effectiveness and safety of any pandemic vaccine programme in targeted groups, and
- cross-sectional population sero-prevalence surveys to estimate background population immunity and age-specific rates of infection.

- 5.10 Internationally, there will be mutual data-sharing between the UK and international organisations such as the WHO, the Global Health Security Initiative countries (the G7 countries¹¹ plus Mexico), the EU, and others. Reporting by the WHO is likely to influence national media, which will be an important factor in influencing public behaviour. Public health services will contribute data and guidance, aiming to maintain public confidence by focusing on reducing the risk of infection and assisting the local population to care for themselves and others.
- 5.11 National and local messages will emphasise that anyone with influenza-like symptoms should stay at home, minimise close contacts and seek help via an information line rather than attending GP surgeries unless their symptoms worsen. Advice on good respiratory and hand hygiene practices will be made available as part of national communication messages.

Borders

- 5.12 There are no plans to close national borders in the event of an influenza pandemic. Modelling suggests that such a measure would have no significant impact on the spread of the virus whereas the social and economic impact such as disruption to supply chains would be substantial.

Mass Gatherings

- 5.13 There is also very little evidence that restrictions on mass gatherings or on internal travel arrangements will have any significant effect on influenza virus transmission. The emphasis will instead be on encouraging all those who have symptoms to follow the advice to stay at home and avoid spreading their illness.

School Closures

- 5.14 It is unlikely that widespread school closures will be required except in a very high impact pandemic. The benefit of school closure would be undermined if children mix socially outside of the school environment. In addition, the impact on other organisations caused by absence of parents from key occupations due to child care needs may also be detrimental. However, specific local business continuity reasons (staff shortages or particularly vulnerable children) may lead to individual or local school closures.
- 5.15 Local Directors of Public Health may advise localised closures in specific circumstances (individual schools or catchment areas, and in special schools with particularly vulnerable children) to reduce the initial spread of infection locally whilst awaiting more information about the spread of the virus. Head teachers and their Boards of Governors will take the ultimate decision to close individual schools temporarily.

¹¹ Canada, France, Germany, Italy, Japan, United Kingdom and United States

Primary and Community Care

- 5.16 Although this initial response will be time limited, primary care services will still come under pressure and will need to implement escalation plans where there are concentrated levels of activity or hotspots. All patients presenting with influenza like illness will need to be tested (respiratory swab) to enable rapid identification of the virus strain and spread. The use of an appropriate skill mix of NHS staff to undertake testing, may reduce pressure in other clinical areas. The CMO and Chief Pharmaceutical Officer (CPO) will issue a letter to health professionals advising on use of antiviral medicines.
- 5.17 Although there are central stockpiles of facemasks and antiviral medicines, it could take seven to 10 days for UK-wide distribution of centrally held stocks to be completed and organisations should prepare to rely initially on local stocks and continuity arrangements. Access to antiviral medicines in the first days will be via local Health Protection Units (HPUs). Rapid dispersal of supplies from central stocks will depend upon a limited (ie, manageable) number of delivery points. Local areas will need plans in place for delivery points, suitable storage, record keeping and management of stocks, and for receiving deliveries at short notice, possibly outside normal working hours. Normal NHS supply chain arrangements will not be used as these stocks are supplied without the usual charges and associated invoicing. Ongoing distribution to other locations is a local responsibility and should be incorporated into local plans, taking into account the requirements for Wholesaler Dealers licences (WDLs) under the medicines Act 1968. Items such as swab kits are not held centrally, and stocks should be obtained through usual purchasing channels.
- 5.18 Antiviral medicines (currently oseltamivir and zanamivir) from the national stockpile will be free for those who have a clinical need. In hotspot areas there will be an increasing need for rapid distribution of antiviral medicines to members of the public and this may require the early establishment of ACPs. It is unlikely that the NPFS will be activated until there is wider geographical pressure on primary care services from high numbers of patients with flu-like symptoms (see para 8.22). The designation and setting up of the ACPs should be a key feature of local plans.
- 5.19 Pharmacists, and their teams, will support members of the public by providing positive health messages, advice on respiratory and hand hygiene measures and support for self care, including the use of over-the counter medicines where appropriate.

Social Care

- 5.20 Social care services could experience little pressure in the initial phases of a low impact pandemic. However, public health services might advise the early closure of specific

day care centres to reduce the risk of spreading infection to vulnerable individuals. Staff and volunteers released from duties in day care centres and those who normally transport people to them may then be a valuable redeployment resource as they possess a range of transferable skills and will have been security checked. Services will need to plan for users for whom absence of day services would create critical risks, eg the provision of home meals for users, or alternative short-term breaks for carers.

- 5.21 In this phase social care services should actively promote good infection control measures amongst staff, provider agencies and service users, paying particular attention to those service users who arrange their own care. Services should also activate plans to provide Flu Friends for those vulnerable people who have no one else to collect medication and provide support if they become ill.

Secondary Care

- 5.22 Secondary care services are less likely to be under pressure during the initial phase of a low impact pandemic, though Emergency Departments (EDs) and ambulance services may face increased demand if local GPs and out of hours services are under pressure. However, even in a low-impact pandemic there is likely to be a rapid increase in referral of more severely ill patients to intensive care. Critical care services have relatively limited bed numbers and traditionally run at high occupancy. Plans for increasing capacity in this area therefore need to be maintained and regularly tested.¹²
- 5.23 In a moderate or higher impact pandemic, secondary care may see a large increase in both the severely ill and death rates. In circumstances where there are small numbers of hotspots and large variation in pressures between areas, mutual aid may be possible. However, the potential risk of contributing to increased transmission will require careful consideration.

¹² www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_104977

Health and Social Care influenza pandemic preparedness and response

Health and social care role in Detection and Assessment phases		IMPACT UNKNOWN
Possible NHS indicators	<ul style="list-style-type: none"> ❖ Sporadic novel influenza cases reported from the community ❖ Possible limited local outbreaks (eg in schools/care homes) ❖ Possible increased number of influenza cases in critical care 	
Key health and social care delivery modes	<ul style="list-style-type: none"> ❖ Health and social care organisations review response plans, including preparations to mobilise ACPs and obtain and distribute antiviral medicines from the national stockpile ❖ GP diagnosis and swab testing of influenza like illness ❖ CMO and the CPHO are likely to issue a letter to health professionals to advise prescribing of antiviral medicines as appropriate ❖ Hospital referral and assessment of severe cases ❖ In hospital-testing for influenza virus ❖ Prescribing of antibiotics for complications, by clinical judgement ❖ Community and hospital pharmacies to review stocks of influenza medicines; more people may request advice for managing symptoms of flu 	
NPFS activity level	<ul style="list-style-type: none"> ❖ NPFS not yet activated ❖ National flu advice line may be operating 	
Public health responsibilities	<ul style="list-style-type: none"> ❖ Diagnosis, and development of diagnostic tests ❖ Surveillance of cases in community intensified, with particular focus on clinical features and severity, virus characteristics, antiviral sensitivity, and mutations ❖ Initial antiviral medicines supplied by local HPUs ❖ Reviewing advice on PPE, fit testing, and infection control ❖ Preparing to support accelerated vaccine development as virus becomes available ❖ Operationalising research protocols 	
Public messages	<ul style="list-style-type: none"> ❖ Advise anyone experiencing an IL and who has recently returned from an affected area/has been in contact with someone who has to: <ul style="list-style-type: none"> ➢ stay at home and access advice for treatment/self care from the government websites, other media, possibly the Flu Advice line, and community pharmacies ➢ phone GP for advice on assessment ➢ seek GP support if in a clinical risk group ❖ Call GP if flu-like illness is getting worse (with confusion, breathing difficulties affecting movement or talking; worsening long-term illness) ❖ Start messaging regarding appropriate use of 999 and ambulance services ❖ Commence promotion of 'Flu Friend' ❖ Reinforce good hand and respiratory hygiene 	

6. Health and social care response – Treatment and Escalation phases

- 6.1 Once there is evidence of sustained transmission of the virus in the community, the focus will move to the treatment of ILIs. The decision to move to ‘Treatment and Escalation’ will be taken nationally, although some hotspot areas may already have moved to this phase following consultation between local NHS and public health services, and those at a national level.
- 6.2 Diagnosis will be based on clinical assessment, with antiviral treatment of clinical at risk groups and those who may be at risk of serious complications, or possibly a “treat all” strategy depending upon the behaviour of the virus. Key risk groups and best practice will be determined nationally in response to the situation at the time. Some swab testing may continue in order to survey the behaviour of the virus in a good representative sample of the population.
- 6.3 On moving to the Treatment and Escalation phases all services will be preparing for, or undertaking, a pre-agreed capacity expansion process and may need to consider the implementation of mutual aid arrangements or the reduction of non-urgent work. The decision to activate capacity expansion plans is likely to be made at a local level, as not all parts of the UK will be affected at the same time or to the same extent.
- 6.4 All health and social care services should also be undertaking vaccination planning although initial vaccine supplies may not start to be available for four to six months from the emergence of the new virus.
- 6.5 The impact on services will vary according to the characteristics of the virus, the number of people affected, and the severity of the illness. A high service impact pandemic causing widespread and severe illness in the population is likely to result in intense and sustained pressure on all parts of the health and social care system. Most age groups could be affected, and wider services and business sectors will be affected owing to higher levels of absence due to sickness, and deaths.
- 6.6 In such a scenario, there will be limited capacity for mutual aid and extraordinary measures will need to be considered. It will also be essential to consider the cumulative impact of ill health, anxiety and bereavement on services. All parties will need to work closely together and coordinate their activities in order to support essential care provision. The ability to prioritise services both geographically and throughout each 24 hour period will be critical to the ability of local areas in managing a capacity crisis. This will include helping clinicians to prioritise workload, co-ordinating temporary re-provision of services, and establishing an environment that promotes cooperation whilst

minimising both clinical risk and the risk of loss of confidence in either provider or commissioner. Communication and the provision of up to date information to health and social care staff will be essential.

- 6.7 Each scenario (whether low, medium or high impact) will require different response strategies and an ability to adapt plans to cope with changing circumstances (see the table on page 45 for details).

Public Health services

- 6.8 Public health services will continue to gather data to monitor the virus throughout the pandemic, albeit at different levels of intensity. Testing for, and of, the virus in hospitals will be important, even though these services may be under intense pressure.
- 6.9 Locally, communication activities will continue. Public health staff, or other trusted professionals, are likely to be best-placed to communicate information to the local community on infection control, risk, self management and referral. The ability of the media to influence public behaviour may be significant and it is important that messages provide clear information and instil public confidence.

Primary and Community Care

- 6.10 GPs, community pharmacies and community health teams will continue to be a key part of the health response. In a low impact pandemic it may be possible to maintain service delivery, albeit with some adaptations, dependent upon the level of impact of the pandemic.
- 6.11 In a pandemic of moderate service impact, suspension of non-urgent clinical care and non-clinical activities, with other measures such as telephone consultations may free up additional capacity. Close working between primary care, social care, the voluntary sector and secondary services will support the majority of patients requiring home care. However, pressure on individual practices may be heavy and single-handed or smaller practices are likely to experience disproportionate difficulties caused by increasing demand and reduced staffing levels. Pre-planned buddying arrangements between practices may assist in maintaining continuity.
- 6.12 Many services will come under pressure during the treatment and escalation phases and innovative solutions are needed to provide increased capacity and sustainability without diluting expertise. Primary care out-of-hours services are one example where increased pressure may have a disproportionate impact and a knock on effect on other services such as in-hours primary care, EDs and ambulance services. All services will need to work closely together so that they can continue to function and that no single area is overwhelmed. It is important to avoid the risk of delay in diagnosis and treatment

for patients suffering from serious non-influenza illnesses. During the H1N1 (2009) influenza pandemic some hospitals embedded primary care services within their EDs. Others provided separate 'flu ED' areas.

- 6.13 As well as maintaining essential provision for non-influenza patients, the resources and skills available in GP practices should focus primarily on patients who:
- are suffering influenza complications;
 - are less than five years of age;
 - are pregnant;
 - have relevant pre-existing medical conditions, eg neurological condition such as multiple sclerosis or cerebral palsy;
 - are in identified influenza clinical 'at-risk' groups;
 - are not responding to treatment;
 - need higher levels of care but are unable to be admitted to hospital;
 - require symptom control or end of life care, or
 - need bereavement support.
- 6.14 These groups, although subject to revision as increasing knowledge about the influenza pandemic virus becomes available, include some of the population groups for whom vaccine is likely to be prioritised.
- 6.15 In a high impact pandemic, primary care and out of hours services may be relying on telephone advice systems such as NHS Direct or NHS 111, where and when operational, to support urgent and emergency calls. They will need to work together with ambulance and secondary care services so that no individual service is overwhelmed, and to ensure that patients with other critical conditions continue to be able to access clinical assessment as well as the medicines they need.
- 6.16 There may be tensions for primary care clinicians due to balancing the needs of sick patients with the requirement to certify the death of those who have died at home. All health providers will need to make best use of the clinical staff available, focusing appropriate resources in areas of highest demand and working closely with local authorities in coping with the increase in deaths. This should include considering the appropriate deployment of recently retired doctors.
- 6.17 Clear arrangements for admission and discharge to various levels of health and social care will be critical in managing local demand. Pandemic-specific clinical assessment tools (CATs) may be used when hospital capacity is extremely limited. They represent a 'higher bar' to hospital admission than in normal times and emphasise treatment at home to ensure that, in a high service impact pandemic, only patients with severe illness and a probability of responding to treatment are actually conveyed to emergency departments. The CATs are supplemented by hospital care pathways designed to assist

in clinical decision-making on escalating and de-escalating treatment. Together, they are part of a Clinical Package available on the Department of Health website¹³.

- 6.18 Local response plans may consider the extent to which the field assessment and treatment skills of ambulance staff could be utilised to support the wider delivery of home care, recognising that they will also be facing additional demands.
- 6.19 Those who rely on medicines as part of their routine care and treatment will continue to need these medicines throughout a pandemic. Business continuity plans should allow for possible temporary closure of some community pharmacies due to staff absences and the potential for interruptions to the global distribution supply chain for medicines.
- 6.20 In an emergency, pharmacists are able to provide an emergency supply of 30 days of prescription-only medicines and five days supply of certain controlled drugs. This flexibility could be used during a pandemic, if the pharmacist considers that there is an immediate need for the prescription-only medicine and that it is impracticable in the circumstances to obtain a prescription without undue delay. The pharmacist is required to satisfy certain other criteria before issuing the medicine.
- 6.21 Demand for essential medicines and over-the-counter remedies is likely to be high during a pandemic and re-supply may be uncertain. A buffer stock of essential medicines has been purchased centrally to help maintain UK supply in the event of temporary disruption to the supply chain during a pandemic or other emergency. The buffer stock comprises a few weeks supply of about 240 key medicines (including both community and hospital lines).
- 6.22 Secondary bacterial infections are likely to be a major cause of death during an influenza pandemic. The main role of antibiotics is to reduce the severe illness and deaths, which could arise from secondary complications. To ensure there are sufficient levels of antibiotics in a pandemic, the Government will maintain a stockpile of antibiotics most likely to be useful for complications arising from pandemic influenza. These would be made available if there was clear evidence of shortages in the supply chain in primary or secondary care during a pandemic. In the event of a shortage arising, advice would be issued by the CPHO advising stakeholders about the usage of the stockpile.

Antiviral medicines

- 6.23 Influenza antiviral medicines are likely to be the first line of defence until a pandemic-specific vaccine becomes available. Their effectiveness depends critically on timely and strategic use. Information on antiviral strategy during a pandemic, including issuance

¹³ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_106495

via the NPFS is available in the Technical Advisory section of this guidance from para 8.11.

Ambulance services

- 6.24 Increased demand for ambulance services is often an early indicator of pressure on the health system. Even in a low impact pandemic there may be a significant increase in ambulance call rates and this demand will need to be managed.
- 6.25 Ambulance services use a Resourcing Escalatory Action Plan (REAP) which is operational at all times. Actions within the plan are designed to increase operational resource in line with demand, to cope with periods of high pressure and maintain the highest quality patient care. The five levels within the plan are indicators of increasing pressure on the service.
- 6.26 As pressure on both primary and secondary care services increases, ambulance services will see further increased referrals. In a moderate service impact pandemic the influenza advice line and the NPFS may both be operational and, together with the NHS 111 and NHS Direct services may mitigate some pressures, although these latter services are not aimed at dealing with emergencies. It will be important to maintain good communication between services so that the protocols used ensure that patients are appropriately transferred.
- 6.27 Rapid handover at hospitals will be critical in making best use of ambulance time and ensuring maximum availability of beds. The use of an integrated care system will ensure a consistent approach across all agencies.

Mental Health services

- 6.28 The legal duty to provide services that protect the rights, and support the needs, of vulnerable adults and children is part of 'core business' and the safeguarding practices and processes should be protected by robust continuity plans.
- 6.29 It is important to have plans in place to enable mental health services to deal with potential increased staff shortages during a pandemic. In particular, plans need to ensure the continued ability to safeguard patients in accordance with the Mental Health Act 1983, and that the Act can continue to be used to detain and treat people, where it is necessary.
- 6.30 Increasing the numbers of people cared for within mental health facilities may increase the scope for self-harm. Also, acute illness, such as influenza, can worsen depression, which can complicate the risk assessment, treatment and recovery for some service

users. Thorough risk assessments for all service users, based on their clinical presentation must continue to be made.

- 6.31 In a moderate impact pandemic, pressures on local acute services may mean that mental health units cannot transfer service users who develop increased physical health needs to acute hospitals as regular practice would require. Access to primary care could also be limited, and mental health services may be required to care for service users who are suffering from influenza or its complications.
- 6.32 Discharging service users from general inpatient wards to the community may be difficult during a pandemic. It will be necessary to evaluate the risk of discharge to the service user, and to others, compared with the risks of catching flu if remaining as inpatients and any loss of liberty that might be involved. This assessment should include assessing the level of support at home for individuals ready to be discharged, and the capacity of community services to provide care when their workloads may have already been increased by a pandemic.
- 6.33 Forensic services (low, medium and high security) pose an additional management challenge in that some service users are on restriction orders imposed under mental health legislation (administered by the Ministry of Justice). Court appearances and procedures may be affected. Services should have guidelines and protocols in place for the transfer of service users to acute medical care including the consequent impact on staffing requirements.
- 6.34 Refreshment of staff training in medical care, including signs and symptoms of influenza, and ensuring that good infection control measures are in place will be important in maintaining good quality holistic care to mental health patients with flu and limiting transmission of the virus within any mental health closed community.
- 6.35 Advice and understanding of self-care will be important for service users, carers and staff in both hospital and community based services so communication messages should include basic infection control advice. In medium and high secure units, one-to-one education by a staff member known to service users would be of benefit.
- 6.36 When service users, who may not have capacity to consent to treatment, need influenza-related medicines, usual consent procedures should be followed as set out in the Mental Capacity Act 2005 and its Code of Practice¹⁴. Should a service user have made a lasting powers of attorney (LPA) for welfare matters under the act, the attorney would need to be consulted about the person's treatment. This consultation may be affected if the LPA is affected by flu. Contingency plans will need to be in place to meet this.

¹⁴ www.direct.gov.uk/en/DisabledPeople/HealthAndSupport/YourRightsInHealth/DG_10016888

- 6.37 There are certain drug treatments that may require additional contingency planning. For example, Clozapine, which is used to treat schizophrenia, may reduce the white blood cell count, so clients require regular monitoring. The Medicines and healthcare Products Regulatory Agency (MHRA) have stated that this requirement will not change. Therefore it will be for individual Trusts to maintain monitoring requirements based on their own resources.
- 6.38 During the H1N1 (2009) influenza pandemic, mental health services in one area held teleconferences between mental health providers. This provided a useful forum for support and discussion of mental health specific needs.

Social Care

- 6.39 A range of statutory, voluntary and private organisations provide social care services in England. These services support approximately 1.7 million adults and 400,000 children. There are also more than six million informal carers who support adults. There is an increasing emphasis on personalisation of support to enable users to remain in their own homes and communities but care home placements remain a key part of the range of services to meet some users' needs.
- 6.40 Social care services, including those providing care home placements, may come under strain, particularly at the height of the pandemic, because:
- there will be a potential increase in demand, perhaps sustained for several weeks;
 - people who would normally be cared for in hospital may need to be cared for at home or in the community;
 - informal carers may become ill and /or may need to take on a higher level of caring responsibility, so will need to be supported;
 - the demographic profile of those employed within the sector means that a higher than average proportion of the workforce has personal caring responsibilities (and schools may be closed for longer than usual), and
 - they support people who cannot manage their daily tasks without help and/or whose safety, wellbeing and independence, without intervention, would be at risk.
- 6.41 Social care providers are aware of, and are in regular contact with, many vulnerable individuals in the community. Such individuals might be either more vulnerable to, or more affected by, pandemic influenza. Other individuals, not normally perceived as vulnerable, may become so in the setting of a pandemic, eg single parents with young children, and adults living alone who may be remote from family.

Community care

- 6.42 As demand for hospital care increases, patients discharged home may require a greater level of care than they would do normally. Social care services may face particular challenges that include:

- maintaining services and pandemic response with reduced staffing capacity due to increased levels of illness;
- identifying those most at risk, working with the local community to identify those outside the normal Fair Access to Care Services (FACS) eligible list of customers of social care;
- sustaining indirect care services for example meals on wheels, community equipment and community alarm services;
- meeting additional burdens on overstretched services due to additional pressures on acute hospital beds;
- sustaining people with complex needs who are currently supported with concentrated care packages in the community;
- providing emergency care for vulnerable people looked after at home by informal carers, or personal assistants employed via direct payments, if their carer is ill;
- providing support to those discharged from hospital in light of possible reduced availability of residential places to those whose community support package is unsustainable for reasons other than influenza, ie normal admissions, and
- communicating messages of self-care, remaining at home if ill and how to access treatment may be made more difficult since known vulnerable groups encompass a wide range of individuals from differing demographic groups.

6.43 Care of individuals in the community therefore presents a diverse and complex challenge at a time when staffing capacities are likely to be reduced. Close working relationships across health and social care organisations will be essential to sustaining services during a pandemic.

6.44 As part of business continuity plans, local authorities should ensure they have in place arrangements for responding to increased demand for assessments and support alongside reduced capacity to deal with such circumstances. Processes to sustain fair and fast access to services for those most in need may need to be revised during a moderate to high impact pandemic, for example by:¹⁵

- prioritisation of referrals for assessment (according to urgency)
 - the use of telephone assessment;
 - greater use of self-assessment (e.g. Internet);
 - a one-stage referral and assessment model;
 - deferral of non-urgent referrals until after the pandemic;
 - redeploying staff from other tasks to delivery of actual support/care, and
 - temporarily reallocating support from those with lower levels of need to those in higher levels.
- } consider only doing home assessments for complex needs

¹⁵Prioritising Need in the Context of Putting People First: A whole system approach to eligibility for social care. 25 February 2010. Department of Health www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_113154

6.45 A range of information may be needed to assist in making decisions about urgency and a person's likely eligibility for services during a pandemic. Those responsible for managing assessments will need to agree criteria for prioritising.

6.46 Assessments that may need to be prioritised include:

- Care Programme Approach (mandatory for compliance with Section 117 of the Mental Health Act and requiring a face to face assessment);
- assessments in hospital that facilitate discharge;
- intermediate care assessments that facilitate hospital discharge or prevent hospital admission;
- carer breakdown, ie where normal care arrangements have broken down and someone's safety is at risk;
- an indication that life is or will be threatened;
- an indication that significant health problems have developed or will develop, and
- other urgent health and safety issues.

6.47 Assessments that may be deferred may include:

- cases where adequate care and support is already provided (at least in the short term);
- those for major adaptations to a person's home (unlikely to be carried out until after the pandemic);
- cases where social care support would increase an individual's quality of life (for instance, social inclusion), but it is not critical at this time, and
- those for reviews of existing care and support.

6.48 If pressure on services reduces available capacity to the extent that only the needs of those assessed as having a 'critical' need (aligned to adult social care eligibility criteria) can be met, prioritisation criteria will include where:

- life is or will be threatened;
- significant health problems have developed or will develop;
- there is little or no control over vital aspects of the immediate environment;
- serious abuse or neglect has occurred or will occur, and
- there is or will be an inability to carry out vital personal care or domestic routines.

6.49 To reduce the length of assessment, authorities may choose not to assess against the criteria in relation to family and wider community life until after the pandemic. Any needs associated with these criteria are unlikely to be life threatening in the short term.

Carers

6.50 Many people are supported by unpaid carers, with an estimated six million carers in England. Significant numbers of carers will either have flu themselves, need to provide

increased care for the person they care for because of flu, or need to look after someone else who has flu in addition to the person for whom they usually care. Many more people, both adults and children, may unexpectedly become temporary carers during a pandemic,.

- 6.51 Some carers will have to undertake tasks they have never done before and which, under normal circumstances, they might be unwilling to carry out. They may need increased support including information or training on new tasks, items of equipment to help them manage, and help to check that 'fixed' equipment is correctly installed. Short-term care home placements may also be required in order to maintain carers' own health.
- 6.52 Local Authorities, primary and community care providers, carers' organisations and other third sector providers should work together to ensure that their overall resources are used to best effect, communication and key support to carers is provided, and carers are given help to assess their own needs.

Care homes and domiciliary care

- 6.53 Care homes may find that difficulties such as staff shortages, resident illness, death, and transport problems all coincide over a prolonged period during a pandemic. Infection rates can be particularly high in group living environments such as care homes so residents may need more help with personal care tasks and more may be in need of end of life care.
- 6.54 Care homes plans will need to include:
- protocols concerning whether people with influenza should be admitted to hospital during the pandemic;
 - communication to staff, residents and visitors about infection control requirements;
 - arrangements for minimising the risk of transmission and infection during the pandemic by isolation or cohort-grouping of infected clients;
 - information on provision of face masks to care staff according to national guidance on their use, and
 - procedures for managing additional deaths, including storage of bodies if necessary.
- 6.55 Care homes within the same local area should consider collaboration and mutual support, eg by forming 'clusters', to enable each to be aware of:
- local capacity;
 - the kind of care available, and
 - which care homes are taking new admissions, including those with flu.

- 6.56 The United Kingdom Homecare Association (UKHCA) has developed specific guidance on domiciliary care during the influenza pandemic that is available on their website¹⁶. Where an individual receiving care does not have capacity to consent, usual arrangements apply in relation to access to influenza-related medicines (see para 6.36).

Closed communities including Prison Health

- 6.57 Closed communities such as prisons, where large numbers of people live at close quarters, are a high-risk environment for transmission of influenza. Prisoners are more likely than many other sub-groups of the general population to have co-morbidities causing increased risk of severe or complicated influenza, eg asthma, respiratory disease secondary to smoking, and immunosuppression due to HIV/AIDS. Preventing transmission of the virus in prisons and other closed communities is necessary throughout the pandemic period. Close working between prison governors, community providers and HPU's will support this. Effective measures include isolation and cohorting of those affected, treatment with antiviral medicine for both cases and close contacts (in particular for persons in high-risk clinical groups), and use of vaccine, when available, for those in high risk groups. During the H1N1 (2009) influenza pandemic, these measures proved highly effective in preventing widespread illness, and in bringing outbreaks under control.

Secondary Care

- 6.58 In a low impact pandemic, there may be no significant deferral of normal activities. However, some small or specialist services, such as intensive care, may still come under pressure dependent upon the disease characteristics and the emerging at risk groups. In hotspot areas, increased referrals to primary care services are likely to cause knock on effects to ED services. Effective coordination between in and out of hours services, and clear local public communication, will be needed to ensure members of the public understand where to find advice and assistance on influenza, so that capacity still remains for non-flu patients.
- 6.59 Where possible, hospitals will need to adopt cohort arrangements to support infection control. This will affect routine arrangements in EDs, and may reduce the flexibility of ward areas. Preparations for potential further escalation will include the review of patients with long-term conditions and planning for potential reduction in outpatients' clinics. Continuity arrangements for staff and supplies should also be confirmed in preparation for a high impact pandemic affecting non-health services. Careful consideration should be given to planning for the necessary reductions in non-critical work and expansion of capacity in other areas that will be required in a moderate or severe service impact pandemic.

¹⁶ www.ukhca.co.uk/flu/

- 6.60 In a pandemic of moderate impact, hospitals will need to respond to increasing referrals of respiratory patients requiring higher levels of care. Prioritisation of in and out patient resources may be required to enable the maximum numbers of beds to be available. As the pressure on all services increases, it will be even more important for community, hospital, social care and ambulance services to agree prioritisation across the local area, maintain close communication and make best use of available skills of staff.
- 6.61 In a high impact pandemic, staff absences may add to these difficulties. A key challenge in sustaining essential care will be the ability to use available staff flexibly and cooperatively when necessary between organisations. A high impact pandemic may also result in increased numbers of deaths. It will be important to plan appropriately so that death and cremation certification can be managed as effectively as possible.

Maternity care

- 6.62 Planning for maintenance of essential maternity services will be important and the principal of choice for women should continue as far as possible. The UK National Screening Committee has provided guidance on antenatal care which will assist in planning to maintain essential testing¹⁷. Antenatal classes should be maintained during a pandemic, although pregnant women and midwives should be advised not to attend classes if they are unwell with influenza-like symptoms. For women with flu symptoms who may require Caesarian section, consideration should be given to whether it is reasonable to delay. Good infection control measures will be important.

Blood services

- 6.63 Blood donor sessions will be expected to continue as an adequate supply of blood is critical to the provision of acute healthcare, and will be vital for the emergency care for many patients including those requiring extracorporeal membrane oxygenation (ECMO). Blood and Transplant Services will therefore continue using health messages to encourage the public to donate blood. Care must be taken to communicate early with local blood services to ensure that facilities required for ACPs do not conflict with blood donor session venues. During and after a severe pandemic the blood supply chain may take longer to recover and rebuild stocks than the rest of the NHS. Therefore, it is vitally important that blood services be consulted before resumption of business as usual activities that require blood products. As acute care will continue to be provided, tissue and organ donations to support life-saving transplantation procedures will also need to be maintained if possible. The Advisory Committee on the Safety of Blood, Tissues and Organs has issued advice which is available on the Department of Health website¹⁸.

Critical care

- 6.64 Critical care services are regularly utilised at a high bed occupancy rate of around 98-100% and are therefore likely to come under significant pressure even in an early stage

¹⁷ www.screening.nhs.uk/getdata.php?id=9321

¹⁸ www.dh.gov.uk/ab/SaBTO/index.htm

or low-impact pandemic. This may continue throughout the pandemic, depending upon the length of stay of patients, and pressures may remain after other services in primary and secondary care have returned to normal levels of activity. Any increase in the requirement for critical care beds requires a prompt and flexible response to manage and match increased demand.

6.65 As a result of lessons learned from this pandemic, measures were developed to expand the capacity of intensive care services as set out in the Report of the Swine Flu Critical Care Clinical Advisory Group¹⁹. These included:

- identifying potential extra bed capacity in related areas, such as operating theatre recovery suites, step-down and high-dependency care facilities;
- maximising the use of stockpiled equipment;
- broadening the training of staff who could support these beds to increase available staff numbers;
- supporting more formal cross-training and experience between adult and paediatric services to increase the ability to provide more flexible and overlapping services;
- supporting the specialist staff who would have to manage the triage, admission and discharge of patients;
- supporting accurate and timely data on critical care capacity including adult paediatric and specialist beds, and
- supporting collaborative working across Acute hospital Trusts to provide mutual aid – such practice in line with escalation plans of critical care networks.

6.66 Where plans to increase capacity require the suspension of some or all high risk elective surgery, such suspension should be in line with local critical care network escalation plans and should differentiate time-critical from non time-critical surgery. During periods of high pressure in hospitals where doctors may be diverted to provide care for critically ill patients, consideration should be given to utilising the skills of other healthcare professionals including nurses and specialist clinical pharmacists for supporting the provision of some clinical services.

6.67 There is considerable variation in the type and level of general ward care between hospitals and across regions, so local plans are necessary to make the best, most flexible adjustments to demand. Guidance is available in *Pandemic flu: managing demand and capacity in health care organisations (surge)*²⁰. The guidance was based on advice from the Intensive Care Society the Paediatric Intensive Care Society and the Faculty of Intensive Care, as well as individual experts within the specialty. Information is continuously updated on their web pages²¹.

¹⁹ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_117129

²⁰ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_098769

²¹ www.ficm.ac.uk, www.ics.ac.uk, www.ukpics.org.uk, www.rcoa.ac.uk

- 6.68 When demand for critical care services threatens to exceed capacity, pressure on healthcare services can be mitigated initially by careful selection of patients for hospital assessment and admission, and subsequently by a coordinated approach to patient pathways to higher levels of care. The CATs and model hospital pathways are available to assist decision making²². Provision should also be made for interim, respite or step-down care for patients who are less likely to benefit from critical care, or who have received critical care but now require a lower level of care.
- 6.69 Various tools, such as Sequential Organ Failure Assessment, Modified Early Warning Score, and Paediatric Modified Early Warning Scores, can assign patients into approximate prognostic groups and aid decisions on required levels of care. However, they cannot reliably predict the likelihood of a poor outcome. Clinical judgement therefore remains essential in making decisions on admission to, and discharge from, critical care. During care, decision support tools can aid assessment of a patient's response and likely prognosis.
- 6.70 The ethical framework (see para 4.6) can support staff in addressing the ethical issues which may arise and provides a framework of the principles involved in making difficult decisions for individual situations. The availability of established clinical ethics committees or support groups at a local level may also be helpful.
- 6.71 Information on the benefits of various clinical interventions in managing a new pandemic disease may be limited, especially during the early stages of the pandemic. While laboratory and investigative test results can help, there is great benefit in sharing information and pooling experience. In the H1N1 (2009) influenza pandemic, a series of clinical teleconferences engaged intensivists from the UK and other severely affected countries in sharing clinical information and best practice. This forum also provided surveillance information on case-numbers, age-groups affected and localities with high numbers of cases, which greatly aided decision-making and planning for service provision.
- 6.72 Difficult triage decisions were not called for during the H1N1 (2009) influenza pandemic. However, such a discussion forum would permit sharing of effective decision criteria and greatly increase confidence in triage decision-making. Such peer engagement is also known to be a valuable addition to more formal counselling and planned 'down time' in supporting staff who are working under severe pressure, and in aiding recovery afterwards. Advice is contained in *Psychosocial care for NHS staff during an influenza pandemic*²³.
- 6.73 Collaborative intensive care networks working across geographical areas can play a key part in pandemic management in:

²² www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_106495

²³ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_103168

- real time data gathering to provide information on numbers of influenza cases in Critical Care and clinical relevance in the context of other Critical Care activity;
- identifying pressure points in the service and providing advice about appropriate actions to maximise capacity and minimise disruption to other users of Critical Care;
- collating and sharing of clinical experience locally, nationally and internationally;
- facilitating mutual aid between organisations within and outside the Network boundaries, including the transfer of critically ill patients between Acute Trusts, and
- promotion and co-ordination of training to staff to give them enhanced competencies to treat adult and paediatric critically ill patients.

See para 8.5 for further information relating to specialist respiratory support.

Health and Social Care influenza pandemic preparedness and response

Health and social care role in Treatment and Escalation phases		LOW IMPACT
Possible NHS indicators	<ul style="list-style-type: none"> ❖ Similar numbers of cases to moderate or severe seasonal influenza outbreaks AND mild to moderate clinical features ❖ Ambulance services coping with increased referrals ❖ GPs and EDs coping with increased pressures ❖ Acute trusts managing respiratory admissions ❖ ICUs nearing or at maximum pressure - using mutual aid (eg network support and paediatrics/adult collaboration) ❖ Community pharmacies coping with increased pressures, supplying medicines and providing advice on self care ❖ Potential for increased staff absence due to sickness 	
Key health and social care delivery modes	<ul style="list-style-type: none"> ❖ No significant deferral of usual activities ❖ Preparing for reduction of non-urgent work ❖ Preparing for possible 'flu clinics' and 'cohorting' of inpatients (concerns about setting aside mixed-sex policy, in the interest of patient welfare) ❖ Preparing for ICU expansion process ❖ Preparation in case NPFS is needed (possibly planning for/operating ACPs in hotspots only). Use of national protocols for the supply and administration of antiviral medicines ❖ Preparation for vaccination programme ❖ Vaccination programme (when available) subject to JCVI advice but likely to be restricted to health and social care workers and clinical at risk groups thereafter 	
NPFS activity level	<ul style="list-style-type: none"> ❖ Flu advice line function active ❖ Liaison with RCGP on setting up GP liaison support system for call-agent staffed phone-in NPFS centres if needed ❖ Set up NPFS clinical Quality Assurance systems 	
Public health responsibilities	<ul style="list-style-type: none"> ❖ Diagnosis, and development of diagnostic tests ❖ Surveillance of cases in community: clinical features and severity; virus characteristics; antiviral sensitivity and mutations 	
Public messages	<ul style="list-style-type: none"> ❖ Advise anyone experiencing an ILI and who has recently returned from an affected area/has been in contact with someone who has to: <ul style="list-style-type: none"> ➢ stay at home if ill and use self care advice (including advice on managing symptoms from local pharmacist) ➢ phone GP/NPFS for advice on assessment ➢ seek GP support if in an influenza vaccination group (at risk) ❖ Advise patients to call GP if flu-like illness is getting worse with confusion, breathing difficulties or worsening long-term illness ❖ Advise on likely reduction in 'routine' GP clinics and hospital appointments; ❖ Advise patients to ensure they have adequate supplies of the medicines they require ❖ Reinforce promotion of 'flu-friendly' activities ❖ Continue to reinforce good hand and respiratory hygiene 	

Health and Social Care influenza pandemic preparedness and response

Health and social care role in Treatment and Escalation phases		MODERATE IMPACT
Possible NHS indicators	<ul style="list-style-type: none"> ❖ No of cases higher than large seasonal epidemic; young healthy people / those in at-risk groups severely affected AND/OR more severe illness ❖ GPs cannot continue non-urgent and public health activities (ie no longer Business as Usual) ❖ GP emergency and influenza work under severe pressure ❖ Hospital non-urgent out-patient appointments and admissions no longer possible ❖ Hospitals urgent and emergency activity managed with maximum effort; ED pressure indicators high ❖ ICUs at maximum expansion and under severe pressure ❖ Community pharmacies under pressure; difficulties accessing some medicines ❖ Community health and social care services prioritising support to those most in need 	
Key health and social care delivery modes	<ul style="list-style-type: none"> ❖ Local and supra-local decisions to cease non-urgent primary and secondary care activities ❖ Regional and national support for mutual aid, eg ITU networking, ITU and ECMO expansion ❖ Cessation of planned surgical procedures needing ITU admissions ❖ Preparing for private and voluntary sectors to support health and social care activities ❖ Contingency plans for supporting care at home and respite care ❖ REAP levels increasing for Ambulance services ❖ Vaccination programme (when available) subject to JCVI advice 	
NPFS activity level	<ul style="list-style-type: none"> ❖ Possible activation of NPFS, along with clinical QA systems (also in DAs as required) ❖ ACPs operational ❖ Flu advice line active ❖ GP receptionist/GP decision pathway for review of patients with ILI not responding or worsening on antiviral treatment activated ❖ RCGP liaison service supporting staff at call centres for NPFS (if required) 	
Public health responsibilities	<ul style="list-style-type: none"> ❖ Advice on when to cease measures to slow transmission of the virus, if they have been commenced ❖ Advice on prophylaxis with antivirals for at-risk individuals/groups, if appropriate ❖ Maintenance of ILI clinical features up to date ❖ Surveillance of ILI cases and outbreak investigation, including antiviral resistance monitoring ❖ Reference diagnostic work for inpatients ❖ Support for modelling of pandemic and countermeasures effectiveness ❖ Intensive support for accelerated vaccine development 	
Public messages	<ul style="list-style-type: none"> ❖ Information on the pandemic and the clinical effects of the infection (including reinforcing good hand and respiratory hygiene) ❖ Advice from community pharmacies for managing flu symptoms and support for self-care ❖ Advice on seeking medical assessment when not improving or getting worse ❖ Information on NPFS and collection of antiviral medicines (including flu friends) ❖ Information on appropriate use of Ambulance Services; ❖ Advice on antiviral medicines - (in liaison with expert bodies and support groups) ❖ Media management (as highlighted in Hine report) around science, planning assumptions and severity/impact/likely evolution of the situation ❖ Managing expectations of the public re the Critical Care Services available and the variation from normal provision ❖ Messaging re vaccination - groups, when and why to vaccinate 	

Health and Social Care influenza pandemic preparedness and response

Health and social care role in Treatment and Escalation phases		HIGH IMPACT
NHS indicators	<ul style="list-style-type: none"> ❖ Severe pandemic AND/OR most age-groups affected AND/OR severe, debilitating illness with or without severe or frequent complications ❖ GPs, district nurses and social carers, independent sector, pharmacies, residential homes and voluntary organisations fully-stretched trying to support essential care in the community WITH consequential pressure on secondary care ❖ Hospitals can only provide emergency services; ethical framework implemented for access to critical care ❖ Transport, schools, shops affected by sickness and family care absences ❖ Pressure on some supplies ❖ Numbers of deaths putting pressure on mortuary and undertaker services 	
Key health and social care delivery modes	<ul style="list-style-type: none"> ❖ Local arrangements to fully employ all health and social care sectors, including pharmacists, to deliver services and advice ❖ GPs and Out of Hours services relying on telephone advice systems to support urgent and emergency calls ❖ Community assessment tools deployed to manage demand for hospital assessment ❖ Non-specialist doctors and agreed volunteer doctors managing inpatients, using hospital pathways ❖ Need for triage, reverse triage and supportive triage - provision of best available alternative care in extreme surge ❖ Demand for critical care services outstrips supply ❖ Non-invasive ventilation, oxygen only or palliative care used as alternatives ❖ Community health and social care agencies coordinate activities to reduce the number of staff visiting service users ❖ Social care services prioritised for those with critical needs - LA staff in non-critical services deployed to support essential services ❖ Informal networks encouraged to provide basic care to isolated people ❖ Contracted care agencies required to cover failed self-directed care arrangements ❖ Bedded Rehabilitation Units discharge patients in order to accommodate patients discharged prematurely from hospitals ❖ Volunteer flu friend arrangements fully stretched 	
NPFS activity level	<ul style="list-style-type: none"> ❖ NPFS working to capacity ❖ ACPs under pressure ❖ Emphasis on maintaining supplies and staffing ❖ Medicines supplies may not be at an optimum level 	
Public health responsibilities	<ul style="list-style-type: none"> ❖ Continuation of all activities as described in LOW and MODERATE ❖ Surveillance for mutations in the influenza virus and for alteration in antiviral sensitivities ❖ Surveillance of bacterial isolates (may be difficult due to specimens not being offered at height of activity and limited staff for non-virus work) ❖ Little need for widespread viral diagnostic testing, efforts targeted on emerging resistance and lab tests to support patient care 	
Public messages	<ul style="list-style-type: none"> ❖ Messages about progress of the pandemic, availability of healthcare and other services, where to get help for emergencies ❖ Advice on how to minimise risks of transmission ❖ Explanation of triage systems to align demand and capacity, including NPFS ❖ Messaging re vaccination – eg on groups, when and why to vaccinate ❖ Accurate information about how services are coping and what they are doing to cope ❖ Information on how to support family members and neighbours ❖ Civil contingencies advice, including to paramedics, funeral directors, registrars, cemetery workers, police etc as appropriate 	

Potential for legislative changes

- 6.74 In a high impact pandemic consideration may be given to areas where changes in legislation may be required to enable continuation of services. This is unlikely in all but the most extreme scenarios. Given the unpredictable nature of a pandemic any possible measures would need to be selected and tailored to meet the prevailing circumstances and the needs of the response. Examples of potential changes are:

Prescription charges: Legislative changes were made during the H1N1 (2009) influenza pandemic to provide exemption from prescription charges for two named antiviral medicines, oseltamivir and zanamivir. These legislative changes remain in place. The Secretary of State for Health would need to permit the use of these exemptions in a future pandemic. In addition, regulatory changes that allow for NHS prescription charges to be abolished temporarily in an emergency may be implemented in the event of a severe pandemic for cases where collecting a charge might become unreasonable for a pharmacist or doctor, or would prevent access to medicines by a patient.

Mental Health: Users of Mental Health services were consulted during the H1N1 (2009) influenza pandemic on proposals for temporary changes to the 1983 Mental Health Act in the event of an influenza pandemic which had a severe impact on health and social care services. The changes would be made to ensure that mental health professionals could continue to operate the 1983 Act in the best interests of the health and safety of patients and for the protection of others in exceptional circumstances. The response to the consultation is available on the Department of Health website²⁴.

Sickness Certification: Employers already have some flexibility at their discretion as to what evidence of sickness they can accept as an alternative to a medical certificate. This may be useful in a low impact pandemic in reducing pressure on general practitioners. In a high impact pandemic consideration may also be given to potential changes to arrangements for sickness self-certification as part of a package of measures to reduce the burden on GPs over the peak of the pandemic. For example, people were advised to retain their antiviral medicine boxes if using the NPFS rather than seeing a GP.

Vaccination

- 6.75 Planning for vaccination should begin at an early stage of a pandemic. Local areas will need to plan for receiving vaccine supplies, storage of the vaccine in appropriate conditions, distribution and staffing of vaccine clinics. Distribution will be via the normal channels and for reporting purposes the established system, ImmForm, will be used. However, if ordering or storage is organised at a future health authority level then a

²⁴ www.dh.gov.uk/en/Consultations/Responsestoconsultations/DH_128744

WDL may be required, unless the MHRA permit the use of special arrangements such as the naming of the authorities on the Department of Health.

- 6.76 Vaccine specific to the influenza pandemic can only start to be manufactured once the pandemic viral strain has been isolated. It is expected that initial supplies of vaccine will not be available until after the first pandemic wave. It may be four to six months from the emergence and establishment of the new virus before a population-wide vaccination campaign can commence. Initial vaccine deliveries will be in limited quantities so prioritisation will be essential. Due to the need to distribute the vaccine at the earliest opportunity, it is not possible to specify such issues as pack sizes, types of syringe etc. and this will also vary between manufacturers.
- 6.77 The JCVI will advise on priority groups for vaccination and it is essential to encourage vaccination uptake in these priority groups. Initial assumptions are that the usual seasonal flu clinical at risk groups will be at greatest risk but there may be rapid modifications to these priorities once more is known about the characteristics and impact of the new virus. Local communication, and flexibility in delivery models to encourage vaccine uptake will be critical.
- 6.78 Frontline health and social care staff will be a priority group for vaccination. Encouraging vaccine uptake to become the norm in inter-pandemic years, ensuring open communication about the risks and benefits, providing opportunities for staff to access the vaccine easily both in and out of hours, and providing leadership through example, all contribute to successful uptake. Professional bodies may also play a role in encouraging uptake. A best practice document "*Learning the lessons from the H1N1 vaccination campaign for Health Care Workers*"²⁵ was issued in July 2010. Successful initiatives include:
- training additional staff to administer vaccine to their colleagues in support of occupational health departments (eg ward nurses and paramedics);
 - using private providers to immunise staff, particularly social care staff;
 - local leadership to promote vaccination (eg lead clinicians having the vaccine on the first day it becomes available locally);
 - using roving clinics to take the vaccine to staff (eg to wards and satellite sites);
 - engaging with staff side to support the campaign and promote it's importance;
 - holding clinics outside of normal working hours, and
 - enabling staff to take time out of their working day to have the vaccine.

²⁵ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_117130

7. Health and social care response – Recovery phase

- 7.1 The Recovery phase will start once demands on services reduce to a level that there may be a gradual return to “normalisation” of services or a regrouping prior to a further wave of the pandemic. It may not be possible to predict whether there will be further pandemic waves so regrouping during this phase will be important to allow staff to rest and take periods of leave to allow some personal recovery prior to a further wave.
- 7.2 Recovery is the process of rebuilding, restoring and rehabilitating the community following an emergency and may be coordinated across a local area via a multi-agency Recovery Coordination Group. The retention of knowledge and incorporation of lessons identified into the pandemic plans of individual and partner organisations will be an important part of this phase. Planning for recovery should be integrated into normal planning before, during and after any pandemic as part of business continuity planning.
- 7.3 Actions taken during the pandemic can influence the longer-term outcomes for communities. For instance for hospitals, stopping elective surgery for a short period as part of the response may affect waiting times for many months. In a moderate or high impact pandemic many services will have been affected and the return to a more normal and sustainable level of operating may be lengthy. Smaller service providers may be more sensitive than larger service providers to changes in their business environment.
- 7.4 There will continue to be increased demands on some services from patients whose existing illnesses have been exacerbated by influenza or from those who may continue to suffer potential medium or long-term health complications. Some key staff members may not return to work due to altered family circumstances, severe illness, or even death. Plans should therefore recognise the potential need to prioritise the restoration of services and to phase the return to normality in a managed and sustainable way.
- 7.5 The Recovery process comprises the following overlapping activities:
- consequence management (eg restoring essential services);
 - restoration of the well-being of individuals, communities, the infrastructure which supports them and the organisation itself;
 - exploiting opportunities afforded by emergencies, and
 - structured debrief, identifying potential improvements and applying lessons learned in order to improve any future response.

7.6 The following framework has been derived and adapted from the framework for effective Business Continuity Management (Emergency Preparedness, Civil Contingencies Secretariat, 2005)²⁶ and may provide a useful checklist in approaching structured recovery:

People
<ul style="list-style-type: none"> ❖ Review availability of staff/critical resources including core skill sets and skill gaps and, if necessary, consider minimum resource requirements ❖ Consider impact on staff caused by work load, stress, illness and bereavement; provide support to staff who have been personally affected by the pandemic ❖ Follow up any outstanding staff related information including Criminal Records Bureau (CRB) checks, qualification, references ❖ Identify resourcing requirements to replace staff who will not return to work ❖ Manage volunteers ❖ Use information on availability and demand to identify gaps in service and take action to redeploy/retarget staff if required ❖ Arrange staff training where necessary ❖ Acknowledge staff contribution including from external partners, contractors, suppliers, volunteers ❖ Provide regular updates via staff meetings, briefings, intranet, etc ❖ Provide opportunities for those staff who wish to de-brief ❖ Provide training in developing psychological resilience prior to pandemic
Programme/planning
<ul style="list-style-type: none"> ❖ Review effectiveness of local service delivery strategy and business continuity activities ❖ Assess impact on commissioned services and financial agreements ❖ Review financial business targets and consider the long term financial impacts and implications for the organisation ❖ Consider how income streams will be adjusted after the pandemic ❖ Ensure due income has been received and creditors paid ❖ Re-introduce targets in parallel with restoring services ❖ Monitor impact on levels of need in your service area and recognise opportunities for possible service improvements
Processes
<ul style="list-style-type: none"> ❖ Review response activities and identify lessons learned for possible subsequent waves / other wide-scale emergencies ❖ Update Business Continuity Plans / Internal Incident Plans and other relevant procedures (Action Cards) / checklists as required ❖ Share best practice beyond the borders of your organisation as appropriate ❖ Backup / restore core information if necessary including: <ul style="list-style-type: none"> ➢ Staff records ➢ Accounting / payroll records ➢ Service user records ➢ Other data ➢ Other IT systems ➢ Other paper records ➢ Issue regular communication to internal / external stakeholders ➢ Continue to produce and/or contribute to status reports as needed ➢ Review key (emergency) contact information and update details as required

²⁶ www.cabinetoffice.gov.uk/content/business-continuity

<p>Premises</p> <ul style="list-style-type: none"> ❖ Take stock of local resources including personal protective equipment, medicines, other essential supplies. (Unused national countermeasure stocks will need to be returned to the national stockpile at the end of the pandemic having been stored appropriately with temperature recordings made available) ❖ Review what was used in the first wave and attempt to re-stock according to usage profile ❖ Check equipment and arrange for routine inspection / service / replacement as necessary ❖ Review security arrangements ❖ Identify areas that require deep clean / decontamination as required ❖ Identify necessary maintenance work on buildings and arrange for maintenance, ensuring that alternative facilities are available if necessary ❖ If any facilities have been used as multi-purpose facilities investigate whether it is secure to revert to original purpose ❖ In case of a partial / total relocation of services investigate whether it is secure to partially / fully restore services
<p>Providers</p> <ul style="list-style-type: none"> ❖ Inform suppliers / providers / contractors on the restoration actions you are undertaking ❖ Be flexible and supportive in your approach to providers who are struggling to recover ❖ Coordinate the response in collaboration with all other key departments ❖ Continuously monitor availability of suppliers / providers / contractors that are required for key functions and consider their resilience capability ❖ Identify alternative suppliers / providers / contractors that are required for key functions ❖ Identify areas requiring strengthening in future planning ❖ Review emergency information for providers suppliers / contractors and update as necessary ❖ Review agreements with other organisations regarding staffing, use of facilities, supplies ❖ Establish new agreements with other organisation if previous alternatives have become unavailable
<p>Profile</p> <ul style="list-style-type: none"> ❖ Keep people service users and their relatives and carers informed on the restoration actions that are taking place and provide reassurance of a continuing service including information on expected delays ❖ Maintain communication on risks of infection (Respiratory and Hand Hygiene) ❖ Keep in touch with all internal and external key stakeholders so they are informed about the restoration actions that are taking place as well as preparedness for possible subsequent waves ❖ Identify actions that can be taken to reduce potential reputational damage to your organisation and re-build the reputation of / trust in the organisation within your area of influence
<p>For Local Authority staff</p> <ul style="list-style-type: none"> ❖ Review previously identified vulnerable groups ❖ Identify newly emerged vulnerable groups and the ways they are affected and provide support where possible ❖ Identify the impact on community support mechanisms and collaborate with key stakeholders within the community (health services, governmental agencies, other organisations etc) to reduce impacts
<p>Performance</p> <ul style="list-style-type: none"> ❖ Re-establish normal working practice, recovering core services / processes first followed by less critical services ❖ Manage the flow of service users ❖ Review appointment and waiting lists for services ❖ Establish priorities ❖ Manage the backlog

Return to Winter Planning

- 7.7 The pandemic influenza virus is likely to persist for a number of years as one of the circulating seasonal flu viruses. Surveillance systems will be tracking its impact in other countries as they enter their winter flu season. However, experience shows that following the pandemic, the characteristics of the seasonal flu viruses that emerge in other countries may differ from that experienced in the UK or Europe.
- 7.8 Expectations that widespread transmission of the virus during the pandemic may lead to a low impact during the following flu season may not always be correct as demonstrated during the 2010/11 flu season which followed the H1N1 (2009) influenza pandemic. Planning for seasonal flu, including good vaccine uptake, as part of routine winter planning is prudent. This can be further informed by the Department of Health's seasonal flu plan²⁷.

²⁷ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_127051

8. Technical advisory section

Advances in the management of severe respiratory failure

- 8.1 Patients with acute lung injury due to infection can be very challenging to manage. Experience during recent severe influenza events has demonstrated that some patients, especially those with exacerbation of chronic pulmonary disease, can benefit from non-invasive respiratory support (continuous positive airways pressure, or non-invasive ventilation with oxygen replacement). All patients with flu-related exacerbations of asthma should be treated according to national guidelines with corticosteroids and bronchodilators, as well as with antiviral medicines and antibiotics. These measures can reduce the demand for intensive care beds by reducing the numbers of patients referred for invasive ventilatory support.
- 8.2 For patients who require intermittent positive-pressure ventilation, it has been found that the use of 'protective ventilation' (utilising low inspiratory volumes, and avoiding high inflation pressures) leads to improved outcome, and can avoid the need to escalate treatment to more specialist procedures such as extracorporeal membrane oxygenation (ECMO). Avoiding very high levels of intravenous fluid loading also improves outcomes in the setting of infection-related lung injury. It is likely that these measures will increasingly be used in managing respiratory failure caused by severe infections such as influenza.

Specialist respiratory support

- 8.3 Some patients, particularly with severe hypoxia caused by infection, can benefit from more specialist respiratory support, such as high frequency oscillating ventilation or ECMO. ECMO is difficult to provide as an occasional activity in a busy intensive care unit, and is likely to be best provided in expert centres, where a body of expertise can be established. During the H1N1 (2009) influenza pandemic, and to a greater extent in the winter following, ECMO centres came under intense pressure, as bed numbers were limited, particularly for paediatric patients. Existing units expanded their bed numbers as much as possible, depending on available facilities and staff numbers, and some additional units were established in centres with experience of, for instance, heart-lung bypass.
- 8.4 Accumulated clinical experience, improved respiratory support in general intensive care units, and the development of more effective transfer criteria, has led to more effective decision-making on when patients should step up from standard care to ECMO. This has reduced the inappropriate referral of patients who can benefit adequately from more routine respiratory support, or who are unlikely to benefit from ECMO, making it easier to manage increased demand for specialist respiratory support. The general use of

improved referral protocols in future will ensure that ECMO is more easily available to patients who can benefit from it, and reduce the pressure on highly specialist services during severe influenza outbreaks. Advice on referral criteria, procedures for requesting ECMO services and transport of ECMO patients are available at the Glenfield Heart Centre website²⁸.

Facemasks and respirators

- 8.5 Surgical facemasks and respirators have a role in providing healthcare worker protection, as long as they are used correctly and in conjunction with other infection control practices, such as appropriate hand hygiene²⁹. Fluid repellent surgical masks provide a physical barrier and minimise contamination of the nose and mouth and should be worn by health and social care workers for any close contact with patients (i.e. within one metre) with symptoms of influenza. There is a national stockpile of surgical facemasks for health and social care workers.
- 8.6 Respirators provide respiratory protection against the inhalation of fine or very small airborne particles, which might contain viruses and other micro organisms which is important in the context of influenza. This can only be achieved if the respirator is fitted correctly and there are no gaps between the face and the mask for unfiltered air to pass through. The current recommended respirator is FFP3, and this model is held in the national stockpile in the event of a pandemic. Employers have a duty of care to ensure that anyone who might be required to wear a respirator be trained in its use and fit-tested to ensure that an adequate seal can be achieved. More than one make of respirator should be made available to help account for different face shapes. These respirators should be worn when performing procedures that have the potential to generate infectious aerosols such as intubation, extubation and bronchoscopy. Although only a relatively small group of workers will need to consider wearing respirators there is a very small possibility that this could increase if there was growing evidence that the virus was causing severe infection risks.
- 8.7 Although there is a perception that the wearing of facemasks in the community and in households may be beneficial, there is in fact very little evidence of widespread benefit from their use in these settings. Facemasks must be worn correctly, changed frequently, removed properly, disposed of safely and used in combination with good universal hygiene behaviour in order for them to achieve the intended benefit. Research also shows that compliance with these recommended behaviours reduces over time when wearing facemasks for prolonged periods. The Government will not stockpile facemasks for general use in the community. The responsibility for providing advice on the use of facemasks and respirators, as well as their provision and training, for non-health workers in the public private and voluntary sectors rests with employers.

²⁸ www.glenfieldheartcentre.nhs.uk/welcome/about-the-centre/news/worlds-biggest-ecmo

²⁹ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_125318

- 8.8 Employers will need to undertake risk assessments to determine whether the provision of facemasks or respirators is appropriate for their staff. Workers who need to wear a facemask or respirator will need to receive training in their safe use, removal and disposal to minimise the risk of cross contamination. Where a risk assessment indicates respirators are necessary, staff must be fit-tested. Employers should refer to Pandemic Infection Control Guidance³⁰ and Health & Safety Executive guidance on conducting risk assessments when considering the supply of facemasks and respirators to other front-line workers³¹. These policies will be kept under review as new scientific evidence emerges.

Consumables

- 8.9 The Department of Health has stockpiled a wide range of consumable products which may become in short supply in a pandemic. These include personal protective equipment, such as facemasks, respirators, protective eyewear, hygiene products and products required for the administration of vaccines and intravenous medicines.
- 8.10 The distribution strategy for these products would ensure that the NHS is supplied with an initial push of products which are likely to be in high demand as they are not used in the quantities which might be needed in a pandemic (including products such as facemasks and respirators) or are specific to the response (such as the vaccine consumables). Other products would be on a more demand led basis and local stocks might also continue to be used, or supplemented by central stocks. More detailed information on stocks held and how to access them would be made in the event of an outbreak.

Antiviral Strategy

- 8.11 There are three main aspects of the antiviral strategy:
- providing rapid assessment and authorisation of antiviral medicines during an influenza pandemic. This includes the potential for using the National Pandemic Flu Service (NDFS) to enable people to stay at home and to reduce the pressures on primary care services;
 - ensuring that there is a robust system in place to distribute antiviral medicines (ie antiviral collection points (ACPs) and local arrangements), and
 - ensuring that there is a robust system in place to manage antiviral stock during a pandemic (ie stock management, storage and distribution).

³⁰ www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_084178

³¹ www.hse.gov.uk/biosafety/diseases/pandemic.htm

- 8.12 There are currently two medicines recommended for the treatment of influenza in the UK, oseltamivir (Tamiflu) and zanamivir (Relenza), both neuraminidase inhibitors. They will mainly be used for treating symptomatic individuals. However, in certain situations, where individuals with a serious underlying condition or who are pregnant have been in close contact with an infectious case, clinical judgement may be used to offer a course of prophylaxis to protect against infection and reduce the risk of life threatening illness. In addition, prophylaxis with antiviral medicines of close contacts might be considered in the early stages of an outbreak but will not routinely be given to contacts of a case of pandemic influenza infection.
- 8.13 Oseltamivir (Tamiflu) is licensed for use in adults and children over 1 year old (and under 1 year for a pandemic). The Government has procured appropriate dose capsules from the manufacturer for use in children under 13 years old.

Oseltamivir (Tamiflu) - doses for treatment ³² (age 1 year and over)

- age 1 year or over but under 3 years (body weight under 15 kg) – 30 mg twice daily for five days.
 - age 3 years or over but under 7 years (body weight over 15 kg to 23 kg) – 45 mg twice daily for five days.
 - age 7 years or over but under 13 years (body weight over 23 kg to 40 kg and above) – 60 mg (two x 30 mg) twice daily for five days.
 - age 13 years and over (over 40 kg) – 75 mg twice daily for five days.
- 8.14 Oral oseltamivir Solution (oseltamivir 15mg in 1 ml), an unlicensed medicine, will be manufactured by designated licensed hospital pharmacies for supply to children under 1 year, in the event that the licensed product is not available. As an ambient product this solution does not require refrigeration before the bottle is opened. Once the bottle is opened, it is recommended that the solution is stored in the fridge and used within 10 days.
- 8.15 An information leaflet for both the oseltamivir Suspension and the Oral oseltamivir Solution will be provided when appropriate. The solution and suspension are presented in different strengths so care must be taken when the supply is received and then stocks are issued. Consumables such as bungs and oral syringes are provided for use with these products. Oral oseltamivir Solution has a limited shelf life of 90 days therefore it is important to organise stock appropriately so that the first stocks in are the first stocks out. The above information may be subject to change following the introduction of a new product during 2012.

³² Oseltamivir (should be given twice a day for 5 days for treatment and once a day for 10 days for prophylaxis).

Zanamivir (Relenza) - doses for treatment and prophylaxis³³

- 8.16 The dose for adults and children aged 5 years and over is 2x5mg blisters to be inhaled using the 'diskhaler' twice a day for 5 days for treatment, or once a day for 10 days for prophylaxis.
- 8.17 Children under one year of age who have high fever and cough or influenza-like symptoms should be seen and assessed by a GP or suitably qualified health professional/practitioner. Children aged one year or over can be assessed using the NPFS using a clinically based paediatric triage protocol and referred for antiviral medicines if appropriate, although those at risk of suffering complications of influenza may be referred to a suitably qualified health professional/practitioner if needed.
- 8.18 As well as antiviral medicine treatment being available through the NPFS, GPs and other healthcare professionals will be able to authorise the supply of antiviral medicines without a prescription using special authorisation vouchers (or the right hand side of the FP10SS for patients aged 13 or over). National protocols for the supply and administration of oseltamivir and zanamivir have been developed with advice on how they should be used. Access to these two named prescription-only medicines without a prescription, and from premises that are not registered pharmacies under the supervision of a pharmacist, will be possible only during a pandemic. This will be notified at the time.
- 8.19 The UK has a stockpile of antiviral medicines sufficient to treat up to half of the population in the event of a high impact pandemic involving a clinical attack rate of 50 per cent. For maximum treatment benefit, antiviral medicines need to be taken as soon as possible. Operational plans are built on the basis of treating all symptomatic patients within 7 days of symptom onset and ideally within 48 hours. Developing sufficient capacity in primary care to assess patients promptly is therefore critical to the effective provision of antiviral medicines.
- 8.20 At the beginning of the initial response phase, a quantity of the UK antiviral medicine stockpile will be distributed to points of issue identified by local areas across England. However, small levels of stocks are already held locally by HPUs. The quantities of antiviral medicines and points of issue will vary depending on local needs. Initial distribution and the subsequent replenishment of stock will be controlled centrally by the Department of Health; specifically the **National Incident Coordination Centre (NICC)** which will be established at the time of a response.
- 8.21 Further detailed guidance relating to antiviral distribution is currently being updated. When complete, it will include action cards to be used in establishing and running ACPs,

³³ Zanamivir (Relenza) should be given twice a day for 5 days for treatment and once a day for 10 days for prophylaxis.

advice for primary and community care providers, voluntary sector and other organisations who may be involved in the distribution process.

National Pandemic Flu Service (NPFS)

- 8.22 When there is evidence of sustained community transmission or a large number of de novo cases, an England-wide decision will be made to move from the initial response phase to a response designed to mitigate the impact of the disease on the individual, society and the NHS.
- 8.23 Any decision to make the NPFS operational will be taken at a UK level. It will be initialised if the service is required to supplement normal primary care services because of pandemic pressures. The service may be implemented by any of the UK countries based on pressures in their respective primary care system. The NPFS aims to:
- reduce pressure on primary care services;
 - allow people with flu like symptoms to remain at home;
 - enable rapid self-service assessment, care advice, GP referral and antiviral authorisation, and
 - provide an additional source of data relating to trends in activity and profile of people assessed as suffering from pandemic symptoms.
- 8.24 The service will be available through the web or a dedicated call centre facility for members of the public to be assessed and authorised antiviral medicines if appropriate. The telephony service can be accessed via Textphone and the web version is available in a number of different languages. The process is:
1. A symptomatic individual, or their Flu Friend, will contact the NPFS and an assessment using a clinical algorithm will be undertaken.
 2. If required, the individual will be authorised to receive an antiviral medicine. The individual will then need to note down an authorisation number (12 alphanumeric characters). A Flu Friend³⁴ can do this on behalf of a symptomatic individual.
 3. The Flu Friend (with their own identification and the symptomatic individual's) will then attend an ACP, provide the authorisation number and collect the antiviral medicines. The NPFS will also direct patients to a GP practice or other NHS service should they require any additional advice or treatment.

³⁴ Flu friends can be relatives, neighbours, representatives of the voluntary sector and friends who can collect antiviral medicines, food and other supplies on behalf of symptomatic individuals.

- 8.25 NPFS assessment is based on a clinical algorithm, which is subject to update dependent on the nature of the flu pandemic. The algorithm has been developed with input from expert clinicians and contains questions, which assess the need for urgent medical assessment or other actions, as well as the symptoms of flu.
- 8.26 The decision to mobilise the NPFS will be taken nationally with implementation in all areas across England. It is not possible to exclude geographical areas, even if they have limited numbers of pandemic sufferers. A key trigger is likely to be overall levels of pressure and the impact of the pandemic at the time. Prior to this time, 'hotspot' areas may choose to run local ACPs as a mechanism for rapid distribution of antiviral medicines..
- 8.27 The lead time for the NPFS to become operational is three weeks, during which time arrangements for implementation of ACPs in all local areas will need to have been completed. Addresses of ACPs that are already set up and operational must be made available to the NPFS by each local NHS emergency lead organisation as part of the three week mobilisation process. This information will be updated on an ongoing basis so that deliveries can be scheduled and the locations of the operational collection points can be visible to both the public and call centre operatives.
- 8.28 It is a requirement for all ACPs to have PCs with internet available so that they can access the NPFS to validate the authorisation number presented by the flu friend. If, exceptionally, the ACP does not have access to the internet, or it is not available, they will be able to validate the NPFS authorisation number manually.
- 8.29 The NPFS will validate the identity of patients, primarily through the use of a Health Service Number (HSN) or NHS Number in England. If the HSN is not available, users will still be able to use the service by providing other identification details. The ID process can also be turned off to enable users to use the NPFS. Foreign nationals will use a passport or European ID card as their identifying information.
- 8.30 While the NPFS is operating, healthcare professionals will still need to assess people with no access to the NPFS and those referred directly to primary care

Antiviral Collection Points (ACPs)

- 8.31 Antiviral collection points are nominated locations within the community where flu friends can collect antiviral medicines on behalf of a symptomatic person, on presentation of the person's valid authorisation. Antiviral collection points are likely to be required, irrespective of whether the NPFS is in use.
- 8.32 The purpose of an antiviral collection point is to:

- enable symptomatic patients to remain at home but still gain rapid access to antiviral medicines if necessary via a flu friend; and
- minimise the impact on healthcare facilities, enabling them to retain their operational capacity for the assessment of patients who have non influenza illnesses.

8.33 ACPs are also intended to minimise the impact on secondary care facilities, as:

- hospitals will have antiviral medicines only for inpatients;
- A&E departments will not act as an issue point for antiviral medicines;
- GPs will not have stocks of antiviral medicines, and
- prescriptions will not be issued for antiviral medicines – GPs will use special authorisation vouchers for children under 13 years of age or the right hand side of the FP10SS for patients aged 13 or over

8.34 The majority of ACPs during the H1N1 (2009) influenza pandemic operated out of pharmacies and this worked well in a relatively mild pandemic and discussions with the major pharmacy organisations should take place to ensure readiness if pharmacies are again to be used as ACPs. However, a more severe pandemic is likely to increase the pressure on pharmacies and plans need to consider the potential for using other sites to enable collection of antiviral medicines by flu friends on behalf of symptomatic individuals.

8.35 National protocols authorised by Ministers are needed to allow ACPs to supply medicines. Pharmaceutical advice, via senior pharmacists working with local pharmaceutical committees, will be an important role of the ACP. Staff training in the storage and supply of medicines must be assured, as must safe systems, processes, reporting mechanisms and security of premises. If organisations (other than community pharmacies) are charged with storing and distributing antiviral medicines or other medicines they will be required to have a WDL licence of their own or as agents of the Department of Health, subject to agreement with the MHRA.

8.36 Organisations will need to ensure that there is a named 'Responsible Person', who will ensure compliance with Good Distribution Practice including safe systems of storage and distribution including daily recordings of temperature at the storage points and at the ACPs. This will include maintenance and retention of detailed records of receipt and issue of stock, and continuous temperature records of the storage environment. Confirmation will be required that these arrangements are in place before the first delivery of antiviral medicines is sent out. Senior Pharmacists will need to ensure that all the requirements for holding a WDL are complied with.

- 8.37 The location of ACPs and their distribution across geographic areas remains a local responsibility. Decision on the numbers and locations will be influenced by the characteristics and transmissibility of the virus. However, key requirements are good access (eg extended hours) for the population served (ie rural communities), sufficient capacity to supply the required medicines to everyone who is authorised for treatment, ideally within a 48 hour period, and computer links to enable data flow between the ACP and NPFS (when operational) which will contribute to the overall surveillance picture. Arrangements must also include provision of antiviral medicines to care home residents if required.
- 8.38 Legislative changes were made during the H1N1 (2009) influenza pandemic to permit flexibilities in the provision of pharmaceutical services. For example, regulatory arrangements already exist for Secretary of State to issue directions to permit the temporary relocation of premises of pharmaceutical contractors, and changes to their weekly NHS contractual hours, subject to any limitations in the directions. No directions have yet been issued.

8.39 Antiviral Collection Point checklist

Below is a checklist of basic requirements for collection points. This has been designed to assist Primary Care commissioners and providers in planning collection points.

IT requirements	Y/N
Computers with: <ul style="list-style-type: none"> • an anti-virus package with up-to-date signature and patches • Microsoft (MS) Office - minimum - MS Excel and MS Word 97 or newer 	
Internet connection ³⁵ (eg Internet Explorer 6 or 7, Mozilla Fire Fox 1.5 & 2.0, Apple Safari 2.0 & 3.0) - Broadband, Dial up or N3	
Access to email - eg Windows mail or web-based mail	
Printers that can print labels	
Photocopier plus paper	
Tables and chairs for assessor, Issuer	
Telephones	
Fax	
Physical (including storage and security)	Y/N
Entry	
Large reception area where patients can be marshalled and registered in an orderly fashion prior to control entry	
Meet and Greet area to divert into respective queues	
Queuing for holding and issuing areas	
Separate access and exit if possible	
Overspill holding area for attendees	
Security and storage	
Security personnel for crowd control, traffic movement, the safety of clinical staff	

³⁵ JavaScript should be enabled on all browsers to make the Ajax work. Internet Explorer 8 users will need to select internet options from the browser tools menu, select the privacy tab and set the cookies level to accept all cookies. This may not be possible for users where security policy disallows changes to the privacy settings. In this instance a compatible browser must be used.

and infrastructure protection	
Secure stock delivery points	
Lockable building	
Lockable storage for medicines and associated consumables plus temperature recording facilities	
Consider the outer perimeter of the building - fencing, natural barriers , i.e. planting	
Consider the building perimeter – parking area, locking devices for external doors and windows, defensive planting, CCTV and fencing	
Consider the interior of the building – entire ACP interior, internal windows and doors, ability to be locked, access and intrusion alarms, CCTV and adequate lighting, ability for natural surveillance by staff, movement of people from public to private space, ability to detect intruders	
Ability to receive a delivery from a Transit van or similar sized vehicle	
Location	Y/N
Accessible to public by public transport	
On-site parking and drop-off site for public	
Free from red route/restrictions	
Disability/ Special needs access	
Resources	
The senior pharmacist's oversight with responsibility for safe systems of operation at the ACP for the safe supply of medicines and for training staff	
Staff for the following roles:	
Collection Point Manager	
Stock Manager/Controller and staff	
Security Manager	
Assessor trained to use clinical algorithm (contingency role)	
Issuer	
Meet and Greet / Queue Manager	
Command and control area	Y/N
An area from which collection point managers and the team can: <ul style="list-style-type: none"> Oversee the operation of the whole collection point including the clinical and non-clinical support activities Oversee the regular collection and collation of performance data for the collection point(s), and provide regular Situation Reports to the Primary Care provider Communicate with the Primary Care provider and the Police (via the onsite Police Bronze Commander (if deployed)) if required 	
Standard Primary Care Health and Safety procedures	Y/N
Fire alarms, certification and clear evacuation instructions	
Communications	Y/N
Space for signage and leaflets	

Associated IT Systems

8.40 In addition to the NPFS and ACPs, a number of associated IT systems and arrangements have been put in place to facilitate an effective and timely distribution of antiviral medicines during the treatment phase and support surveillance by providing data on trends in activity. They include:

The NPFS Professional (NPFS Pro) - *NPFS Pro is a version of NPFS that allows Healthcare Professionals (HCPs) to authorise the issue of antiviral medicines to symptomatic individuals .*

The key functions of NPFS Professional are to:

- identify the symptomatic individual by finding a record in the healthcare database, using a health number (European Identity (ID) card number or passport number will be used to identify foreign nationals who do not have a health number - NPFS Pro can be mobilised without the ID verification function);
- display a record of previous antiviral medicines for the individual to enable HCPs to determine whether a further issue is clinically appropriate;
- authorise (or record direct issue) of an antiviral) medicine for a symptomatic individual, without completing the clinical algorithm used in the NPFS;
- generate an authorisation number, and
- update an individual's record in NPFS to show that an antiviral medicine has been authorised.

For patients with no verifiable ID, HCPs will authorise antiviral medicines using an Antiviral Authorisation Voucher or FP10SS outside of NPFS Professional.

The Collection Point Issuing System (CPIS) - *The CPIS enables confirmation of a valid authorisation number and issuance of an antiviral when an authorisation number issued by NPFS is presented.*

The key functions of CPIS are to:

- verify the surname of the symptomatic individual;
- confirm that the authorisation number is valid;
- prevent fraud by checking whether an antiviral has been issued against the authorisation number;
- record the details of the collection of antiviral medicines authorised via NPFS and the collectors name, and
- update the SMS on antiviral consumption.

The Stock Management System (SMS) - *The SMS is used to monitor and manage stock and to record the issue of antiviral medicines at the ACP where an authorisation voucher issued by a GP or other healthcare professional is presented*

The key objectives of the SMS are to:

- maintain the supply of antiviral medicines to the antiviral collection points with minimum manual interventions;
- have traceability of stock, and
- provide reports on the usage of stock.

During a pandemic, the NICC will have operational responsibility for stock supply. Using SMS the NICC will monitor the level of stock at each registered antiviral collection point and create antiviral re-orders for all the ACPs which have stock levels at/or below contingency stock levels.

The Collection Point Administration System (CPAS) - *CPAS holds the central record of ACP name, location and opening hours details. This information is fed into the NPFS, CPIS and SMS.*

The key objectives for the CPAS are to:

- allow primary care providers a way to upload information in a timely manner about what ACPs are active in their area, and
- enable the Stock Management System to place orders for stock against active collection points.

The CPAS system will be used by primary care providers to register ACP information that is then fed into SMS and NPFS.

Annex A – Summary of NHS roles and responsibilities during a pandemic

Stage	NHS Commissioners (SHA Clusters, PCT Clusters)	NHS Providers (acute, community, mental health, community pharmacy, GP)
Planning	<ul style="list-style-type: none"> • Governance of local planning • Engage with independent sector re mutual aid • Engage with Local Medical Committee (NHS CB) and Local Pharmaceutical Committee • Identify potential ACP locations • Multi-agency engagement • Ensure multi agency plans are up to date • Agree and exercise command & control arrangements • Maintain service contracts including flu impact management • Update national protocols for the administration and supply of antiviral medicines 	<ul style="list-style-type: none"> • Ensure business continuity, surge, winter and pandemic flu plans are up to date and reflect latest guidance/science (all) • Undertake regular training and exercising (all) • Participate in relevant local and regional fora (trusts, GP/pharmacy reps) • Engage with independent sector re mutual aid • Maintain lists of staff contact details (all) • Maintain lists of vulnerable patients (Acute, Mental Health Trust (MHT), community, GPs) • Maintain robust seasonal flu vaccination programmes for staff and patients (all) • Multi-agency engagement (all) • Participation in relevant assurance processes (all)
Detect/ Assess	<ul style="list-style-type: none"> • Flu specific Local Enhanced Services/Directed Enhanced Services • Local telephone helpline, if required • Communications to local NHS and public • Confirm ACP locations • Identify and collate vulnerable persons list ensuring process in place to keep up to date • Lead communications to multiagency partners • Collate retired GP list • Monitor and collate incidence data from GPs/pharmacies • Commission vaccination programme for travellers/homeless/rough sleepers 	<ul style="list-style-type: none"> • Communication with staff and public (all) • School outbreak teams (GP, community with HPA) • Local telephone helpline, if required (individual trusts or PCT Cluster) • Communications to local NHS and public • Swabbing and sampling of patients (GPs) • Review pandemic plans and related plans • Support response to school outbreaks (GP, community, school nurses, children’s services) • Isolate patients to slow spread (Acute, MHT) • Set up Flu ED if required (Acute, community) • Set up ACPs in hotspots if required • Prepare to commence storage and distribution of antivirals and personal protective equipment

<p>Treat/ Escalate</p>	<ul style="list-style-type: none"> • Oversee Personal Protective Equipment (PPE) storage, stock management and distribution to local providers • Governance of local response • Channel information from the centre to local providers/ public • Channel SitReps from local providers to the centre • ACP governance and information to the centre • Activate ACPs • Provide information about national vaccination campaign • Set up 'flu friends' service • Commission additional NHS capacity (eg ECMO/ICU capacity) if required • Consider enacting any agreements with independent sector providers to support local NHS providers 	<ul style="list-style-type: none"> • Communication with staff and public (all) • PPE storage, stock management and distribution to users • Maintain support to community patients (MHT, community) • ACP provision (staff, stock management/reporting) (pharmacy) • Vaccination of public (GPs, pharmacy) • Vaccination of staff (all) • Death declaration and certification (GPs) • Manufacture of oral oseltamivir solution (designated licensed Hospital Pharmacy Manufacturing Units) • Prescribe antiviral medicines to children in special schools if required (GPs) • Cohort patients if necessary (acute, MHT) • Reduce minor impact services that will not put lives at risk (all) • Maintain core services (all) • Set up Flu ED if required (Acute, community) • Discharge patients into the community where safe to do so (Acute, community) • Open ACPs if NPFS activated, maintain stock management/reporting etc (pharmacy, community) • Provide necessary ACP information to the centre (pharmacy) • Increase ICU capacity if required (acutes)
<p>Recover</p>	<ul style="list-style-type: none"> • Identify lessons • Prepare for second wave • Agree prioritisation of return of services • Continue to communicate with all partners and public 	<ul style="list-style-type: none"> • Continue wider vaccination campaign (all) • Identify lessons • Prepare for second wave • Maintain seasonal flu vaccination campaign

Annex B – Summary of social care roles and responsibilities during a pandemic

Stage	Local Authorities
Planning	<ul style="list-style-type: none"> • Governance of local planning • Ensure that planning aligns with Civil Contingencies Act structures, e.g. Local Resilience Fora • Ensure that there are communications in place with all independent sector providers, which are capable of being a platform for daily communications • Local schools closure policy • Planning with early years service and private, independent and voluntary providers • Planning with adult social care providers • Advise independent sector social care providers to make arrangements for vaccination of their staff • Arrangements for storing and distribution of face masks • Agreement within local authority about what are “essential” services which take priority over everything else • Arrangements for redeploying staff into essential services • Alignment with overall winter and capacity planning with local NHS • Arrangements for identifying and supporting “vulnerable people”
Detect/ Assess	<ul style="list-style-type: none"> • Set up local communications for public, councillors and staff, and align to NHS communications • Re-test communication channels to providers • Test responses to SOCCON if this is put in place centrally • Confirm “mutual aid” arrangements between providers • Check vulnerable persons list • Confirm arrangements for vaccination of social care staff • Response to school outbreaks and decisions on school closures
Treat/ Escalate	<ul style="list-style-type: none"> • Distribution of face masks to front line • Management of SOCCON and other central/local information channels • Communication with public/councillors/staff • Optimise capacity in independent sector for early years and adult social care, including mutual aid arrangements • Implement any agreed local escalation arrangements for faster hospital discharge or admission avoidance • Encourage social care staff to access vaccination programme • Support vaccination for vulnerable people including flu friends arrangements • Continued response to school outbreaks and decisions on school closures • Use local media to provide information on services to community

Recover	<ul style="list-style-type: none">• Identify lessons• Prepare for second wave• Encourage social care staff to access seasonal flu campaigns• Continued communications to public/councillors/staff• Agree prioritised return to ordinary arrangements• Consider physical rest/emotional support for staff
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Annex C – Summary of HPA roles and responsibilities during a pandemic

Planning	<ul style="list-style-type: none"> • Ensure there is a rolling plan of assay development and updating as required, reflecting ability to detect current and potential influenza epidemic strains, linked to assay roll out and quality assurance across virology network, including planning for sample transport links across regions/ zones. • Maintain, develop and test epidemiological and laboratory pandemic reporting and collection systems • Ensure up to date generic guidance on the investigation and management of cases and outbreaks is available • Ensure generic information on influenza is available to the general public and health professionals • Investment in electronic communication links to streamline and facilitate clinical result dissemination)
Detect/ Assess	<ul style="list-style-type: none"> • Develop specific laboratory diagnostic testing • Utilise the FF100 systems to rapidly investigate initial pandemic cases, clusters and contacts in order to gain insights into the clinical presentation, epidemiological features including severity and other aspects of the illness associated with the new virus to inform real-time modelling • Implement enhanced pandemic influenza surveillance systems including systems to measure community transmission and severe disease • Review and update guidance and information in light of emerging information and data • Provide accurate and timely information for the public and health professionals (including reinforcing social distancing messages, good hand and respiratory hygiene) • Adapt and roll out guidance on the investigation of possible cases and their contacts, clusters and outbreaks • Liaise with national and international bodies e.g. VLA, ECDC, WHO. • Identify newly emerged vulnerable groups and the ways they are affected to inform prevention, control and treatment and provide support where possible to primary healthcare service • Identify the impact on community support mechanisms and collaborate with key stakeholders within the community (health services, governmental agencies, other organisations etc) to reduce impacts. • HPA to support accelerated vaccine development including efficacy and safety data

Treat/ Escalate	<ul style="list-style-type: none"> • Maintain surveillance systems of ILI cases and outbreak investigation, • Undertake community surveillance, sero-incidence surveillance and severe disease (hospital-based) and mortality surveillance. • Measure and monitor the uptake, safety and effectiveness of any pandemic influenza vaccination programme • Continue to characterise viral isolates in order to detect any changes that may affect virulence, antiviral resistance, transmission or any other characteristic • Disseminate information on the progress of the pandemic • Provide timely and accurate information for the public and health professionals on the pandemic and the clinical effects of the infection • Adapt guidance on the management of cases and their contacts in light of emerging information on the virus, the clinical illness and the impact on society and services • Provide advice on when to cease measures to slow transmission of the virus, if they have been commenced • Carry out modelling of pandemic and countermeasures effectiveness • whilst also carrying out an expected increased testing of samples
Recover	<ul style="list-style-type: none"> • Review effectiveness of pandemic preparedness plan and business continuity activities • Continue to monitor the virus and susceptibility in the population • Review response activities and identify lessons learned for possible and subsequent waves / other wide-scale emergencies • Update Algorithms, Pandemic Preparedness Plans, Business Continuity Plans as required • Issue regular communication to internal / external stakeholders • Continue to produce and/or contribute to status reports as needed • Review previously identified vulnerable groups

Acronyms

ACP	Antiviral Collection Point
CAT	Clinical Assessment Tool
CEAPI	Committee on Ethical Aspects of Pandemic Influenza
CMO	Chief Medical Officer
CPAS	Collection Point Administration System
CPHO	Chief Pharmaceutical Officer
CPIS	Collection Point Issuance System
DAs	Devolved administrations
ECMO	Extracorporeal membrane oxygenation
ED	Emergency Department
FACS	Fair Access to Care Services
GP	General Practitioner
HCP	Healthcare professional
HPA	Health Protection Agency
HPU	Hospital Pharmacy Unit
HSN	Health Service Number
ICU	Intensive Care Unit
ILI	Influenza-like illness
JCVI	Joint Committee on Vaccination and Immunisation
LHRP	Local Health Resilience Partnership
LPA	Lasting Power of Attorney
LRF	Local Resilience Forum/a
MHT	Mental Health Trust
MHRA	Medicines and Healthcare products Regulatory Agency

NHS CB	NHS Commissioning Board
NICC	National Incident Coordination Centre
NPFS	National Pandemic Flu Service
NPFS Pro	National Pandemic Flu Service - Professional
PCT	Primary Care Trust
PHE	Public Health England
PICU	Paediatric Intensive Care Unit
REAP	Resourcing Escalatory Action Plan
SHA	Strategic Health Authority
SMS	Stock Management System
UKHCA	United Kingdom Homecare Association
WDL	Wholesale Dealer Licence
WHO	World Health Organization

Glossary

Aerosol	A gaseous suspension of fine solid or liquid particles which remain suspended in the air for prolonged periods of time.
Antibiotic	A type of drug that can prevent the growth of bacteria.
Antiviral medicines	Used to describe a chemical or drug that inhibits virus replication.
‘At risk’ groups	Groups of people who, through their immune disposition or long-term illness (e.g. diabetes, chronic heart or respiratory disease) are deemed to be especially threatened by infection.
Bronchoscopy	A procedure where a flexible tube is passed into a patient's lung to view the lung and airways, while under sedation.
Clinical attack rate (Attack rate)	The cumulative proportion of people infected and showing symptoms over a specified period of time.
Community	The general population, outside of a hospital or clinical environment.
Countermeasures	Interventions that attempt to prevent, control or treat an illness or condition.
Critical Care	Care of a patient in a life-threatening situation by staff specially trained in recognising and responding to emergencies.
Diagnosis	Specific identification of the illness that is causing a disease or set of symptoms.
Epidemic	The widespread occurrence of significantly more cases of a disease in a community or population than expected over a period of time.
Epidemiological	Relating to the study of the patterns, causes and control of disease in groups of people.
Excess Mortality	The number of deaths that occur during an outbreak and above that expected for the time of year.
Extubation	The process of removing a tube from a hollow organ or passageway, often from the airway.
FP10SS	Standard prescription form used in England and Wales.

Health and Social Care influenza pandemic preparedness and response

H1N1 (2009) influenza pandemic	The worldwide community spread of a new H1N1 influenza virus, originating in pigs and entering the human population in 2009.
H5N1	Highly pathogenic avian influenza virus, enzootic in birds in South East Asia.
Hand hygiene	Thorough, regular hand washing with soap and water, or the use of alcohol-based products containing an emollient that do not require the use of water to remove dirt and germs at critical times, eg after touching potentially infected people/objects and before touching others or eating.
Immunity	Inherited, acquired, or induced resistance to a specific type of infection.
Immunisation	Manipulation of the immune system to confer, or bolster, its ability to protect.
Incubation period	The time from the point at which infection occurs until the appearance of signs or symptoms of disease.
Infection	The acquisition and active growth of a foreign microbial agent in a host, such as a human or animal, usually with a detrimental outcome.
Infectious	A disease caused by a micro-organism that can be transmitted from one person to another.
Intubation	The insertion of a tube into an external or internal orifice of the body for the purpose of adding or removing fluids or air.
Isolation	Separation of individuals infected with a communicable disease from those who are not for the period they are likely to be infectious in order to prevent further spread.
Mitigation	Strategy to delay of the spread, or moderate the severity or extent, of a pandemic.
Modelling	Use of the mathematical theory of disease dynamics to make a quantitative assessment from available data of the range of possible behaviours of a pandemic and the impact of various responses, most importantly those that are likely to be both effective and robust over the range of uncertainty.
Novel virus	A virus that has never previously infected humans, or has not infected humans in a long time.
Oseteltamivir	Antiviral drug, marketed by Roche Pharmaceuticals under the trade name Tamiflu®, that acts by inhibiting Neuraminidase activity and thus blocking viral spread.

Outbreak	Sudden appearance of, or increase in, cases of a disease in a specific geographical area or population, e.g. in a village, town or closed institution.
Pandemic	Worldwide epidemic – an influenza pandemic occurs when a new strain of influenza virus emerges which causes human illness and is able to spread rapidly within and between countries because people have little or no immunity to it.
Pandemic-Specific Vaccine	Vaccine developed against the antigens of the specific viral strain responsible for the pandemic.
Pathogenic	Able to cause disease.
Pre-pandemic vaccine	Vaccine developed, ahead of a pandemic, against antigens of a viral subtype.
Post-exposure prophylaxis	Use of antiviral drugs to prevent infection after exposure to infected contacts.
Prognosis	A prediction of the probable course and outcome of a disease.
Prophylaxis	Administration of a medicine to prevent disease or a process that can lead to disease – with respect to pandemic influenza, this usually refers to the administration of antiviral medicines to healthy individuals to prevent influenza.
Quarantine	Separation of those who are thought to have been exposed to a communicable infection, but are well, from others who have not been exposed in order to prevent further spread.
Relenza®	See ‘Zanamivir’.
Respirator	A face mask incorporating a filter. In this document, it implies a particulate respirator, usually of a disposable type, often used in hospital to protect against inhaling infectious agents. Particulate respirators are ‘air-purifying’ respirators because they filter particles out of the air as one breathes.
Respiratory	Relating to the respiratory system (e.g. the nose, throat, trachea and lungs).
Seasonal epidemic	An epidemic that occurs at a defined time each year, typically in the autumn and winter months in the UK due to climatic or social factors (e.g. the end of school holidays).
Seasonal flu / influenza	Annual period of widespread respiratory illness, typically occurring during the autumn and winter

	months in the UK, caused by the circulation of a strain of influenza virus that is slightly altered from the previous season.
Screening	Institution of special measures at points of exit/entry into a country to detect individuals who have – or may have – been exposed to an infection as a measure to reduce the spread of infection.
Sero-prevalence	The overall occurrence of a disease within a defined population at one time, as measured by blood tests.
Serology	The scientific study or diagnostic examination of blood serum, especially with regard to the response of the immune system to pathogens or introduced substances.
Subtype	Viral strain classified by the versions of Haemagglutinin and Neuraminidase that it possesses.
Surge	A transient increase in demand for care or services above usual capacity.
Surgical mask	A disposable face mask that provides a physical barrier but no filtration.
Surveillance	The continuing scrutiny of all aspects of the occurrence and spread of disease pertinent to effective control in order to inform and direct public health action.
Suspected cases	Cases of illness identified through symptoms but not confirmed by laboratory analysis.
Swine flu	H1N1 influenza arising in 2009 from pigs and the cause of the 2009 pandemic in humans.
Symptomatic	Showing symptoms of disease or illness.
Tamiflu®	See 'Oseltamivir'.
Transmission	Any mechanism by which an infectious agent is spread from a source or reservoir (including another person) to a person.
Vaccine	A substance that is administered in order to generate an immune response, thereby inducing acquired immunological memory that protects against a specific disease.
Virological	Pertaining to viruses.
Virulence	The capacity of an infectious agent to infect and cause illness.

Health and Social Care influenza pandemic preparedness and response

Virus	A micro-organism containing genetic material (DNA or RNA) which reproduces by invading living cells and using their constituent parts to replicate itself.
Wave	The period during which an outbreak or epidemic occurs either within a community or aggregated across a larger geographical area. The disease wave includes the time during which the disease occurrence increases, peaks and declines back towards baseline.
Zanamivir	Antiviral drug, marketed by GSK Pharmaceuticals under the trade name Relenza® that inhibits Neuraminidase activity, thus blocking viral spread.