DH Department of Health

Pandemic influenza

Guidance on preparing acute hospitals in England

DH INFORMATION READER BOX

Policy HR/Workforce Management Planning/ Clinical	Estates Commissioning IM & T Finance Social Care/Partnership Working
Document purpose	For information
Gateway ref	8957
Title	Pandemic influenza: Guidance on preparing acute hospitals in England
Author	DH
Publication date	November 2007
Target audience	PCT CEs, NHS Trust CEs, SHA CEs, Care Trust CEs, Foundation Trust CEs, Medical Directors, Directors of PH, Directors of Nursing, Local Authority CEs, Directors of Adult SSs, NHS Trust Board Chairs, Directors of HR, Directors of Finance, GPs, Communications Leads, Emergency Care Leads, Directors of Children's SSs
Circulation list	
Description	This document is designed to assist acute hospitals and foundation trusts in England in developing their plans for responding to an influenza pandemic.
Cross reference	Pandemic flu: A national framework for responding to an influenza pandemic
Superseded documents	N/A
Action required	N/A
Timing	N/A
Contact details	Pandemic Influenza Preparedness Team Department of Health 452C Skipton House 80 London Road London SE1 6LH Email: pandemicflu@dh.gsi.gov.uk
For recipient's use	

Pandemic influenza

Guidance on preparing acute hospitals in England

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1 Introduction and aims

This planning document is designed to assist NHS acute trusts and acute foundation trusts (hereafter referred to as 'trusts') in developing their plans for responding to an influenza pandemic.

Planners should be aware that the information available on pandemic influenza changes rapidly. Guidance is therefore continually being revised. It is important that planners ensure that they work to the latest versions of guidance, including any others referred to within this document.

1.1 Scope

The arrangements described relate specifically to an influenza pandemic. They do not cover planning for, or the response to, seasonal influenza outbreaks or any incidents involving the prevention or control of avian (eg A/H5N1) influenza or other animal influenza infection in birds or humans, which remain the responsibility of the relevant government department, public health, animal health and local authority bodies in accordance with normal procedures. However, they do cover the management of cases of influenza-like illness in humans raising suspicion of a new influenza variant that might cause pandemic influenza, and may have its origin as an avian virus.

Trusts contribute to the influenza pandemic preparedness planning undertaken by primary care trusts (PCTs) in conjunction with Local Resilience Forums (LRFs). This guidance sets out the planning elements that trusts should be considering as their contribution to developing local preparedness.

Whilst not intended to provide detailed operational guidance for responding to an influenza pandemic, this document provides general information to support the preparations necessary for the operational response to such an event. The guidance is aimed at helping trusts to plan for an influenza pandemic in inter-pandemic (World Health Organization (WHO) Phases 1 and 2) and pandemic alert periods (WHO Phases 3 to 5) and then to respond in the actual pandemic period (WHO Phase 6, UK alert levels 1 to 4) and the post-pandemic recovery period.

This *Guidance on preparing acute hospitals in England* is supplementary to *Pandemic flu: A national framework for responding to an influenza pandemic*, and should be read in conjunction with it and other national guidance on pandemic influenza planning. These can be found at www.dh.gov.uk/pandemicflu and include the following:

- *Pandemic influenza: Guidance for primary care trusts and primary care professionals on the provision of healthcare in a community setting in England*
- *An operational and strategic framework: Planning for pandemic influenza in adult social care*

- *Guidelines for social care staff: Planning for pandemic influenza in adult social care*
- *Pandemic influenza: Guidance for ambulance services and their staff in England*
- *Pandemic influenza: Human Resources guidance for the NHS*
- *Responding to pandemic influenza: The ethical framework for policy and planning*
- *Guidance for pandemic influenza: Infection control in hospitals and primary care settings*.

1.2 Audience

This guidance is primarily intended for those preparing acute hospitals in England for an influenza pandemic. However, it will have relevance to other stakeholders, including primary care, ambulance trusts, mental health trusts and local authorities.

Whilst this document is not specifically written with mental health trusts in mind, there will be aspects of the guidance of relevance to them. Mental health trusts will wish to use the elements within it for planning purposes that are of relevance to them pending the publication of the mental health trust guidance currently in development. It will be of interest to independent sector providers and may be of interest to those seeking general information or an overview of the UK's general preparations for, and planned response to, a pandemic. The devolved administrations – Northern Ireland, Scotland and Wales – will produce their own guidance to advise hospitals within their area of authority on preparedness planning.

1.3 Advisory comment

Patient, staff and public safety must remain paramount at all times. Trusts must take care to ensure that their planning takes these requirements into account. In particular, they must ensure that infection prevention and control and health and safety needs are considered and provided for with every level of planning and operational response.

2 The current context of influenza pandemic planning for trusts

Key points for acute trusts

Trusts should plan towards the upper end of possible attack rates highlighted in *Pandemic flu: A national framework for responding to an influenza pandemic* and summarised below.

- Up to 50% of the population may show clinical symptoms of influenza over the entire period of a pandemic, and up to 25% of these may develop complications.
- Up to 2.5% of those who become symptomatic may die.
- Up to 22% of influenza cases can be expected during the 'peak week' of a pandemic wave.
- The expected additional demand for healthcare will mean that most influenza patients will require assessment and the majority of their subsequent care and support outside hospital healthcare settings. It is anticipated that during an influenza pandemic, hospital capacity will be exceeded, particularly at the peak of the wave.
- Response plans should be flexible enough to deal with the *range* of possible attack rates.
- Up to 4% of those who are symptomatic may require hospital admission if sufficient capacity is available.
- Up to 25% of hospital admissions will be expected to require level 3 critical care.
- The average length of stay for those with complications may be six days (ten if in critical care).

As NHS organisations and Category 1 responders under the terms of the Civil Contingencies Act, trusts have a responsibility to prepare for emergencies, which include infectious disease emergencies such as an influenza pandemic.

Trusts have a responsibility to cooperate with PCTs, strategic health authorities (SHAs) and other local responders to enhance the coordination and efficiency of plans and the response. It is essential that trusts work within the framework of their PCT, SHA and LRF emergency planning arrangements.

An emergency as defined by the Civil Contingencies Act is: 'An event or situation that threatens serious damage to human welfare in a place in the UK or to the environment of a place in the UK, or war or terrorism which threatens serious damage to the security of the UK.'

To constitute an emergency, this event or situation must require the implementation of special arrangements by one or more Category 1 responders.

From a health perspective, an emergency is defined as: 'Any occurrence that presents a serious threat to the health of the community, disruption to the service or causes (or is likely to cause) such numbers or types of casualties as to require special arrangements to be implemented by hospitals, ambulance trusts or primary care organisations.'

The NHS Emergency Planning Guidance 2005 gives the chief executive of each NHS trust responsibility for ensuring that their trust has a major incident plan in place, which is built on the principles of risk assessment, cooperation with partners, emergency planning, communicating with the public and information sharing. Additionally, the *National framework* requires that trusts develop specific contingency arrangements for responding to the increased demands incurred by an influenza pandemic.

The plan should link into a trust's arrangements for ensuring business continuity as required by the Civil Contingencies Act, but should also take into account the comments below.

SHAs and PCTs need to ensure that arrangements made within their boundaries and with neighbours are adequate and appropriate to local circumstances.

The NHS Emergency Planning Guidance 2005 describes a set of general principles to guide all NHS organisations, including trusts, in developing their capability within the context of the requirements of the Civil Contingencies Act.

The NHS Emergency Planning Guidance 2005 is available at www.dh.gov.uk/assetRoot/04/12/12/36/04121236.pdf

Trusts will come under significant pressure during an influenza pandemic. They will be faced initially with small numbers of people infected, or potentially infected, with a new influenza virus type, and will need to treat them and contain any spread within the context of their normal services. As the pandemic develops (this transition may be very rapid), trusts will need to deal with large numbers of individuals infected with pandemic influenza, and as a result may face very high demands for admission of pandemic influenza emergency cases for treatment, including critical care. This will occur at a time when trusts' own resources in terms of staff, consumables and utilities will be compromised.

Modelling suggests that, at the peak of a pandemic wave, demand will exceed normal hospital bed and other healthcare capacity to respond.

2.1 The potential impact of an influenza pandemic on trusts

The impact of an influenza pandemic on trusts is likely to be intense, sustained and nationwide. Services may quickly become overwhelmed as a result of:

- the increased workload resulting from patients with influenza and its direct complications
- the particular needs for critical care (levels 2 and 3), infection prevention and control facilities and equipment
- a secondary burden on health caused by anxiety and bereavement
- depletion of the workforce and of numbers of informal carers, due to the direct or indirect effects of influenza on staff and their families
- logistical problems due to possible disruption of supplies (including blood supplies), utilities and transport, as part of the general disruption caused by an influenza pandemic
- delays in dealing with other essential healthcare
- the longer-term macroeconomic effects of an influenza pandemic on the national (and world) economy
- pressure on mortuary facilities (possibly exacerbated by delays in death registration and funerals).

In order to allow sufficient lead time to finalise and implement operational response arrangements, as the influenza pandemic threat escalates in the pre-surge phase (particularly at UK alert levels 2 to 3), the Department of Health will derogate decisions to reduce NHS services to the provision of essential care only and around the modification or suspension of performance targets to local/regional decision-making.

The provisional guidance on surge management should support the response to increased demands and the maintenance of an effective response, particularly around coping with those patients who need more complex care than is normally possible at home, but who may not be able to be admitted to hospital. Given the likely mismatch between demand and available capacity during an influenza pandemic, trusts will have to find innovative approaches to providing many aspects of healthcare, including staffing, assessment of patients and bed capacity.

The Department of Health is aware of the implications for the financial status and target attainment of trusts caused by the surge in emergency demand and loss of elective activity.

2.2 Trust influenza pandemic preparedness planning

Planning should be based on – and should use the range of possible attack rates, clinical impact and mortality assumptions set out in – the Department of Health's *National framework*, and on the latest additional business contingency planning guidance issued by the Cabinet Office. However, trusts ought to be aware that the epidemiology of an emergent influenza pandemic virus and its clinical behaviour cannot be predicted with certainty. Plans will have to be adjusted as new information becomes apparent.

In brief, it is expected that:

- up to 50% of the population may show clinical symptoms of influenza over the entire period of a pandemic, and up to 25% of these may develop complications
- up to 2.5% of those who become symptomatic may die
- up to 22% of influenza cases can be expected during the 'peak week' of a pandemic wave
- up to 28.5% of symptomatic patients (this includes those with complications and all children under three years) will require assessment and treatment by a GP or appropriate healthcare professional. This assumes that routine patients who require treatment with antiviral medicines will gain access to these via the National Flu Line service
- up to 4% of those who are symptomatic may require hospital admission if sufficient capacity is available (with 25% of hospital admissions expected to require level 3 critical care)
- the average length of stay for those with complications may be six days (ten if in critical care)
- demand for hospital admission can be expected to increase to 440 new cases per 100,000 per week *at the peak* and is unlikely to be met from available acute hospital capacity
- an increase in the numbers suffering with influenza and its direct complications may be accompanied by other demand, caused by anxiety and bereavement, and service provision challenges exacerbated by depletion of the workforce and by logistical difficulties.

Uncertainty about the nature and impact of the pandemic virus means that planning across all sectors, including trusts, needs to be sufficiently flexible to cope with a range of possible impacts, including those arising from an influenza pandemic virus with a clinical attack rate and case fatality rate in the upper ranges of the planning assumptions set out in national guidance.

Many of the issues relevant to contingency planning for an influenza pandemic are common to other emergencies and will already have been addressed as part of normal contingency planning. Where this is the case, this guidance should be seen as an invitation to trusts to check that their generic arrangements will hold up well in an influenza pandemic. Most emergency plans are based on the short-term escalation of services; however, an influenza pandemic will have a sustained impact on demand and will severely reduce capacity, affecting most areas simultaneously, which therefore will require different planning responses; the provisional surge planning guidance should be helpful in this respect. Additionally, trusts need to be aware that a pandemic may occur over more than one wave. Planning will need to take account of this possibility and use the recovery period after a wave to restock and prepare for possible subsequent waves.

Influenza pandemic planning and response arrangements need adequate resourcing, from the allocation of sufficient planning staff through to equipment procurement and staff training. Trusts will want to ensure that they make these provisions.

Hospitals will need to consider the Government's key aims in preparing for and responding to an influenza pandemic as listed in the *National framework*, available at www.dh.gov.uk/pandemicflu

In addition, Cabinet Office guidance *Contingency planning for a possible influenza pandemic* is available at www.ukresilience.info/publications

2.2.1 Local planning

Consistent with overall governmental and Department of Health policy, NHS trusts are expected to plan locally for an influenza pandemic. This guidance document is issued to support trusts in their local decision-making. Utilising national guidance documents such as this one and others as relevant, such as *Guidance for pandemic influenza: Infection control in hospitals and primary care settings*, will help to ensure a coherent approach across the NHS and local health communities.

2.2.2 Timely planning

For many, the prospect of an influenza pandemic may seem a distant threat, particularly in the context of many other competing priorities. However, trusts should bear in mind that achieving optimum preparedness will take considerable time and effort, particularly for some aspects, such as ensuring that adequate supplies are available, recommissioning redundant facilities, or ensuring that volunteer and reserve staff have been identified, trained and provided with appropriate certification. Trusts therefore need to develop and implement their planning in a timely manner, taking account of the fact that when the threat level escalates it is likely to do so quickly, allowing little time to bridge any gaps in planning. Trusts are therefore encouraged to make as much progress on planning as possible now. Planning will need adequate resourcing to enable this to happen.

2.3 Planning that is sensitive to local needs

Planning for an influenza pandemic should reflect the needs of the local population, including the population demographics, diversity needs, ethnic structure and geographic dispersion of residents. This will be particularly important for communications and access to services and treatment.

Key actions

- Plan together with other key stakeholders, in particular local PCTs, the LRF, local authorities, and other hospital trusts, including mental health trusts and the SHA.
- Plan flexibly but also at the upper range of possible attack, morbidity and mortality rates, published in the *National framework*. Assume that, at the peak of a pandemic wave, normal hospital bed capacity will be exceeded, in particular for level 3 critical care.
- Ensure that plans are timely. Optimum preparedness will take a considerable period to develop. When the pandemic threat escalates, it may do so rapidly, leaving little room to complete preparations.
- Plan sensitively to local needs. Use the national guidance documents to assist your planning, but apply and implement them according to local circumstances.
- Link plans to business continuity arrangements.

3 Minimising disruption to health and other essential services

Key points

In developing plans to minimise disruption to health and other services from an influenza pandemic, it would be advisable for trusts to consider the following elements of planning:

- Programme – influenza pandemic preparedness programme of planning – proactively leading and managing the process.
- Processes – organising and adapting health systems to provide treatment and support for large numbers suffering from pandemic influenza, maintaining essential care, prioritising patients and supporting essential services.
- Premises – buildings and facilities.
- Providers – supply chain, including outsourcing.
- People – roles and responsibilities, awareness and education.
- Trusts' responsibilities in limiting illness and death arising from infection and in reducing further spread of pandemic influenza.
- Providing treatment and care for those who become ill.
- Service image and reputation.
- Performance – benchmarking, evaluation and audit.
- Reducing disruption to society as far as possible.

Each of these is covered in more detail below.

3.1 Programme

3.1.1 Leadership

Overall responsibility for influenza pandemic preparedness within a health community rests with the PCT in conjunction with the LRF. It is essential that the trust is represented at a senior level within this process.

In response to an influenza pandemic, the trust will be involved at a strategic level and a tactical level, and will ensure delivery of its contribution to the overall operational response within a health community.

Trust plans should recognise this and demonstrate how they tie in with other components of the overall health community response.

Within the trust, the chief executive and the board should take overall control of the preparations being made to respond to an influenza pandemic. Whilst it may be appropriate to delegate the task of preparation planning, the chief executive and the board should retain an active interest in progress, and should be represented by a board member lead on the internal influenza pandemic preparedness planning group meetings. The chief executive and board should regularly monitor and review progress of planning, receive exception reports and ensure that arrangements are tested on a multi-agency basis with their PCTs and other relevant stakeholders.

3.1.2 Programme of activity

Trusts should ensure that they have a robust, project-managed programme of activity for influenza pandemic preparedness planning and response. The programme should have clear anticipated outcomes and interim outcomes, with dates of anticipated delivery and responsible individuals identified for each task. Action cards may be useful for aiding appropriate responses as the pandemic threat escalates.

Trusts will want to ensure that there is a reliable system for keeping the chief executive and board apprised of progress and for escalating involvement as the threat of an influenza pandemic increases.

3.1.3 Influenza pandemic preparedness planning group

Trusts should have an internal management steering and planning group to ensure that robust plans and preparations are being made. As a minimum, the membership of the group should include the following representation:

- influenza pandemic preparedness lead/planner/emergency planner
- infection prevention and control lead
- PCT representation (emergency planning, public health/health protection advice)
- clinical lead together with representation from emergency medicine and critical care as appropriate
- nursing lead
- pharmacy lead
- diagnostics (pathology/radiology)
- general management (operational)
- communications
- estates and security

- supplies and logistics
- human resources
- finance
- Staff side/union representation.

3.1.4 Partnership working

Generally, PCTs will take the lead in setting up a multi-agency planning group. Trusts should ensure appropriate level membership and representation on these groups.

In developing plans to prepare for and respond to an influenza pandemic, trusts will want to ensure that there are good partnership/multi-agency working and communications arrangements between different healthcare services and other local stakeholders, in order to ensure that responses are structured and cohesive. Trusts should ensure that the views of these stakeholders have been taken into account during the development of plans, otherwise there may be a danger of making planning assumptions that will not be sustainable in the event.

The Civil Contingencies Act recognises the requirement for LRFs. Working through the PCT, the LRF is the ideal multi-agency forum for trusts to participate in at this level of planning.

Trusts should participate proactively with other stakeholders in plan development. These should include:

- primary care commissioners and providers
- other secondary care providers in the locality
- ambulance trusts
- local authorities/social care
- other emergency services (eg police)
- business and voluntary sector
- private providers of care – hospitals/care and nursing homes
- community pharmacies
- education
- LRFs
- suppliers/contractors (including blood services).

3.1.5 Command and control

An influenza pandemic will place considerable demands on the coordination of responses to the emergency. It is vital, therefore, that trusts have clear arrangements for command and control.

Command and control systems ought to include representation from senior management (including operational delivery), medical and nursing, infection prevention and control and security.

Command and control systems will need to integrate and communicate with external stakeholder command and control systems, in particular PCTs, LRFs, Regional Resilience Forums, other trusts and local authorities.

Trust plans will need to identify clearly how these links will be made and who will be responsible.

3.1.6 Influenza pandemic plan activation

The decision to declare a pandemic (Phase 6) will be taken by the Government on receipt of advice from WHO. The UK alert level within Phase 6 will be decided by the Government. The decision will be cascaded at this point to trusts via the SHA/PCT.

Trusts should ensure that they have robust systems capable of receiving and acting on a decision to declare an influenza pandemic. In their planning for an influenza pandemic, trusts should ensure that there are nominated individuals in charge who can activate the hospital's influenza pandemic response. Trusts should ensure that these individuals can be readily contacted and that there are means of communicating the decision to frontline and other hospital staff, to activate the plan and respond appropriately.

In practice, it is likely that escalation of the planned response will evolve in steps over a number of weeks, as the pandemic threat and case presentation increase.

3.1.7 Internal reporting and authority systems

In an influenza pandemic, it is vital that there are robust reporting pathways to provide decision-makers with the information they need to perform their roles effectively. It is also vital that decisions and information can be cascaded to frontline staff effectively. Additionally, trusts need to have resilient systems for authority delegation. It is possible that those in a position of authority will also become ill or be absent and, therefore, command and control plans need to allow for this eventuality in order to enable decisions to continue to be made and resources committed. Trusts are advised that action cards could help to facilitate effective delegation.

3.1.8 Decision-recording systems

Clear recording of decisions taken will help avoid confusion and ensure consistency at a time of significant disruption. It is also important for trusts to have an audit trail of their command and control judgements.

As a minimum, these ought to include:

- the nature of the decision
- the reason for the decision
- the date and time of the decision
- who has taken the decision/authority designation
- the extent of consultation and advice from external stakeholders
- who was notified of decision made
- any review date set for revocation of the decision(s) where relevant. (Where decisions may have a major impact, trusts may wish to ensure that they are shared by at least two appropriate personnel.)

This list is not exhaustive. Trusts will wish to supplement it depending on their local circumstances.

The major incident team will need the support of trained, designated log keepers.

3.1.9 Information requirements

Trusts' command and control systems will need to be aware of the current pandemic phase and the local, national and international situation.

In order to maintain an effective response, the command and control system will need to collect a number of data streams. These will include:

- staff availability and illness in staff and volunteers (by hospital unit or specialty)
- number/rates of patients admitted or discharged
- case demographics and other underlying disease profiles
- assessment level of admitted patients
- bed capacity and occupancy, including critical care and length of stay
- general responses to treatment of pandemic influenza cases
- deaths

- core facilities status
- consumables – stocks remaining/utilities available/supply chain issues
- utilities
- financial impact.

This list is not exhaustive. Trusts will wish to supplement it depending on their local circumstances.

The Department of Health will, in due course, be issuing further guidance on the information that trusts will be required to supply centrally in the event of an influenza pandemic.

Trusts should endeavour to get real-time data in order to inform timely responses. (Data collection on the first few hundred cases of pandemic influenza in the UK will be crucial. The lessons learned from these may have a significant impact on the subsequent management of infected patients.)

3.1.10 Resource mobilisation

Trusts' command and control systems should be capable of rapidly redeploying staff and physical resources from non-vital activities in order to respond to an influenza pandemic. The systems should also be capable of supplementing these responses by drawing in other human resources (such as volunteers) and other material where available, eg through mutual aid arrangements. However, trusts must ensure that staff (directly employed or volunteer/reserve/recently retired) are *not* working beyond their competence limits.

3.1.11 Communications

Effective internal and external communications will be vital before, during and after an influenza pandemic. They will provide the backbone for a reliable and coordinated response. Trusts should ensure that their communications systems for pandemic influenza are developed in conjunction with their PCTs. As Category 1 responders, trusts have a responsibility to support PCTs in the provision of reassurance, advice and information to their local community, including for pandemic influenza, and to help foster a climate where normal activities continue as far as possible.

At present, there are many questions that cannot be answered until we know more about the influenza pandemic. Therefore, the development of communications will have to take into account many of these unknowns and deal with them effectively despite incomplete information. It is recognised that a wide range of groups at all levels will need accurate, timely and consistent information and advice.

It will be important for information to be cascaded in a coordinated and timely fashion between service providers in order to reduce the potential for confusion. Effective communications coordination may help to reduce local healthcare demands and minimise public anxiety.

Trusts will want to ensure that they have communications channels and tested mechanisms in place, which have been agreed with local stakeholders. They should ensure that:

- Communications roles and responsibilities between the trust, the PCT and other service providers are agreed.
- Internal and external communications channels are tested.
- Communications plans are in place, including identifying spokespeople who will be capable of effectively communicating (sometimes complex) messages to the media, public and staff. These spokespeople will need to be sufficiently briefed to ensure that answers are accurate and consistent with local, regional and national communications.

Trusts may wish to identify key communications leads for:

- updating local, regional and national authorities on surveillance and other public health issues
- clinical issues (possibly the medical director)
- media information.

3.1.12 Risk communication

Risk communication is an area that may warrant particular attention. Risk can be a difficult concept for many to understand and therefore effective explanation of the risks faced is particularly important. Trusts will wish to convey risk in a manner that does not create undue fear but provides sufficient information to allow individuals to prepare.

Disease outbreaks are inevitable and often unpredictable events. They are frequently marked by uncertainty, confusion and a sense of urgency or even panic.

Important goals for supporting the PCT in the handling of outbreak communication can be summarised as:

- Trust – communicate to build, maintain or restore public trust.
- Announce early – to prevent potentially frightening rumours and misinformation. Please note that the timing of announcements in the event of a pandemic will be determined at national level by the Department of Health and trusts will be alerted via their SHA communications lead.

- Transparency – helps inspire trust; communications must be honest, easily understood, complete and factually accurate.
- Allay the concerns of the public – accurate and timely information helps the public to overcome concerns and understand what they can do to protect themselves and their families.
- Plan – be prepared to answer questions such as:
  - What needs to be done?
  - Who needs to know?
  - Who is the spokesperson?
  - Which agency is the lead for communications?
  - Who needs to act?

3.1.13 Communications material

Utilising available national communications materials where possible, in support of and in conjunction with their PCTs, trusts should be developing plans in a timely manner for providing information to staff and to the public before, during and after a pandemic. Communications materials will need to be prepared and customised to meet the needs of the local situation. With their PCTs, trusts should also identify mechanisms by which these communications can be cascaded. Frequency of delivery should be determined.

3.1.14 Social responsibility

Social responsibility is another area requiring careful communication both to the public and staff members. If services are to remain as functional as possible, the public will need to follow advice on protecting themselves and their families, complying with public health measures, and when and how to seek medical advice or care.

Programme, key actions

- Ensure the organisation has senior-level leadership driving preparedness development.
- Develop a programme of activity, with key responsible individuals and delivery dates identified. Ensure exception reporting to senior levels, so that progress is monitored and corrective action taken.
- Ensure that the organisation has an active multi-disciplinary preparedness planning group.
- Work in partnership with other relevant organisations.
- Ensure command and control arrangements are robust.
- Ensure reporting and information systems are in place.
- Ensure resource mobilisation systems are in place.
- Arrange and agree communications plans and material with local PCTs.

3.2 Processes

3.2.1 Specific influenza pandemic plans for hospitals

Trusts need to be aware that their response to an influenza pandemic will be different from that of a normal commercial business and will require specific planning that will differ from the business continuity planning of a normal commercial concern.

All trust hospitals ought already to have business continuity plans as a systematic basis for managing the continuity of critical functions and the recovery of the hospital from disruption due to any emergency. These plans will help in preparing for and responding to an influenza pandemic, but they will be insufficient on their own.

Trusts will need to draw on their generic business continuity and major incident plans and generate specific plans that will enable them to respond to a prolonged influenza pandemic crisis.

Although normal services will need to be sustained as long as possible, there will come a point where activity has to change in order to deliver services to meet the threat, whilst at the same time maintaining critical functions. This will require a fundamental shift in care provision in order to meet the needs of large numbers of infected patients. This is, therefore, different from the management of a 'normal' emergency or business continuity issue and will require a step change in preparedness.

Trusts may find a number of guidance documents helpful, as listed below.

3.2.2 Useful guidance documents

The documents below are the current versions and may be subject to change or revision. Trusts should always ensure that they are working to the latest guidance available.

- Influenza planning guidance is available on the Department of Health website at www.dh.gov.uk/pandemicflu, including *Pandemic flu: A national framework for responding to an influenza pandemic* and *Responding to pandemic influenza: The ethical framework for policy and planning*.
- Cabinet Office guidance *Contingency planning for a possible influenza pandemic* is available at www.ukresilience.info/publications
- Business Continuity Institute and British Standards Institute guides to business continuity management are available at www.thebci.org/ or www.bsi-global.com/
- Emergency planning – a whole suite of documents provided by the Department of Health is available at www.dh.gov.uk/PolicyAndGuidance/EmergencyPlanning/fs/en
- *Pandemic influenza: Surge capacity and prioritisation in health services*
- *Pandemic influenza: Human Resources guidance for the NHS*.

3.2.3 Risk assessment-based planning

Planning for an influenza pandemic will need to be based on the systematic identification and assessment of the significant risks if the pandemic occurs. Identifying the risks threatening the performance of critical functions in the event of an influenza pandemic will enable trusts to focus resources in the right areas and develop appropriate plans.

Trusts should take a consultative risk assessment-based approach to planning in order to understand each of the risks faced, to set them in order of priority, to act on them accordingly and to evaluate progress towards achieving optimum preparedness.

A risk assessment grid framework tool will be a helpful way forward in developing this work. This should assess the likelihood of occurrence against the severity of impact to produce an overall risk score.

3.2.4 Reviewing and maintaining trusts' influenza pandemic plans

Trusts need to ensure that their influenza pandemic plans are reviewed regularly and kept up to date. Particular attention will need to be paid where changes have occurred to:

- staff infrastructure
- the trust's functions or services
- the trust's structure
- suppliers or contractors
- risk assessments
- business objectives or processes.

3.2.5 Key critical functions

An influenza pandemic will compromise the ability of hospitals to continue to provide normal services. As the threat of an influenza pandemic escalates, trusts must be capable of diverting resources to respond effectively to the emergency. Trusts will need to put in place measures to maintain critical health and critical non-clinical functions for several weeks at high levels of staff absenteeism.

Understanding the key critical/urgent functions of a hospital in a prolonged emergency is key to planning for an effective response. Prior to an influenza pandemic, trusts should develop an understanding of their life-saving and critical/urgent functions, their non-critical and non-life-saving functions, agree patient prioritisation protocols and the process by which they will be implemented. In the pre-surge phase (WHO Phase 6, UK alert levels 1, 2 and 3), activities will essentially focus on preparation, training/upskilling of staff and increased surveillance in anticipation of when pandemic influenza cases begin to occur in larger numbers locally. At WHO Phase 6, UK alert level 4 (where there is widespread influenza activity in the country), it is anticipated that even life-saving and critical activities will be difficult to sustain and so non-critical/non-urgent activities will have to be discontinued.

In response to either a national or local directive to curtail non-critical/non-urgent activity, it would be appropriate for trusts to develop a graded response to the increasing threat. Dependent on the number of cases occurring locally, curtailment could occur in stages. Prior agreement between the trust and its PCT(s) would be helpful in determining which activities (clinical and non-clinical) will be ceased when a given level of pandemic influenza cases occur locally. Trusts would need to translate this into operational guidance and disseminate this to relevant staff. To provide clarity, it is suggested that the functions are split into clinical and non-clinical support functions.

To support trusts with developing operational guidance and to ensure consistency, the Department of Health and the Scottish Government Health Directorate are developing frameworks to help planners and clinicians identify which are critical/urgent and non-critical/non-urgent activities.

3.2.6 Critical clinical functions

As the emergency escalates, some elective and routine clinical functions will have to be reduced as demands increase elsewhere (including some laboratory services). For example, at the earlier stages of local activity during the pandemic, it will be appropriate to cease many routine elective surgery and outpatient services. As events escalate it may be necessary to cancel all elective clinical functions and concentrate on expanding management of influenza emergency and non-influenza emergency and urgent/time-critical cases only.

3.2.7 Critical non-clinical functions

Non-clinical activities will be similarly affected by an influenza pandemic.

Examples of functions for which plans will have to be made regarding how they will change during a pandemic, include:

- maintenance and renovation
- catering
- cleaning
- records management
- information technology (IT) services
- waste handling
- security.

3.2.8 Working practices

Working practices will need to be flexible during a pandemic both to minimise the spread of disease and to mount an effective response despite potential staffing shortages.

Trusts will wish to help staff to work in different ways, such as by remote working or the use of flexible rotas.

The Department of Health will in due course be issuing guidance on the human resource management of an influenza pandemic. It would be advisable for trusts to consult early with their human resources advisers, staff associations and unions about

the need for additional flexibility during an influenza pandemic. In many cases, redeployed staff will require additional education and training to take on different roles. Please see section 3.5.9 on education and training for further information.

It may be possible for some functions to be provided by staff working remotely. This will be particularly relevant to the business units of trusts that do not require direct patient contact, such as finance, logistics and supplies procurement and other management aspects.

3.2.9 Impact of legal issues on processes

There are potential legal issues that may impinge on trusts' influenza pandemic plans. These range from regulatory matters through to concerns about staff undertaking different roles from usual to the levels of treatment that it may be possible to sustain.

The Department of Health is in discussion with the stakeholders concerned as to how these may be dealt with.

3.2.10 Hospital surveillance

The Department of Health is developing guidance on surveillance activity that health organisations including trusts should undertake during an influenza pandemic. More details will be available in due course. However, in the interim, trusts will need to assess their surveillance capabilities as detailed below.

In the pre-pandemic period, human avian influenza cases may present to hospital. Given the potential for an avian influenza virus to mutate to become a novel pandemic influenza virus, it is important that trusts can rapidly identify, diagnose, isolate and manage any cases of avian influenza in humans that may present to them, according to the Health Protection Agency (HPA) algorithm, available at www.hpa.org.uk

If an influenza pandemic arises, trusts need to ensure that they have robust systems capable of the rapid identification of potential first/new pandemic influenza cases in hospital, eg within the cohort of non-influenza cases and staff. This capability is particularly important in the early stages of an influenza pandemic so that initial cases can be rapidly identified and isolated from other individuals in order to try to prevent further spread. Hospital surveillance will also assist in bed and staff planning and may help detect subsequent influenza pandemic waves.

Trusts will need to ensure that their surveillance systems work effectively for the identification of those with influenza-like symptoms in all units, from accident and emergency (A&E) departments through to all clinical and non-clinical departments in the hospital. Surveillance systems will also need to be capable of detecting symptomatic staff, reserve staff and volunteers.

Trusts should consult the guidelines issued for the rapid clinical diagnosis of pandemic influenza cases (*Clinical management of patients with an influenza-like illness during an influenza pandemic*) from the British Infection Society, the British Thoracic Society and the HPA, available at www.brit-thoracic.org.uk/c2/uploads/pandemicflu.pdf

If a trust decides to adopt these guidelines for managing patients during a pandemic, it should ensure that they are approved by the internal trust clinical guidelines group.

Trusts should also have systems in place for referral of test samples to HPA laboratories.

The HPA will maintain a detailed database for the first several hundred cases and switch to aggregate surveillance data thereafter. Trusts will need to be able to provide the appropriate surveillance data for this.

If hospitals identify a possible case, they should ensure that the individual is segregated and staff are provided with appropriate protection.

Trusts will want to consult with their local public health colleagues for advice on planning their surveillance activity (supported by advice from the consultants in communicable diseases at the local HPA units).

Situation reports (SITREPs) will be required by local PCTs and the SHA and, although the minimum dataset to be collected has not yet been confirmed, local planners should be mindful of this and plan flexibly so that information can be gathered quickly. This will be used to monitor how health services are coping.

3.2.11 Mutual aid

An influenza pandemic is likely to affect many areas simultaneously and so the ability to provide mutual aid to and receive it from other providers will be limited. Hospitals will need to establish dialogue with the SHA, PCTs and other local/regional healthcare providers (NHS and independent sector) about providing mutual aid and support. The SHA should take the lead in managing this issue.

Elements of mutual aid provision that trusts will need to consider include:

- staff sharing (especially those with specific expertise, eg outreach specialist support for paediatrics)
- reserve staff allocation
- financial aid
- material resource sharing (clinical and non-clinical) and pharmaceuticals
- bed availability (especially critical care beds)
- transport
- other accommodation needs.

3.2.12 Independent sector

Whilst this document *Pandemic influenza: Guidance on preparing acute hospitals in England* is primarily aimed at NHS acute hospitals, the information will also have relevance to private hospitals and independent sector treatment centres.

The private and independent sectors and the NHS will desire to, where possible, cooperate and work in partnership in planning for and responding to an influenza pandemic. Trusts should include local independent sector providers (eg private hospitals, independent treatment centres) in their planning and exercise arrangements.

Independent sector hospitals could have a role in providing capacity, eg for emergency surgical procedures/critical care capacity, at the peak of an influenza pandemic. The logistical, human resources and financial implications will need resolving locally in a timely manner.

3.2.13 Voluntary sector

In conjunction with PCT partners, trusts will want to engage and plan in a timely manner with voluntary sector organisations, to establish what their role will be during an influenza pandemic. Trusts will need to identify:

- The current roles undertaken for them by the voluntary sector and how these will be managed (expanded/scaled down/suspended) during a pandemic (such as patient transport).
- Additional roles the voluntary sector could assist with during the emergency, such as providing support to vulnerable individuals/groups, assisting people to be managed in the community rather than in hospital.
- The resources the voluntary sector will require from the trust, such as personal protective equipment (PPE) provision, in order to fulfil the agreed roles during a pandemic.

Trusts will want to ensure that planning with the voluntary sector is coordinated carefully with other partners by establishing timely dialogue with relevant stakeholders. This should help to ensure that volunteer availability is not over-estimated/double-counted and allow the voluntary sector to review what it can provide.

3.2.14 Operational feasibility, contract and service level agreements

An influenza pandemic will place considerable strain on the capacity to deliver emergency and routine functions. Trusts should use the provisional surge management and prioritisation guidance to inform their plans and responses as the pandemic threat increases or knowledge improves.

Prior to a pandemic occurring, trusts should consider which contracts will need to be suspended or renegotiated. Trusts should not, however, destabilise other organisations they have contracts with. It would also be sensible to build into any new contract or service level negotiations contingencies for emergencies in general and pandemic influenza in particular. In addition, there may be new contracts or service level agreements that will be necessary in an influenza pandemic and, therefore, where possible or relevant, these should be negotiated in advance.

3.2.15 Medical records

Trusts should ensure that medical records systems and processes continue to function as normally as possible during an influenza pandemic in order to ensure patient safety, quality of care, the development of a care audit trail and the fulfilment of legal obligations.

3.2.16 Diagnostic facilities

Diagnostic facilities are likely to come under considerable strain in an influenza pandemic. Diagnosis of influenza cases by virological testing is only likely to be necessary or possible at the early stages of a pandemic. As the clinical presentation of the new pandemic virus becomes established, influenza diagnosis is likely to need to be more empirically based. Nevertheless, other laboratory and diagnostic facilities will still be needed, such as haematology, biochemistry and radiology. Trusts will need to consider how they can preserve essential laboratory, radiology and other diagnostic services, and how surge capacity will be provided.

The safe transport of specimens from on and off site to reference laboratories will need to be arranged.

3.2.17 Role of hospital pharmacies during an influenza pandemic

In the event of a pandemic, the focus of hospital pharmacy services may need to change in order to adapt to different prevailing circumstances. An extension of medicines management services may be necessary to ensure continuity of acute care, to reduce routine demands on medical and nursing colleagues and to contribute to the support for specific groups of patients who would normally be treated in hospital. In all situations, hospital pharmacies will have a key role in doing everything possible to facilitate the best use of available resources by:

- ensuring appropriate use of patients' own medicines during their admission
- advising other clinicians on decisions about medicine use and supporting inpatient care through clinical pharmacy and medicines management activities

- facilitating timely discharge of patients with adequate supplies of medicines and encouraging appropriate self-care during the pandemic
- managing logistical problems to support patient care and maintain confidence in the medicines supply chain
- continuing as far as possible the supply and management of medicines under existing service level agreements to other settings and providers (eg mental health trusts, independent hospitals etc)
- contributing to infection prevention and control measures and public health messages to help reduce the spread of influenza.

Medicines management during a pandemic may extend to therapeutic substitution. Pharmacists are well placed to advise on the selection of safe and effective alternatives to medicines that may not be readily available.

Hospital pharmacies will need to respond to different workload patterns during a pandemic; this may mean delivering a flexible, comprehensive approach to the initiation of appropriate treatment with medicines and their supply and dispensing, whilst medical and nursing staff focus on the acutely ill. The NHS preparative units that have been identified to prepare oseltamivir solution will be focused on delivering this commitment.

As a pandemic progresses, routine activity in support of elective admissions and care of outpatients is likely to be curtailed. Clearly defined, centrally agreed, temporary variations of certain legal, professional and ethical guidance may be sanctioned. Detailed information about any such variations will be available at the time. Hospitals will have developed their own service continuity plans, but in this situation may wish to consider:

- Identifying opportunities for pharmacists to assume responsibilities (eg discharge transcribing/prescribing) normally undertaken by other staff who may not be available.
- Mechanisms for dealing with an increased number of enquiries from patients and members of the public, including signposting to nationally available information resources.
- The potential for specialist clinical pharmacists to support the care provided to their patients outside the hospital setting by colleagues in primary care and community pharmacy.
- The management of issues that could arise if continuity of care normally provided through third parties, such as homecare suppliers, is interrupted.
- Maximising skill mix in the delivery of core functions to enable pharmacists to concentrate on patients with complex medication problems.

- Flexible working arrangements and scope to support the work of other hospitals in the area depending on staff and transport availability.
- A graded approach to service configuration, based on the skills of available staff, to ensure a proportionate response to the severity of an influenza pandemic.
- Consolidation of resources to maintain effective operation of the pharmacy service.
- Providing timely training in order to underpin the most flexible possible use of staff during a period of severe workforce shortage.

3.2.18 Finance/targets

The Department of Health is aware that an influenza pandemic will have a considerable impact on the normal operational functioning of hospitals at a time when there will be additional calls on financial resources, thus affecting cash flows. Until the dynamics of an influenza pandemic are clear, it is not possible in advance to specify precisely what action the Government will take on suspending or modifying operational or financial target requirements. However, trusts can be guided by the planning assumptions listed in the *National framework* for an indication of the scale of the likely pandemic and therefore the likely effect on their ability to maintain existing services and reach current targets. Trusts should be assured that the Department of Health would not wish them to be making unilateral decisions on targets and so would provide a timely decision in the event of a pandemic.

The *NHS in England: operating framework* sets out the national service priorities for the NHS. Decisions about how to implement the *National framework* are the responsibility of the local NHS. The operating framework sets out a specific role for the SHA in identifying exceptional circumstances when parts of the framework can be suspended for a fixed period of time, with the same discipline and rationale as for special circumstances.

Responding to pandemic influenza: The ethical framework for policy and planning provides the principles that will guide the NHS in implementing not just the specific responses to an influenza pandemic but also decisions about normal business, such as implementing the operating framework, including making local decisions about clinical and service priorities. It is the responsibility of the local NHS proactively to balance the needs of patients and the public who have health needs connected/not connected to an influenza pandemic, as one of the principles is to keep matters in proportion.

The SHAs, working with the Regional Government Offices, have a specific role in providing local leadership, offering advice and support, and for coordinating services and providing strategic direction and leadership during an influenza pandemic in line

with *The NHS Emergency Planning Guidance 2005*. Thus, SHAs will need to oversee influenza pandemic planning, ensuring that it is robust, and to use their responsibility for special/exceptional circumstances to make decisions during an influenza pandemic, when strategic level (Gold) control discipline is in place, in the light of the information available about which services should receive priority and which targets and standards can be explicitly suspended whilst maintaining internal NHS bodies' governance arrangements.

These decisions will need to be confirmed with the Department of Health, which will discuss the effect of the circumstances on the Annual Health Check with the Healthcare Commission, and liaise with Monitor where there is an impact on foundation trusts.

Processes, key actions

- Utilise key national documents in developing planning.
- Develop planning according to risk assessments.
- Ensure plans are regularly reviewed and updated.
- Establish what are the organisation's key critical functions, clinical and non-clinical.
- Review working practices, to ensure suitability for responding to an influenza pandemic.
- Ensure surveillance systems are in place.
- Develop mutual aid arrangements.
- Plan with other providers, including the independent sector.
- Review relevant contracts and service level agreements to ensure they can meet the challenges of a pandemic situation.
- Review diagnostic service provision.

3.3 Premises

Physical hospital capacity will come under severe pressure during an influenza pandemic, especially in the peak stages. This section highlights the issues for trusts and their premises during an influenza pandemic.

3.3.1 Emergency departments

Trusts are advised to refer to the section on A&E departments in the *National framework*.

Trusts need to work with their partner PCTs to ensure the message to the public is that if they are ill with symptoms suggestive of influenza, they should remain at home and access advice and treatment by telephone through the National Flu Line service and not attend their general practice or A&E department unless the triage by the National Flu Line service indicates a complication needing further assessment by a healthcare professional and they are advised to attend. (The only exception to this would be in a life-threatening emergency, in which case the public would be advised to call 999 in the usual way.)

It is possible that, despite advice to stay at home when symptomatic and seek help by telephone, patients may still self-refer to the A&E department. Trusts therefore need to plan for and be capable of responding to a sustained surge in pandemic influenza cases attending A&E departments and have systems in place for handling such occurrences. Trusts should plan how they will provide for large numbers of individuals arriving (self-presenting, referred or by ambulance) and waiting to be seen and assessed. Reception and assessment areas will need to be designed to minimise the exposure of staff to risks from a pandemic influenza virus, eg by the use of screens or telephone interaction systems. As far as possible, to minimise infection transmission risk, where a patient with pandemic influenza warrants admission and there is available bed capacity, the patient should be transferred straight to the segregation ward. Where patients self-referring are presenting with uncomplicated influenza, trusts will need to signpost these individuals to the National Flu Line service for accessing their assessment and treatment, in order to enable the hospital to concentrate on providing care to those in greater need of their skills. Access control may be required to encourage patients to access care in the most appropriate way. Trusts will need to plan with their primary care stakeholders on how individuals will be redirected.

In the interests of infection prevention and control and the efficiency of patient flows, trusts will need to separate emergency cases immediately into influenza and non-influenza patients as far as is practicable. The document: *Guidance for pandemic influenza: infection control in hospitals and primary care settings* provides comprehensive guidance on designing service provision to separate pandemic influenza cases from non-pandemic influenza cases. Trusts should consult the document when planning their arrangements. It is paramount that separation occurs as rapidly as possible on presentation to hospital to prevent the two groups mixing and cross-infection occurring. Plans therefore need to make provision for space to deal with these groups separately, from access (including for ambulances) through to imaging and diagnostics and assessment and admission. The separate areas will need appropriate equipment provision for the tasks required.

The need to handle large numbers of emergencies separated into influenza and non-influenza cases will be logistically difficult for many trusts and therefore needs detailed planning well in advance of an influenza pandemic in order to achieve as practical a solution as possible. Trusts will need to assess the number of patients they are likely to receive and handle through A&E departments (based on published ranges) and plan accordingly.

Trusts will need to ensure that where planning necessitates alternative facilities, these are capable of providing the function required (eg medical gas supplies, power supplies and access for ambulances).

3.3.2 Additional beds: general and critical care

Bed demand will increase substantially during an influenza pandemic. Most hospitals already operate at high levels of bed occupancy. Modelling suggests that at some stages during an influenza pandemic, particularly if the attack rate is high, there will be insufficient bed capacity on the basis of normal bed availability. This is particularly the case for level 3 critical care beds, adult and especially paediatric. There are no easy answers to this problem. Trusts are best placed to review their local circumstances and will need to consider in a timely fashion how they will expand these facilities, bearing in mind the clinical, equipment, staffing and infection prevention and control requirements for providing possible additional beds. A substantial reduction in elective activity and cancellation of non-critical outpatient activity will create capacity, but trusts should be aware that the availability of staff and specialist equipment will also impact on bed availability. Trusts should assess the likely range of additional beds they will need according to possible influenza attack rates. Trusts need to plan their capacity on the basis of separating or isolating the cohorts of non-influenza and influenza cases (as far as is practicable). Capacity will be freed up by cancelling routine admissions as the threat of an influenza pandemic escalates. Trusts should assess and plan for how much additional space they can release by this means.

Guidance on the provision of critical care where capacity is likely to be exceeded will be published in due course. It will be of use to planners for preparing for an influenza pandemic also. Once available, trusts will need to utilise the guidance in planning to optimise their critical care capacity. Additionally, as already mentioned, work by the Department of Health and Scottish Government Health Directorate will help trust managers and clinicians to deal with the surge in demand. This work is examining which services are critical and will need to be maintained, and how patients should be directed for assessment and treatment during an influenza pandemic to take account of the expected demand and pressure on services (patients both with and without influenza symptoms). Provisional guidance will be available in due course.

Recommissioning redundant facilities may be possible, providing staff are available, although there are cost implications to this. These facilities will take time to reactivate,

so the process will need to start prior to the pandemic occurring. Trusts will want to consider how this can be done rapidly and safely, taking into account the likely speed of evolution of a pandemic. There may be health and safety and infection prevention and control issues about reusing decommissioned facilities, and these will need to be considered and mitigated.

Trusts should consider whether there are other areas that can be safely converted into ward areas. These sites may presently be limited by, for example, access to medical gas, air, suction, power and infection prevention and control requirements but, by planning and making provision at an early stage, it may be possible to ensure that these facilities can be provided rapidly when required. Facilities will also need to be capable of being cleaned readily, and staff and patients must have access to sufficient toilet and bathroom facilities.

3.3.3 Other accommodation requirements

Apart from handling emergency cases, hospitals will need to plan and make accommodation provision for other needs, including those listed below. Accommodation arrangements for those suggested below will need careful planning to avoid inadvertently increasing the risk of infection transmission, eg between patients' relatives, media personnel or staff.

- Management command and control – These facilities will need to provide space for meetings, including tele- or video-conferencing, with IT and telecommunications links. Although it is expected that, during a pandemic, telecommunication services will maintain a near-normal service overall, it is possible there could be local disruption to electronic communications. Trusts' plans will want to take account of this possibility.
- Call handling – Although the Department of Health is working nationally to optimise telecommunications systems to direct the public effectively during an influenza pandemic, it is nonetheless possible that not all callers will use or comply with these systems. Hospitals will probably receive greater numbers of calls than usual seeking advice or making other enquiries. Trusts will need to ensure that their telecommunications systems are capable of dealing with call surges.
- Communications – There will be considerable media interest in pandemic influenza cases, particularly in the early stages. Trusts will need to ensure that they have facilities allowing communications with the media to take place.
- Rest areas for staff – Staff and volunteers are likely to be working under considerable pressure and will need areas for rest and to obtain refreshments. Trusts will need to consider the accommodation, rest and refreshment needs of staff or volunteers who are unable to return home, eg due to disruption to

transport links or movement restrictions or work responsibilities. Staff are also likely to be relocated from their usual places of work, and volunteers will need receiving and directing. Facilities for providing for these staff and volunteers and for organising their deployment to where the work is needed will therefore be required.

- Rest areas for patients' relatives.
- Mortuary facilities – There is a high risk that existing mortuary facilities will be overwhelmed by an excess number of deaths. Simultaneous delays in funeral arrangements are also likely. National discussions are ongoing over the handling of the potentially large number of deaths expected. However, trusts need to ensure that their mass fatalities plans are capable of handling large numbers of bodies over a prolonged period, and that these plans take account of the differing cultural, religious and spiritual beliefs of the population. Allied to the possible increased numbers of deaths, there are likely to be many distressed relatives who will need help. Facilities will need to be made available for handling them. There may be some antisocial responses from some people. Trusts should ensure that there is provision for dealing with such instances.

  Trusts should, in advance of an influenza pandemic:

  – review national guidance on handling mass fatalities/casualties and apply this appropriately in accordance with local circumstances. The local authority will have lead responsibility for planning for large numbers of dead. However, trusts through their PCT should agree with the local authority and other relevant local stakeholders (eg coroners, death registrars and undertakers) how the eventuality of large numbers of dead occurring in an influenza pandemic might be handled in operational terms

  – assess how existing capacity for refrigeration of the deceased will be expanded and identify other local facilities that may be accessed in difficult circumstances. Trusts will need to work closely with their PCTs and local and regional authorities on this issue.

3.3.4 New premises development/refurbishment

In any new development work (either new build or refurbishment), trusts should consider the need for handling future emergencies, including a pandemic, and the need for reallocation of physical facilities. Therefore, trusts will want to consider at the design stage how the new or refurbished facility could fit into, or be reallocated to, emergency use. As an example, this might include providing additional power, medical gas and suction supplies, to allow an area to be reassigned as an extra critical care unit in an emergency.

3.3.5 Security considerations

An influenza pandemic may result in some civil disturbance. Trusts need to consider how they can continue to provide services whilst keeping patients and staff safe. Particular issues that need addressing are:

- keeping influenza and non-influenza cases separate for as long as possible
- redirecting cases more suited to assessment and treatment away from hospital to the community
- security of limited supplies – especially medications and vaccines
- public order issues when faced with potential overcrowding or population panic
- violence (threatened or actual against staff)
- security issues over access to the hospital for treatment
- security issues over access to PPE
- general hospital security.

Trusts will need to work with local authorities, police and security providers in developing their security plans.

Security staff will also have their own specific needs for PPE (ie protection against violence and also infection).

NHS trust security management directors are advised to liaise with their local security management adviser from NHS Security Management to plan security provision during an influenza pandemic.

Premises, key actions

- Plan how the A&E department will function during an influenza pandemic.
- Review available bed capacity and make additional provision as far as safely possible, in particular taking into account infection prevention and control needs.
- Ensure that other accommodation requirements are met, again taking into account safety and infection prevention and control needs.
- Consider emergency needs during any new/redevelopment work.
- Ensure that security arrangements are robust.

3.4 Providers

3.4.1 Consumables, general logistics and supplies

Modern supply chain networks are complex and highly interconnected. The commercial imperative also means that most operate on lean principles and therefore have little reserve capacity to cope with any disruption. Most trusts also do not have extensive stockholdings. 'Just in time' resupply systems, whilst making financial sense, are vulnerable from a resilience perspective. Supplies of some consumables, in particular specialised medical/protective equipment, may be compromised because of abnormally high demand levels or supply chain disruption during an influenza pandemic, especially at its peak. Trusts are advised to take account of the advice set out in the section on UK planning presumptions in the *National framework* (particularly with reference to utilities and food). Trusts will need to plan for how they will cope under these circumstances and what they can do to mitigate such an event.

Trusts should consider what their key vital supplies are/what is likely to be required to meet the surge in demand for emergency medical care, and should make provision for these items.

As part of this work, trusts will need to seek reassurance that suppliers have robust business continuity/contingency plans to continue supplying their services in a prolonged emergency. Even where suppliers can give such assurances, the generalised effect of the emergency will impact on their resilience. Where suppliers cannot provide adequate assurances or items are of particularly critical importance, trusts should make provision by increasing holdings to increase resilience.

There are a number of key groups of supplies that should be considered, listed below. This list is not exhaustive, and it will need to be supplemented by the trusts according to their own local needs.

Supply grouping	Examples
Utilities	Water, fuel (for heating and vehicles), electricity, telecommunications (including emergency back-ups)
Food supplies	General food supplies, special foods – eg baby food/milks/specialist milks/food replacements such as parenteral nutrition
Linen	Bed linen, gowns, uniforms, shrouds
Consumable medical items	Dressings, ventilator tubing, endotracheal tubes, syringes, intravenous catheters, surgical stitches, imaging consumables, masks, PPE

Non-consumable medical items	Ventilators, monitors, imaging equipment
Consumable non-medical items	Hand-washing soaps, cleaning liquids, essential maintenance items, vehicle parts, waste disposal bags, air filters
Non-consumable non-medical items	Cleaning equipment, bedding, vehicles
Sterile supplies	Surgical operating packs, sterile gowns
Pharmaceuticals	Oxygen and anaesthetic gases, anaesthetics, antibiotics, other essential medications (the Department of Health is separately considering how to maintain these supplies in a pandemic and also the development of additional stocks of critical medications including antibiotics)
Blood and related supplies	Plasma, red cell packs, platelets, Factor VIII, albumin, bone and skin grafts
Record keeping/information supply	Paper notes supplies, prescription and monitoring sheets, hospital IT systems – back-up and support
Laboratories	Test reagents, sampling devices/tubes, test request forms

It is likely that suppliers' staff absences will be at their maximum during and just after the peak of an influenza pandemic wave and therefore supplies will be most compromised around this time.

Trusts will also need to ensure that transport arrangements for supplies and consumables are robust. Where possible, stores that the trust directly controls should be suitably placed to minimise transportation.

3.4.2 Holdings inventory (including specialist consumables and equipment)

Trusts should have and keep up to date an inventory of consumables and equipment that will be needed during an influenza pandemic, especially specialist equipment. Trusts will need to model specific inventories according to local requirements, based on a range of influenza pandemic attack rates. Trusts will also need to determine at what point they will begin ordering additional reserves. Where there is a reserve stock of equipment not in general use, the inventory will need to indicate the serviceability and recommissioning status of these items. (This will be particularly important from a patient safety/infection prevention and control and staff health and safety perspective).

Trusts will need to discuss with their suppliers how such inventories can be most cost-effectively developed and stored. As long as suppliers can provide robust business

continuity reassurances, it may be appropriate to negotiate with suppliers so that they develop and hold these stocks, as they may have greater storage capacity than most trusts and may be more able to ensure stock rotation to comply with expiry dates. However, where a supplier is unable to provide such assurances, trusts may choose to store the inventory or negotiate with an alternative supplier able to provide a business continuity guarantee. Nevertheless, suppliers are unlikely to be able to predict accurately the effect of an influenza pandemic on their ability to sustain supplies, so trusts will need to interpret their business continuity assurances with caution and plan accordingly.

Trusts should ensure that they have robust supply (medical and non-medical) tracking systems to enable deteriorating stock positions to be readily highlighted. It would be advisable for trusts to have contingency plans in place for managing the situation when the availability of specific supplies becomes limited.

Contracts with suppliers should include specification on the level of service to be maintained in the event of an emergency of any sort, in particular a prolonged emergency such as an influenza pandemic. This may necessitate revisiting existing contracts and renegotiating them where necessary to include specifications for continued supply in a long-lasting emergency, and also ensuring that, where relevant, all new contracts take supply maintenance in a prolonged emergency into account. Specifications should allow for surge provision.

Trusts should ensure that their systems are capable of receiving, storing and distributing any share of nationally held stocks they may be allocated.

3.4.3 Blood and associated services

3.4.3.1 Blood supplies

The supply of blood and blood components may be compromised as the pandemic threat escalates, until after the wave passes. Blood donation rates may be lower than usual and will not meet normal demand. However, in partnership with the NHS, the National Blood Service has developed arrangements for shortages which will be escalated as required in an influenza pandemic dependent on actual and projected available supply (further details are available below). The plans require elective medical and surgical activity to be tailored to match supply. Trusts should ensure that they have management arrangements in place to ensure that these plans can be escalated as required.

The UK Blood Service's plan is available at
www.blood.co.uk/hospitals/library/pdf/MPD_PTI_DI_010_01.pdf

Emergency planning: Development of an integrated plan for the management of blood shortages (NHS Gateway reference 3344) is available at
www.dh.gov.uk/assetRoot/04/08/59/91/04085991.pdf

An integrated plan for the National Blood Service and hospitals to address platelet shortages (NHS Gateway reference 6514) is available at www.dh.gov.uk/assetRoot/04/13/91/57/04139157.pdf

3.4.3.2 Blood donation

Trusts may be contacted by members of the public wishing to donate blood. In order to reduce the risk of shortages it would be helpful if trusts could ensure that their reception and call-handling staff are able to direct enquiries to the National Blood Service helpline on 0845 7 711 711 or via their website at www.blood.co.uk

3.4.3.3 Tissue supplies/UK Transplant

The supply of tissue products (eg skin, bone, amnion, corneas) used as life-saving or significantly life-enhancing grafts may become compromised due to the potentially reduced donation rates associated with a pandemic threat. Trusts should continue to have in place their arrangements for the referral and retrieval of tissues. Plans should support the continued practice of potential donor referral from the deceased, and maintain access arrangements to mortuaries for retrieval teams. In addition, where there are living donor programmes in place and where elective surgery continues, bone donation should also continue.

UK Transplant will continue to provide core services for the registration of patients and the allocation of donor organs. Due to the impact on the wider health service, it is likely that the availability of staff to carry out retrievals and transplants will be reduced, and the availability of critical care facilities for the treatment of transplant patients is likely to be severely restricted. However, UK Transplant is aiming to support whatever level of organ transplant services it is possible for the wider NHS to maintain.

3.4.3.4 Stem cell and diagnostic services

The National Blood Service and others provide stem cell and diagnostic services to hospitals. Wherever possible, these services will continue uninterrupted. Advice from the service provider should be sought and careful decisions taken before treating new patients to ensure that there is confidence that these services plus adequate transfusion support are available, in order to minimise the risk that patients might be compromised mid-treatment. Where a normal service is not possible, these services will need to be prioritised according to clinical need.

Providers, key actions

- Take account of the planning presumptions on supply availability in *Pandemic flu: A national framework for responding to an influenza pandemic*.
- Review the likely impact of an influenza pandemic on consumables and supplies availability. Plan for how the organisation will manage if supplies become compromised. Make provision as appropriate.
- Develop a holdings inventory.
- Review blood and tissue supplies/services.

3.5 People

The Department of Health is working with NHS Employers to produce detailed guidance for human resources management during a pandemic, which will be made available in due course.

3.5.1 Staffing

The availability of sufficient human resources is critical to the maintenance of any hospital service. Therefore, planning to maximise utilisation of available staffing levels should be a key focus for pandemic influenza preparedness. However, planning should not be done in isolation and should engage with other parts of the healthcare economy locally to optimise staff availability.

Workforce planning will need to be jointly delivered between influenza pandemic emergency planners, human resources teams, the executive team and business unit heads in conjunction with other health and social care partners in the local area.

Planning should focus on the following groups of staff:

- those performing tasks that would be essential during a pandemic (clinical and non-clinical)
- those performing tasks that would be non-essential during a pandemic (clinical and non-clinical)
- managerial
- voluntary
- external contractors
- other reserve staff pools.

Key elements to consider in relation to planning for these staff groups are:

- mapping directly employed staff groups
- mapping reserve staff, including volunteer and externally contracted staff
- staff location audit
- normal operational staffing levels
- minimal staffing levels
- staffing situation representation
- skills audit
- roles during a pandemic/redeployment
- staff absence from work – including the management of sickness, in and out of work, and staff absence for other reasons
- ethical and professional obligations of staff during an influenza pandemic
- staff discipline, including the handling of suspended staff
- supporting staff and the provision of support to relatives and dependants of staff
- payment of reserve staff and volunteers
- contracted hours and the European Working Time Directive
- occupational health
- restriction of deployment of potentially infected staff, reserve staff and volunteers
- health and safety/risk mitigation
- regulatory issues
- indemnity
- certification
- criminal Records Bureau (CRB) assessment of staff, reserve staff and volunteers
- education and training.

Most of these areas will be addressed by the forthcoming *Pandemic influenza: Human Resources guidance for the NHS* from NHS Employers. Additional comment on several of the aspects listed is also made below.

3.5.2 Skills audit and roles during a pandemic/redeployment

In preparation for an influenza pandemic, trusts will want to know what pool of skills they have at their disposal from their employed, reserve and volunteer staff so that redeployment can be planned to best effect. It is likely that, from a clinical perspective, key skills required for handling pandemic influenza cases will include (although this list is not exhaustive):

- emergency care
- critical care skills
- basic nursing care
- medication handling
- infection prevention and control
- venous access
- basic respiratory care/monitoring
- advanced respiratory support/monitoring
- care of older people/paediatric care
- advanced nursing car
- anaesthesia
- cardiology
- neurology
- gastroenterology
- pharmacy
- counselling
- basic imaging
- laboratory (biochemistry/haematology/microbiology/virology)
- pathology/mortuary.

Trusts will, according to their local circumstances, need to supplement this list with the skill sets required to treat non-influenza emergency cases.

Non-clinical key skills required during an influenza pandemic include:

- catering
- food handling

- maintenance and engineering
- transport
- records handling
- IT
- logistics/stores handling/requisitions
- finance
- security
- linen handling
- waste disposal – clinical and non-clinical
- telephony/call handling
- chaplaincy and other religious support facilities.

Understanding what skills staff have over and above their usual functions will help in redeployment during an influenza pandemic. It will also help in the development of training programmes prior to and as an influenza pandemic develops in order to maximise staff preparedness. Trusts will want to be confident that staff taking on new or different roles during an influenza pandemic are competent to do so. Trusts will need to use their local discretion as to how to gain this assurance, but competence assessment may form part of this.

Prior to an influenza pandemic, it is suggested that trusts plan what roles they will require redeployed, reserve and volunteer staff to undertake should an influenza pandemic occur. Clarity to this process will be facilitated by mapping what roles these groups of staff will need to undertake, according to the stage of the emergency and the epidemiology of the emergent influenza pandemic virus. These plans will need to be flexible to take account of changing circumstances.

NHS Employers will be publishing guidance on the human resourcing aspects of influenza pandemic preparedness. This will give more specific advice on how staff planning can be achieved.

3.5.3 Staff availability/absence

Staff absence during an influenza pandemic is expected to rise to between 15% and 20% during the peak of the pandemic wave and up to 30–35% in small units, but could be up to 50% over the course of the whole emergency.

Trusts will need to factor into their staff planning the likely absence levels due to sickness, carer responsibilities and the impact of the anticipated closure of schools.

There are no easy answers to resolving the likely shortages of staff during an influenza pandemic. Although it is likely that trusts will be able to recruit some volunteers/reserve staff from health workers who have recently retired or are not currently working, this may not be sufficient to bridge the gap. Trusts will therefore have to make difficult decisions over which services they protect and maintain with the staff they have and those services that have to be scaled back/suspended. Forward planning in a timely manner would facilitate a smoother human resource response to the emergency.

3.5.4 Ethical and professional obligations of staff during an influenza pandemic

An influenza pandemic will put staff under considerable pressure. There are likely to be conflicts between staff's professional or contractual obligations, their personal or family responsibilities and concerns about the risks they are exposed to by caring for patients suffering from pandemic influenza. Trusts will need to work with staff to explain what will be considered appropriate professional practice during an influenza pandemic.

Trusts will want to refer to *Responding to pandemic influenza: The ethical framework for policy and planning,* available at www.dh.gov.uk/pandemicflu

3.5.5 Occupational health considerations for pandemic influenza planning and response

In carrying out business continuity planning, trusts will wish to consider how best to support the Government's efforts to reduce the impact of an influenza pandemic by taking all reasonable steps to ensure that employees who are ill or think they are ill during an influenza pandemic are positively encouraged not to come into work. Personnel policies may need to be reviewed to achieve this aim. Trusts will therefore need to have systems in place for identifying staff who have or may have influenza-like symptoms before they arrive at work. They will also need arrangements in place for handling staff who become ill with influenza-like symptoms whilst at work.

The Department of Health's *Guidance for pandemic influenza: Infection control in hospitals and primary care settings* provides detailed advice on the deployment of staff during an influenza pandemic, from the perspective of infection risk. This covers the management of infected staff, through to the deployment of those with particular vulnerability to influenza and those who have recovered from infection. Trusts are advised to consult the guidance above and plan their staff deployments accordingly. It is particularly important that the confidence of staff is maintained by trusts by ensuring that adequate PPE is supplied to and used by staff (regardless of whether or not they have had the pandemic influenza infection), that they are trained in its use and that their wider health and safety needs have been considered and addressed. Ensuring that employers and employees are made aware of government advice on how to reduce the risk of infection during an influenza pandemic is important.

In addition, trusts will need (as necessary) to be aware of, and plan for, the consequences of measures that the Government may conclude are necessary to control or delay the spread of the disease, which may result in additional staff absence from work (in addition to increased parent-worker absences arising from possible school closures). (Further information is available in the *National framework.*)

As part of the preparation for an influenza pandemic, trusts need to ensure that they can:

- monitor and encourage the uptake of seasonal influenza vaccine by staff
- monitor and encourage the uptake of pneumococcal vaccine by staff deemed to be at particular risk of pneumococcal infection.

3.5.5.1 Delivery of pre-pandemic vaccines to healthcare workers

Key points

- Anticipating a suitable vaccine strain has the inherent risk of it being ineffective against the ultimate pandemic strain.
- The UK has limited stocks of an A/H5N1 vaccine purchased specifically for the protection of healthcare workers.
- Immunisation of the pre-pandemic vaccine will be employer led.

This plan assumes that arrangements for pre-pandemic vaccination of frontline healthcare workers might be necessary and outlines the practical arrangements for this.

Further guidance is required to clarify the definition of frontline healthcare worker and therefore this section currently only gives guidance on the provision of vaccination for staff employed by NHS trusts. Given sufficient additional stocks, a suitable vaccine could be used to provide partial protection for other workers likely to be frequently exposed to symptomatic patients or key staff crucial to the maintenance of essential services. This is currently under review.

Occupational immunisation is primarily an employer responsibility. Employer-led immunisation allows more accurate identification of the occupational status of individuals and also has the practical advantage that there are already systems in place for healthcare workers to be immunised against seasonal influenza. These systems will need to be strengthened, bearing in mind that uptake of seasonal influenza vaccination in healthcare workers is usually not high. Employers will also be responsible for ensuring data are provided on vaccine uptake in their staff.

3.5.5.2 Immunisation of NHS trust-employed healthcare workers
NHS occupational health departments should provide the professional lead in planning for, and ensuring the delivery of, immunisation to those NHS staff groups for whom they are responsible.

NHS occupational health departments will need to ensure that:

- staff are clearly identified by their occupation, and all necessary details recorded
- if national policy requires it, staff are immunised in priority order
- preparatory planning considers all the practical issues involved, including the need for enhanced vaccination capacity.

3.5.5.3 Adequate capacity for immunising NHS trust-employed healthcare workers
Several practical issues need to be considered at the preparatory planning stage when planning for the pre-pandemic immunisation of healthcare workers employed by NHS trusts. The need for an adequate number of staff to provide this service, particularly trained vaccinators, is crucial. It may be necessary to enlist support from groups such as recently retired staff and nurse managers who are in non-clinical roles. Nursing staff who normally provide routine services might also be an appropriate group to call upon. The training needs of these staff groups will need to be considered.

Clerical support to the vaccination team is vital, and clerical staff may be redeployed from other services. The training needs of support staff should also be considered.

The occupational health department should liaise with organisations such as the Hospital Volunteers or League of Friends, who may be able to provide valuable help in clinics by greeting staff attending for vaccination, handing out forms, providing refreshments, and performing other routine tasks.

3.5.5.4 Choice of clinic location for NHS trust staff
In deciding where vaccination clinics will be held, the following issues need to be considered:

- Is it practical, in terms of available space, for the vaccinations to be given in the occupational health department with additional staff being brought in to assist?
- Is a larger venue needed and, if so, which is most suitable?
- Would a venue centrally located in the hospital be most appropriate for hospital staff, for instance the outpatient department?
- Could vaccination sessions be held in the evenings or at weekends to minimise the impact on the running of the hospital?

- Is the proposed clinic location(s) close enough to clinical areas to reduce the impact on the running of services?
- Should a team of immunisers with their own equipment visit each ward to give the vaccinations to staff?
- What are the arrangements for cold chain storage?
- How are staff groups who may have difficulty accessing daytime clinics going to be immunised eg staff who only work nights/weekends/evenings or ambulance staff?

3.5.5.5 Pandemic-specific vaccine

Vaccination is widely used in the UK to offer protection against the seasonal influenza strains most likely to be circulating in that particular year. As a pandemic will result from the emergence of a new or modified strain, these routine vaccines are unlikely to offer protection. It is not possible to develop a matching vaccine until the emerging influenza strain has been identified. The Government is working actively with the international community and pharmaceutical industry to speed the development, testing and licensing of vaccines and secure the earliest possible supply. However, once the pandemic influenza virus strain becomes known, it may take four to six months before an effective vaccine is available and evaluated for safety, and considerably longer before it can be manufactured in sufficient quantities for the entire population, given that international demand will be high.

Realistically, it is therefore unlikely that a specific vaccine will contribute much to dealing with the initial wave of a pandemic, unless its evolution or the effectiveness of early control measures results in a significantly slower developing pandemic than anticipated.

For planning purposes, the presumption should be that a mass pandemic vaccination campaign is unlikely before or during the first pandemic wave, but vaccination may contribute to reducing the impact of subsequent waves if they occur.

PCTs will be responsible for the delivery of pandemic-specific vaccine to their local population. For further details, please see *Guidance for primary care trusts and primary care professionals on the provision of healthcare in a community setting in England.*

3.5.6 Restriction of deployment of potentially infected staff, reserve staff and volunteers

The Department of Health's *Guidance for pandemic influenza: Infection control in hospitals and primary care settings* gives specific guidance on the deployment of staff who may have been exposed to influenza, staffing of units where patients are particularly vulnerable to the effects of influenza and also staff at risk of complications from influenza (see section 3.6.6).

3.5.7 Health and safety and risk mitigation

In an influenza pandemic, it is possible that staff could be adversely affected. Trusts will be expected to consider and mitigate these risks.

Patients could also be put at higher than normal risk by using staff/treatment locations not usually used for the types of care required in an influenza pandemic. Again, trusts will be expected to consider and mitigate these risks. Examples of such risks include:

- staff at high personal risk of influenza complications (eg those who have pre-existing respiratory disease or another chronic disease likely to be exacerbated by influenza). Trusts will want to reallocate such staff to work where they are less likely to be exposed
- exposure risk from clinical activity and risks of infection. PPE measures will need to be considered for all staff. Trusts have a duty of care to provide a safe working environment for their staff. This includes the provision of adequate PPE where appropriate. Whilst there is work at national level work examining the provision of PPE to personnel during an influenza pandemic, trusts should in the interim review the adequacy of their provision and make local arrangements to improve availability where they are deficient.

FFP3 masks require fit testing for all relevant staff. Relevant staff are those that will be undertaking/exposed to aerosol-generating procedures as part of their work. Fluid-repellent masks will be used for most interactions involving close contact with patients to prevent droplet spread of the disease, but will not be sufficient where an aerosol-generating procedure is undertaken. Trusts are therefore advised to arrange for fit testing of FFP3 masks to be carried out on these staff. A fit testing programme may take a considerable length of time to deliver and will also need to take account of alterations in staffing.

There may be other individual staff health issues that have to be considered when assessing fit of FFP3 masks. These should be addressed as part of the process. Staff health issues will also affect decisions over appropriate staff deployment where underlying health problems are a relevant consideration.

The Health and Safety Executive (HSE) has issued guidance on the use of PPE in an influenza pandemic. This is available at
www.hse.gov.uk/biosafety/diseases/pandemic.pdf

The Department of Health has also issued guidance on the use of PPE within the infection prevention and control guidance as referenced below.

- Risks of infection – Training to enforce good infection prevention and control practice should be provided.

- Risks of working in a different environment or in a different role from usual – Appropriate training for working in settings or roles different from usual will be required. The use of staff in settings other than their usual specialty/skill set or of volunteer/other reserve staff has potential risks for the staff member, patients and the trust. Plans will need to be developed to ensure that reallocated staff are not working beyond their competence limits, and that professional registration (where relevant) and insurance arrangements cover their work. The wider health and safety of all staff need to be considered, especially where they are redeployed and working in unfamiliar roles/areas.
- Risks from general security issues – Security provision and training in handling confrontational situations will be required.

For further information, see *Guidance for pandemic influenza: Infection control in hospitals and primary care settings*, section 3.6.6.

3.5.8 Regulatory and indemnity issues

3.5.8.1 Professional certification and Criminal Records Bureau checks

Under current regulations, some staff – especially reserve/recently retired or volunteer staff – will require rapid re-certification with their professional body and/or CRB checks. Trusts will need to identify who will need these provisions in a timely manner and should have systems in place to organise them. The Department of Health and NHS Employers are considering further guidance on human resource issues, including those of indemnity and certification.

Trusts may want to explore ways of encouraging reserve and recently retired staff to remain registered, such as by supporting revalidation/re-certification arrangements including defraying the costs of doing so for such staff.

3.5.8.2 Indemnity

Trusts will need to ensure that staff, reserve staff and volunteers are provided with appropriate indemnity in a timely manner. Trusts should consider their indemnity arrangements for all such staff and check coverage arrangements, particularly for reserve/recently retired and volunteer staff.

3.5.9 Education and training

3.5.9.1 Pandemic-specific/emergency preparedness education

Trusts should already have detailed programmes of education in place on emergency planning for all key staff groups. Trust emergency planners should take the opportunity in preparing for an influenza pandemic to revise these plans and ensure that sufficient emphasis is placed on and resources are allocated to provide adequate and timely training for staff to ensure a sustainable response. All training needs should be tailored to the hospital's specific requirements.

For an influenza pandemic there are a number of key elements of training that need to be covered (depending on which staff group the education is being delivered to), in particular:

- general awareness of the implications of pandemic influenza for hospitals and staff
- duties of staff during a pandemic including their ethical and professional responsibilities
- training specific to roles when redeployed
- basic respiratory support
- occupational health of staff during an influenza pandemic
- assessment and containment of possible cases
- segregation of influenza patients
- treatment (in particular the role and limitations of antiviral drugs and vaccination and psychological support for patients and relatives)
- case reporting (for influenza pandemic surveillance and response purposes)
- safe handling of laboratory samples
- prevention and control of influenza, including infection prevention and control/awareness of biohazard risks and how to reduce risks of transmission to self/other staff and patients/other hospital visitors
- waste disposal
- visiting restriction policies in an influenza pandemic
- staff safety, in particular the use of PPE and handling conflict and violence
- steps to avoid transmission from staff to non-work personal contacts including family
- staff annual influenza vaccine benefits.

Training will need to be delivered in a staff-group-specific way. Staff should receive the level of training they need for the tasks they will be expected to undertake during an influenza pandemic. Trusts should ensure that back-up staff are also included in training activities.

Much of this education will need to refer to and be based on *Guidance for pandemic influenza: Infection control in hospitals and primary care settings* (see section 3.6.6).

Service expansion in areas required to respond to an influenza pandemic, especially critical care, will be dependent upon redeploying staff from other clinical areas. These staff will require specific training. This will require resource allocation and backfill of the posts during training sessions, and will need to be agreed and planned in advance and regularly updated to ensure that reserve staff retain the core competencies required to support their new roles, in particular in critical care.

3.5.9.2 Standard operating procedures and training

Each trust should have standard operating procedures (SOPs) for emergencies/hospital emergency plans. In preparing for an influenza pandemic, it would be opportune for trusts to examine whether their SOPs/emergency plans are fit for purpose.

Guidelines and protocols need to be readily available at the point of care. They should be regularly updated to keep abreast of new developments.

Staff all need basic knowledge and training in the SOPs, with further specific training and scenario experience being provided according to their functional group.

3.5.9.3 Training delivery

Where possible, trusts should use published national training sources in responding to emergencies and pandemic influenza. Training should be adapted to suit staff group needs and contexts.

3.5.9.4 Self-protection

Staff will need to be advised on how to reduce the risk of developing influenza and the action they should take if they develop it. General guidance has been issued by the Cabinet Office in the form of *Contingency planning for a possible influenza pandemic* (see section 2.2).

More specific guidance on self-protection has been issued by the Department of Health in *Guidance for pandemic influenza: Infection control in hospitals and primary care settings* (see section 3.6.6).

3.5.9.5 Seeking medical care

Staff, reserve staff and volunteers may themselves become ill during the course of an influenza pandemic. Trusts should remind staff that if they become symptomatic, they are not to go to work, they are to report their absence to their employer and report their symptoms to the National Flu Line service for further medical advice.

3.5.9.6 Business continuity training

It is important to ensure that relevant people across the trust are confident and competent concerning the business continuity plans. Training should be supplied for those directly involved in the execution of the business continuity plan should it be invoked. More information on this is available at
www.ukresilience.info/preparedness/businesscontinuity.aspx

3.5.9.7 Basic respiratory support

Trusts will need to ensure that an appropriate range of staff is trained in safely (ie taking into account infection prevention and control risks and the need for personal protection) providing basic life/respiratory support. Trusts should aim to work with PCTs on developing staff capability and capacity across the healthcare community. Basic respiratory/life support is an important skill for staff to have now, but will need timely refreshment as the pandemic threat escalates.

People, key actions

- Plan in an integrated way, in particular with the local PCTs and with the rest of the health and social care economy, as to how staff resources will be maximised.
- Develop skills audits and plan redeployment using the results.
- Plan according to expected absence levels as set out in *Pandemic flu: A national framework for responding to an influenza pandemic*.
- Help staff understand their professional and ethical obligations.
- Plan and make provision for the health and safety, PPE and occupational health needs of staff.
- Ensure regulatory and indemnity requirements are covered.
- Develop and implement programmes of education and training.

3.6 Trusts' responsibilities in limiting illness and death arising from infection and in reducing further spread of pandemic influenza

3.6.1 Education resources for patients, relatives and hospital visitors

Leaflets and other educational material about influenza pandemics should be made available to patients, their relatives and hospital visitors. Where possible, these should use nationally available resources, if necessary adjusted to local circumstances, and will need to be available in languages suitable for the local population.

3.6.2 Trusts' responsibilities for wider control measures

In addition to instructing staff and patients to exercise personal responsibility in terms of self-protection, trusts will need to exercise their responsibilities to reduce the spread of an influenza pandemic by the use of social measures and travel restrictions.

3.6.2.1 Social and hygiene measures

Reducing social mixing aims to reduce exposure to a pandemic influenza virus from social interaction.

Good hygiene measures need to be in routine use now, in particular coughing and sneezing etiquette and hand washing.

Trusts need to consider in their planning the fact that large numbers of patients and staff routinely pass through their doors daily. Trusts should therefore consider:

- the rapid identification and segregation of symptomatic individuals
- the reduction of droplet spread in seated areas. This is clearly relevant in waiting areas, eg in A&E and outpatients, but also in large collection areas, such as restaurants or rest areas
- the availability and adequacy of hand-washing facilities. Adequate hand-washing practice and facilities are fundamental to good infection prevention and control practice. As part of their general response to infection prevention and control, trusts will need to review the availability of hand-washing facilities and hand-washing practice in staff. They should also be providing guidance to patients and relatives on hand washing (using national guidance where possible)
- the adequacy of, and standards set for, cleaning facilities before and after use. Infection prevention and control standards are important at all times regardless of the presence of an influenza pandemic. However, trusts will need to ensure that high-quality cleaning standards are maintained during a pandemic, with particular attention given to places affected by droplet spread
- the most appropriate management of areas of close person-to-person contact on entering, within or on leaving the site. Trusts will need to plan for how they will minimise mixing in areas of high contact (eg reception areas, assessment stations, cohorting patients and staff streams for entry and exit).

Trusts should consult *Guidance for pandemic influenza: Infection control in hospitals and primary care settings* (see section 3.6.6).

3.6.3 Transport and travel restrictions

3.6.3.1 Transport

Trusts will need to plan for the transport needs of patients and staff during an influenza pandemic. These plans will need to cover safe internal hospital transport arrangements whilst maintaining segregation of patient groups into those infected and non-infected. They will also need to cover the external transport of patients coming into and being discharged from hospital, whilst again maintaining separation of influenza patients from

non-influenza patients as far as possible. In particular, hospitals will need to consider the transport arrangements for patients being discharged to other accommodation or healthcare provision to make space available for handling pandemic influenza patients.

It would be advisable for trusts to develop clear guidance on transport arrangements during an influenza pandemic, broken down by patient group, including for whom, how and in what circumstances they should be provided. Trusts will also need to provide safe transport for pandemic influenza laboratory specimens.

During an influenza pandemic, transport and other businesses will endeavour to maintain business as normal for as long as possible. However, the transport requirements of staff will need consideration, particularly given that at the peak there may be short-term localised difficulties obtaining fuel, and people will be advised to stagger journeys on public transport. Trusts are again advised to refer to the section on UK planning presumptions in the *National framework*.

3.6.3.2 Travel restrictions

Trusts will want to examine ways of reducing the amount of travelling their patients need to do in an influenza pandemic. Undoubtedly, many patients will continue to need to attend hospital, but there will be some who could be followed up by alternative means, such as telephone review, or blood tests being taken in the community instead of at the hospital. Additionally, trusts should plan to minimise the number of patient movements within the hospital to reduce the risks of cross-infection.

Trusts should plan for and enable staff, where possible, to work remotely so that exposure to others is minimised. This should be considered and planned for before an influenza pandemic, so that functions that can be provided and sustained remotely, without the physical presence of staff on site, can be organised and tested prior to the event. (There may be specific resourcing/infrastructure issues to be considered in order to enable remote working.)

Where staff have to work at the trust site, trusts should consider and plan for enabling the staggering of journeys to work using public transport. For example, it may be possible to stagger starting times on rotas. For more information on this, see www.ukresilience.info/publications

3.6.4 Partnership working/working with stakeholders on prevention

There are PCT-led programmes to provide seasonal influenza vaccination and pneumococcal vaccination to qualifying at-risk individuals in the community. Trusts should be working with their PCTs and community partners to monitor and improve the uptake of these vaccines.

3.6.5 Managing staff and community expectations

The heightened media interest has fuelled public concern about a possible influenza pandemic. Public and staff concern is likely to increase as the pandemic threat escalates.

There will be a large amount of pressure on all sectors of the health community for assistance, including vaccination and treatment. Additionally, staff and patients may be concerned that services being scaled back/suspended as the threat levels increase may not be restarted. Trusts, in conjunction with their PCTs and other stakeholders, need to plan for and begin to manage these concerns/expectations in a timely manner.

3.6.6 Infection prevention and control

Each trust should have an infection prevention and control committee. The committee should be part of the trust's pandemic planning activity and also will need to be represented in the command and control of an actual influenza pandemic. The infection prevention and control committee is advised to use the Department of Health's *Guidance for pandemic influenza: Infection control in hospitals and primary care settings* and ensure it is applied across the trust. The guidance is available at www.dh.gov.uk/pandemicflu

3.6.7 Special precautions for pathogenic organisms

Trusts should use the pandemic influenza infection prevention and control guidance to ensure that they have standard procedures in place for handling patients infected with pandemic influenza (or indeed other highly pathogenic organisms). Particular attention should be paid to the needs of patients and staff at higher risk, such as pregnant women and those on immunosuppressive medication or suffering from immunocompromising conditions.

These precautions should cover at least:

- identification and segregation of initial cases of influenza-like illness that may be due to an avian influenza virus or a pandemic influenza virus in WHO Phases 2 to 5 and 6, UK alert levels 1 and 2
- possible modes of transmission/carriers for initial cases and how the pathway may be interrupted
- identification and segregation of those with an influenza-like illness possibly due to pandemic influenza at WHO Phase 6, UK alert levels 3 and 4
- identification and segregation of those with an influenza-like illness possibly due to resurgent pandemic influenza in the recovery phase
- identification of particularly vulnerable potential recipients in order to apply additional precautions.

Trusts will need to ensure that staff, patients and visitors are made aware of the precautions to be taken.

Trusts will need to pay particular attention to the standards of cleaning, disinfection and waste management during an influenza pandemic. Although these standards should already be uniformly high, there will be some additional needs over and above those considered to be routine. The infection prevention and control committee should contribute actively to this aspect of plan development. It will need to be guided by the infection prevention and control guidance listed in section 3.6.6.

Limiting illness and death and reducing further spread, key actions

- Develop (in conjunction with local PCTs) educational resources for patients, relatives and hospital visitors, especially around reducing infection spread.
- Plan for how the trust's wider responsibilities for control will be met.
- Review and plan transport arrangements for patients and staff.
- Ensure robust infection prevention and control arrangements are in place and staff are adequately trained.
- Ensure robust arrangements are in place for handling patients infected/potentially infected with pathogenic organisms to ensure pandemic/potential pandemic patients are segregated rapidly to reduce further spread.

3.7 Providing treatment and care for those who become ill

3.7.1 Assessment/admission criteria and bed management

3.7.1.1 Assessment and admission

As the influenza pandemic develops, the demand for hospital beds will be high. Even at the early stages of an influenza pandemic, where numbers of affected cases are few, there will still be a case for managing bed use carefully by using assessment and admission criteria to minimise the risks to staff and other patients. At later stages of an influenza pandemic:

- Up to 2,000 per 100,000 population might need admission for acute respiratory and related conditions at a 50% clinical attack rate (this is an increase of at least 50% on normal demand).
- Demand for admission can be expected to increase by up to 440 new cases per 100,000 population per week at the peak and will exceed acute hospital capacity.

- Existing capacity may meet only 20 to 25% of the expected demand at the peak.
- Demand for level 3 critical care could rise to 110 per 100,000 population per week and would considerably exceed capacity at the peak.

This guidance is designed to offer generic advice and may not address issues specific to individual specialties. The Department of Health is working with stakeholders to further improve preparedness for individual specialties. Nevertheless, it is likely there will be locality-specific issues for each specialty that can only be solved within those health communities, such as the provision of paediatric cover outside specialist centres. The Department of Health expects that local and regional stakeholders will develop their planning accordingly.

The Department of Health is working with the Scottish Government Health Directorate to develop guidance on the prioritisation of services that will need to be maintained and the triage of patients during an influenza pandemic, to take account of the abnormal demand and the impact of the emergency on available staff and other resources. Provisional advice will be released in the autumn with final guidance to follow. Trusts will need to use these tools to develop standard assessment and admission criteria, which will help them in bed management. These criteria should help hospitals to provide appropriate care to as many patients as possible whilst taking into account limited resources. Assessment/admission criteria development should be undertaken with all care providers in the local area, in particular primary and community care and ambulance trusts, but also including private and voluntary care providers, hospices, and mental health and social care providers.

Assessment/admission criteria and bed management will have to be capable of rapid change, taking into account the dynamics of the emergency in terms of the behaviour of the virus and the severity of patients' illnesses or other emergencies and the availability of care facilities, staffing and other resources.

The planning presumption is that the majority of assessments will need to take place outside hospitals by telephone through the National Flu Line service. Acute capacity will need to be safeguarded and preserved for providing services to those for whom it is most appropriate. Assessment/admission criteria development will need to take account of both of these. Trusts will need to take into account the specific needs of children, in particular concerning critical care provision, pregnant women and those with mental health issues.

The development of decisions on access to care should take into account the provisional surge and prioritisation guidance from the Department of Health and Scottish Government Health Directorate and be mindful of *Responding to pandemic influenza: The ethical framework for policy and planning* developed by the Committee on Ethical Aspects of Pandemic Influenza (CEAPI).

Trusts should consult the guidelines *Clinical management of patients with an influenza-like illness during an influenza pandemic* from the British Infection Society, the British Thoracic Society and the HPA (as listed in section 3.2.10) and the Department of Health's surge management guidance in the development of their assessment/admission criteria.

If a trust decides to adopt the above guidelines for managing patients during a pandemic, it should ensure that they are approved by the internal trust clinical guidelines group.

The following are issues to consider and plan for when dealing with assessment and admission.

- As an influenza pandemic threat escalates, specific assessment for pandemic influenza symptoms will need to be activated with direct questioning to identify possible cases. Trusts should decide with their PCTs when this would commence and terminate.
- Assessment criteria (adults and children): trusts will need to ensure that they can assess influenza and non-influenza emergency cases effectively, in order to ensure that patients are appropriately categorised according to their need for care.
- Protocols need to be developed, in line with the provisional surge management and prioritisation guidance on admissions to hospital and, in particular, to critical care.
- Facilitation of the early discharge of patients who no longer need hospital care. Plans will need to be made in conjunction with primary care providers and social care services to ensure continuing care. Out of hospital, care providers will also need to be consulted in developing these plans, including the nursing and residential home sector and temporary accommodation sites such as rest centres. Within these plans, transport arrangements will also need consideration. Facilitating the timely discharge of patients who have recovered will be important in freeing up bed capacity in the hospital. Trusts should plan in a timely manner with social care services and liaison teams how they will achieve this during a pandemic. Discharge planning will need to start early following admission.

3.7.1.2 Designation of healthcare facilities to reduce infection transfer

Bed management may be assisted in localities with more than one hospital by designating one of the hospitals an influenza hospital with another designated for other emergency patients. Such a fundamental service change would need agreement with relevant stakeholders, including local PCTs, the SHA and senior executive/board assent. Separating patients into different hospitals may help in keeping the patient cohorts of

pandemic influenza and non-pandemic influenza cases separate. However, trusts should recognise that it is doubtful whether the non-influenza hospital could be kept free of influenza, due to asymptomatic infected patients, relatives and staff spreading the virus. This approach would also depend on the number of expected cases for a given area and so would have to be carefully planned. Additionally, the separation of hospital roles would have to be carefully communicated to the local population and other stakeholders, so that it would be clear where patients should go. Where such separation is not feasible, trusts will want to consider designating specific areas of the hospital for cohorting influenza and non-influenza cases (including for critical care services and obstetric and paediatric services). Trusts may need to consider how they might use the independent sector in making these provisions. For further details on reducing the risk of infection transfer trusts should consult the Department of Health *Guidance for pandemic influenza: Infection control in hospitals and primary care settings* (see section 3.6.6).

3.7.1.3 Other bed management issues

Trusts should develop new or supplement existing plans for tracking bed availability. Any system developed should be capable of rapid, real-time updating and of being communicated to the PCT and SHA. Systems should also be capable of tracking ventilated and non-invasive respiratory support beds.

During a pandemic, there will be situations where facilities become overwhelmed (in particular level 3, ventilated, critical care beds). Trusts should plan for such events and how to handle them. The Department of Health has consulted on the handling of critical care issues in situations where capacity is likely to be exceeded and will be issuing guidance in due course. Trusts with inpatient psychiatry beds are advised to consider the particular needs of this group of patients. For example, there will be issues around the cohorting of such patients and the facility to provide secure accommodation where needed. Close partnership working between mental health trusts and acute trusts is necessary to ensure that mental health wards remain open and critical mental health services provided from the acute trust premises continue.

In those trusts that have patients enrolled on drug trials, planners are advised to consider how the needs of the patients will continue to be met during an influenza pandemic, in particular with respect to the continued supply of trial medications and monitoring of the patients.

Trusts will have to ensure that the needs of children can be met, taking into account the necessity to cohort infected and non-infected cases. There will be specific critical care needs to be addressed for children.

3.7.2 Management of cases and contacts

In accordance with the clinical guidelines issued to date, the Department of Health will expect all trusts to have:

- Developed and cascaded protocols for the treatment of adult, paediatric and critical care cases to clinical staff (antiviral drug treatment should be provided as rapidly as possible).
- Developed and cascaded assessment protocols for adults and children presenting with an influenza-like illness during an influenza pandemic. Within these assessment criteria there should be criteria for access to pandemic-specific medication, including antivirals and antibiotics.
- Developed and cascaded assessment protocols for handling non-influenza emergencies in a pandemic.

Specific guidance is available in *Clinical management of patients with an influenza-like illness during an influenza pandemic* from the British Infection Society, the British Thoracic Society and the HPA (as listed in section 3.2.10). Trusts will want to ensure that their medical directors, clinical leads and critical care leads are conversant with the document, are kept abreast of any changes and cascade the knowledge to frontline staff as appropriate. It is suggested that trusts summarise the guidance into posters to help frontline staff make rapid, consistent decisions in order to improve efficiency and quality of care.

3.7.3 Hospital supplies of antivirals for inpatient treatment

Systems for supplying antivirals for inpatient treatment are being considered. Further information will be provided in due course. PCTs will be responsible for ensuring that hospitals have supplies for the treatment of inpatients.

3.7.4 Home and community care

The effectiveness of the response to pandemic influenza will depend heavily on the provision of care in the community for most individuals. Trusts will need to engage with their PCTs and community care providers (general practitioners, primary care services, social care services, local authorities, the local population and volunteers) on how provision in the community and hospital will work together in the event of a pandemic.

Trusts, in conjunction with their PCTs, will want to support the development of innovative approaches to the alternative provision of care outside the hospital setting. Home hospital care may be possible if staff are redeployed from other areas.

Trusts should be guided by the document *Pandemic influenza: Guidance for primary care trust and primary care professionals on the provsion of healthcare in a community setting in England* at www.dh.gov.uk/pandemicflu.

Trusts should work with local stakeholders to identify potential alternative community accommodation resources for providing medical and non-medical care – eg for recuperation of patients or accommodation of relatives – such as community centres or hotels, bearing in mind specific requirements such as access, equipment provision and the need for infection prevention and control and health and safety issues to be addressed.

3.7.5 Ambulance services

The Department of Health has issued separate guidance for ambulance trusts on influenza pandemic preparedness in *Pandemic Influenza: Guidance for ambulance services and their staff in England*.

However, in conjunction with their PCTs, trusts will need to work closely with ambulance trusts to ensure that, collectively, their influenza pandemic preparedness plans are coherent and cohesive.

There are a number of specific issues that will need to be considered. These include:

- criteria for admission to hospital and handling of those not fitting the criteria
- logistics of admission to hospital, for influenza and non-influenza emergency cases, including direct admission to wards
- criteria for commencement of advanced respiratory support prior to admission to hospital in the event of an influenza pandemic (taking account of the documents on surge management and patient prioritisation and the provision of critical care facilities)
- contingency plans if hospital facilities (especially critical care) are not available
- transport out of hospital of recovered cases or other patients no longer requiring hospital care
- decontamination of ambulances following transport of a pandemic influenza case.

This list is not exhaustive and is intended as a guide only. There will be other local issues on which trusts will need to consult with the ambulance trust for the area.

3.7.6 Vulnerable groups

It is likely that there will be individuals presenting at hospital who will not meet the criteria for admission, but who are nevertheless from a vulnerable group and will

therefore need additional support if they are not to deteriorate further and require admission. Trusts should be planning with stakeholders how they will support these groups of individuals.

Vulnerable groups include, amongst others, children (especially those without a carer), older people, disabled people, asylum seekers and homeless people.

3.7.7 Ethical basis of decision-making

The Department of Health is aware that an influenza pandemic will pose considerable ethical difficulties for decision-makers with regard to the delivery of clinical care.

However, the priority is to reduce illness and save the most lives, in a way that is fair. The ethical framework will assist trusts in the ethical provision of clinical care.

Trusts will want to refer to *Responding to pandemic influenza: The ethical framework for policy and planning* available at www.dh.gov.uk

3.7.8 Maintenance of services to non-influenza cases

Trusts will need to have robust plans for continuing services to acute, chronic or life-threatening non-influenza cases (eg heart attacks, patients requiring parenteral nutrition or chemotherapy/radiotherapy).

The Department of Health has asked the Royal Colleges to review existing guidance on conditions other than influenza and the application of their guidance on these conditions during an influenza pandemic.

3.7.9 Reporting of the effectiveness of treatment

When used to treat seasonal influenza, antiviral medicines reduce the length of symptoms (by around a day) and usually their severity, as long as they start to be taken within two days of the onset of symptoms. Whilst it is impossible to predict whether antiviral medicines will be equally effective against a new or modified pandemic virus, it is reasonable to anticipate a similar effect and associated substantial reductions in severe morbidity. Information on effectiveness of the medication for treated cases will be important. Trusts should therefore develop systems to collect this information so that it can be analysed. This will help inform practice during the pandemic. The HPA will be collating this information. For more detail refer to the *National framework*.

3.7.10 Segregation of patients affected/unaffected by pandemic influenza

The Department of Health *Guidance for pandemic influenza: Infection control in hospitals and primary care settings* provides comprehensive information on the segregation of patients affected and unaffected by pandemic influenza. Trusts should

consult and utilise the document in developing their plans. For further information (see section 3.6.6).

3.7.11 Special situations

Some trusts will have within their community prisons, ports (air and sea), mental health trusts, military bases and other 'closed communities'. Most trusts will also have within their catchments nursing and residential homes. In order to try to contain the spread of the disease, where relevant, trusts will need to plan closely with their PCTs as to how they will respond to:

- prison cases and asylum detention centres
- mental health and learning disability unit cases
- cases (and contacts) presenting through ports, or immigrants
- cases in other closed communities such as military bases, schools, and nursing and residential homes.

In particular, trusts should agree assessment/admission criteria for these groups with their PCTs.

3.7.12 Surge in clinical demand

Modelling suggests that during an influenza pandemic there will be peaks in demand that either threaten to or will overwhelm capacity to respond, including for more specialised treatments or scarce resources such as critical care. Under these circumstances, it will be impossible for trusts to provide the usual standards of medical care.

Available resources will therefore limit the standard of care that can be provided in the emergency, and decisions will need to be made prior to the event on how to provide care in a manner that is ethically and clinically appropriate. Guidance on this issue is contained within the provisional guidance on surge management and prioritisation.

Trusts need to be aware of the probability of the restricted availability of resources and plan for how they will respond; however, this element of planning should not be limited to critical care provision only but should also cover more general clinical care.

3.7.13 Deaths

Modelling has predicted that there may be large numbers of individuals dying during an influenza pandemic from the disease or its complications. Mortuary facilities are discussed separately in section 3.3.3. However, there are likely to be some other specific issues that need to be considered.

- The death of a patient is difficult at the best of times for staff and for the patient's relatives in particular. During an influenza pandemic, death is likely to be an even more stressful and emotional issue. Trusts should be considering the support that will be necessary for staff and relatives.
- Religious and cultural beliefs will continue to be important in the handling of the dead. Whilst local authorities will take the lead, trusts will need to work, through their PCTs, with local authorities and other relevant stakeholders on the development of arrangements for handling large numbers of dead that are nonetheless sensitive to these religious and cultural beliefs.
- The capacity to provide timely death certification will be pressurised. There are national-level discussions on how certification (and post mortems where necessary) can be provided during the pandemic.
- Patient deaths will in some cases leave vulnerable individuals without a carer. Trusts should have procedures for dealing with such an eventuality; however, these systems will come under more pressure than usual during a pandemic. Trusts should therefore be planning with stakeholders how they will deal with this eventuality.

3.7.14 Communicating with patients, partners and relatives

In the course of their routine work, clinical staff should have been trained in delivering bad news. However, there will be some additional training needs for staff communicating bad news in an influenza pandemic setting, particularly where it involves informing patients, partners or relatives about restricted access to critical care and other specialist treatment.

Staff, patients and their relatives may be assisted by the provision of verbal or written information that has been developed prior to an influenza pandemic occurring. This would also help to achieve consistency of messages and therefore help to reduce distress due to perceived inequities of management.

3.7.15 Hospital visits

Trusts will want to ensure they have visiting policies that help to contain the spread of a pandemic. Trusts should ensure that visiting during an influenza pandemic is reduced as much as possible, other than for those for whom a visit is essential. Trusts should therefore define which groups of visitors are considered essential, eg parents of sick children and spouses or partners of critically ill adults.

3.7.16 Outpatient arrangements for non-influenza cases

The provision of outpatient services during an influenza pandemic will need to be considered as part of the trust's overall response to demand surge. To this end the provisional surge management and prioritisation guidance will be of assistance to trusts in planning the delivery of these services.

Providing treatment and care for those who become ill, key actions

- Develop assessment/admission criteria/bed management plans with local partners, taking into account national guidance.
- Assume that the majority of assessments will need to take place outside hospitals by telephone through the National Flu Line service.
- Ensure systems are in place to segregate admitted pandemic influenza patients to reduce the risk of spread.
- Ensure systems are in place for timely and appropriate treatment of those infected with pandemic influenza.
- Plan with local primary and social care and ambulance trust partners how the expected surge in cases/contacts will be managed.
- Ensure decisions are ethically sound.
- Remember to plan for vulnerable groups/special situations.
- Plan for how services to non-influenza patients will be maintained (including emergencies, urgent cases and those with chronic diseases).
- Enable data collection on treatment effectiveness.
- Ensure robust plans are in place for dealing with potentially large numbers of deaths.
- Develop robust visiting policies to reduce onward infection risks.

3.8 Service image and reputation

The public will expect a coherent, effective response to an influenza pandemic across government. However, public perception is likely to be particularly influenced by the response of the health service. The NHS will be the cornerstone of a successful response to an influenza pandemic. It will therefore need to ensure that it maintains public confidence in its operational delivery during the event.

It is critical that trusts plan for an influenza pandemic and test their influenza pandemic preparedness plans, so that the response can be as smooth as possible in the actual event. In particular, planning will need to ensure that, for example:

- Access to care and treatment is uniform according to clinical need and fair according to ethical principles and availability, and within the constraints that the pandemic imposes.
- Wherever a patient presents, as far as possible and according to their clinical need, the treatment and management they receive will be the same as that accorded to any other patient, subject to the limitations imposed by an influenza pandemic and available resources.
- Dependent on the exposure risks, healthcare workers are all given the same degree of protection for the tasks they are undertaking.

Healthcare communities and the NHS cannot afford for there to be any major or significant variation in provision that would damage the reputation of the service, not least because robust public confidence will help optimise compliance with plans and therefore enhance the response to the emergency.

3.9 Performance

3.9.1 Benchmarking, evaluation, quality assurance and performance assessment

Trusts are advised to work with their PCTs/SHA to benchmark their preparedness plans against those of similar hospitals to provide a measure of assessment of the quality of readiness. This should allow examples of good practice to be disseminated and incorporated where appropriate. SHA influenza pandemic planning leads may be able to provide NHS trusts with examples of preparations from other regions that may help inform local planning.

Trusts should regularly evaluate and quality assure the state of their influenza pandemic preparedness plans.

NHS acute and foundation trusts are expected to review the steps they have taken towards preparing for an influenza pandemic to satisfy themselves that arrangements are on course. They will also be required to demonstrate the progress made through an external performance assessment. The performance assessment will cover the full range of steps necessary for preparation, from command and control through to supplies resilience and infection prevention and control arrangements.

The Department of Health will in due course be issuing a tool that can be used to assess the quality and level of preparedness for an influenza pandemic.

3.9.2 Exercises and simulations

Trusts' influenza pandemic plans cannot be considered reliable until they have been exercised and found to be robust. False confidence will be placed in their integrity if there has not been rigorous testing. Trusts should therefore participate in testing with relevant local, regional and national stakeholders. Exercises should involve plan validation, key staff role-rehearsal and testing of those systems relied upon to deliver resilience (eg uninterrupted power supply). The frequency and type of exercises will depend on the individual circumstances of the trust, but will need to take into account the rate of change (to the trust or its risk profile), and the outcomes of previous exercises (if particular weaknesses have been identified and changes made).

Trusts are likely to find that exercises and the use of simulations will highlight issues that otherwise would not be apparent, eg the practical difficulties of storing large amounts of consumables needed for responding to the surge in patients, or the extra time needed to undertake routine tasks whilst wearing PPE. Trusts should assess the impact of their policy decisions through exercises, in particular to check that they do not have the unintended consequence of increasing infection risk.

Therefore, exercises serve several purposes:

- To confirm that plans and systems can be operationalised in order to identify any problems before the event such as health and safety/infection prevention and control issues.
- To provide training opportunities to staff, identifying and addressing gaps in their knowledge and skills.
- To test the robustness of physical resources and structures.

Exercises and simulations can and will need to take place at a number of levels:

- desktop reviews of all procedures in mock emergency situations
- full-scale live exercises/simulations
- limited-scale live exercises/simulations (eg within individual departments).

These large-scale exercises should be supplemented by regular small preparation tests (eg at departmental and sub-departmental level) in order to improve preparedness by developing a culture of emergency responsiveness in staff.

To facilitate robust exercises, trusts should, in conjunction with their PCTs, develop a programme of exercises to ensure that all staff, procedures, systems and physical resources (where relevant) are tested over time. Staff groups tested should also include volunteers and other reserve staff. All staff should be familiar with the emergency plan, and know where and how to access it and their roles within it.

3.9.3 Audit and evaluation of exercises and training

It is vital that the learning points from any exercises and training are evaluated and plans modified accordingly. Trusts should seek evidence of the quality of education imparted to staff, their acquired knowledge and how that understanding is being applied. Similarly, learning points from handling an actual influenza emergency should be taken into account when revising plans.

Emergency planners in trusts should be clear about what they will assess prior to any exercises, including measures and performance targets.

Performance, key actions

- Benchmark plans against those of other similar hospitals.
- Ensure plans are exercised.
- Audit and evaluate results of exercises/training and implement changes as appropriate.

3.10 Reducing disruption as far as possible

3.10.1 End of the first wave: preparing for subsequent waves

A single-wave pandemic profile with a sharp peak provides the most prudent basis for planning, as that would put a greater strain on services than a lower level but more sustained wave or the first wave of a multi-wave pandemic. However, second or subsequent waves have occurred in some previous pandemics, weeks or months after the first. Whilst the first priority at the end of the first wave will be to implement recovery plans (developed prior to and refined in the run up to an influenza pandemic) and restore supplies, services and activities depleted or curtailed during the pandemic, plans must assume that some regrouping may be necessary in anticipation of a future wave.

Trust plans will need to assume that heightened monitoring and surveillance will be required for some time beyond the first wave and that their plans will require review and revision in the light of lessons learnt. In particular, the likelihood of ongoing constraints on supplies and services and continuing pressures on health and social services should be taken into account.

Updated information on the epidemiology of the virus, effectiveness of treatment, availability of countermeasures and lessons learnt from the first wave will help inform and shape the response measures that trusts will need to undertake to respond to second or subsequent waves.

3.10.2 Second or subsequent waves

Second or subsequent waves may be more or less severe than the first: UK alert levels 1 to 4 will come into play again, informed by epidemiological and mathematical modelling following the first wave. The Department of Health will issue guidance to inform health plans following review of the first wave and the availability of countermeasures.

3.10.3 Recovery phase: returning to normality

As the impact of the pandemic subsides and it is considered that there is no threat of further waves occurring, the UK will move into the recovery phase. Although the objective is to return to pre-pandemic levels of functioning as soon as possible, the pace of recovery will depend on the residual impact of the pandemic, ongoing demands, backlogs, staff and organisational fatigue and continuing supply difficulties in most organisations, including trusts. Therefore, a gradual return to normality should be anticipated and expectations shaped accordingly. Trust plans should recognise the potential need to prioritise the restoration of services and to manage the return to normal in a sustainable way.

Trusts are likely to experience persistent secondary effects for some time, with increased demand for continuing care from:

- patients whose existing illnesses have been exacerbated by influenza
- those who continue to suffer potential medium- or long-term health complications (such as encephalitis lethargica, which may have been linked to the 1918 pandemic)
- patients who are part of a backlog resulting from the postponement of treatment for less urgent conditions.

The reintroduction of performance targets and normal care standards will need to recognise loss of staff and their experience and take into account that most others will have been working under acute pressure for prolonged periods and are likely to require rest and continuing support. Trusts' facilities and essential supplies may also be depleted, resupply difficulties may persist and critical physical assets are likely to be in need of backlog maintenance, refurbishment or replacement. Impact assessments may therefore be required.

Other sectors and services are likely to face similar problems and may also experience difficulties associated with income loss, changes in competitive position, loss of customer base, lack of raw materials, the potential need for plant start-up and so on.

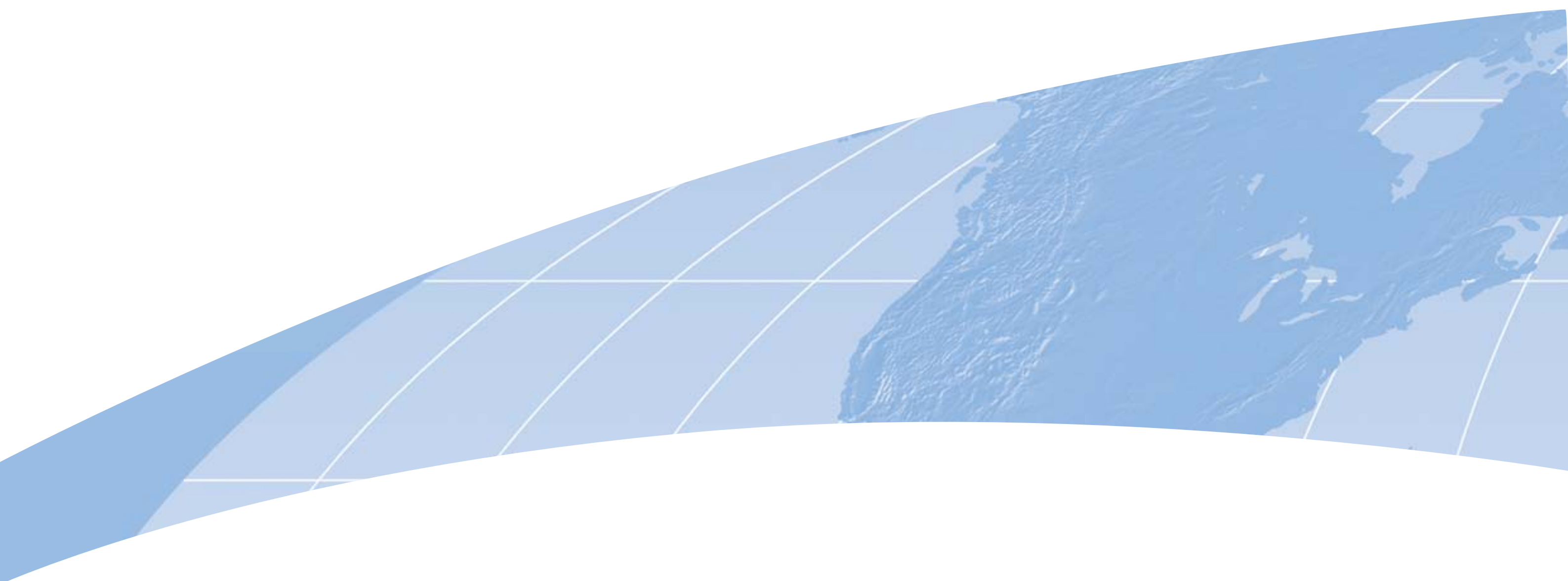
Reducing disruption, key actions

- Ensure timely plans are in place for preparing for subsequent waves.
- Ensure timely plans are in place for recovery/return to normality.

Annex: WHO international phases and UK alert levels

WHO has defined phases in the evolution of a pandemic that allow for a step-wise escalation in planning and response and will inform its member states of any change in the alert phase. If a pandemic were declared, action would depend on whether cases had been identified in the UK, and the extent of the spread. For UK purposes, four additional alert levels have therefore been included within WHO Phase 6; these are consistent with those used for other communicable disease emergencies.

Phase	WHO international phases	Overarching public health goals
	Inter-pandemic period	
1	No new influenza virus subtypes detected in humans	Strengthen influenza pandemic preparedness at global, regional, national and sub-national levels
2	Animal influenza virus subtype poses substantial risk	Minimise the risk of transmission to humans; detect and report such transmission rapidly if it occurs
	Pandemic alert period	
3	Human infection(s) with a new subtype, but no (or rare) person-to-person spread to a close contact	Ensure rapid characterisation of the new virus subtype and early detection, notification and response to additional cases
4	Small cluster(s) with limited person-to-person transmission but spread is highly localised, suggesting that the virus is not well adapted to humans	Contain new virus or delay its spread to gain time to implement preparedness measures, including vaccine development
5	Large cluster(s) but person-to-person spread still localised, suggesting that the virus is becoming increasingly better adapted to humans	Maximise efforts to contain or delay spread, to possibly avert a pandemic and to gain time to implement response measures
	Pandemic period	
6	Increased and sustained transmission in general population **UK alert levels** 1 Virus/cases only outside the UK 2 Virus isolated in the UK 3 Outbreak(s) in the UK 4 Widespread activity across the UK	Minimise the impact of the pandemic



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Produced by COI for the Department of Health
November 2007