Channel Islands
Pandemic Influenza
Preparedness Strategy

Adapted from the UK Influenza Pandemic Preparedness Strategy 2011 by Dr Linda Diggle, Head of Healthcare Programmes, Public Health, Jersey and Elaine Burgess, Lead Nurse Infection Prevention and Control, Guernsey.
Contents

Foreword from the Medical Officer of Health ................................................................. 4

1. Introduction ................................................................................................................. 8
   Purpose of this document .......................................................................................... 9

2. The challenge of pandemic influenza .......................................................................... 11
   The uncertainty of pandemic influenza .................................................................... 12
   Uncertainty about when an influenza pandemic could occur .................................. 13
   Unpredictability about how severe a future influenza pandemic could be ............. 13
   The speed with which a pandemic can develop ...................................................... 13
   The potential impact of an influenza pandemic ....................................................... 14
   Potential economic impact of an influenza pandemic ............................................. 15
   Lessons from the H1N1 (2009) influenza pandemic ............................................. 15
   Planning assumptions for a future influenza pandemic ......................................... 16
   Summary of planning assumptions for pandemic preparedness ............................ 18
   UK/ International research and development ......................................................... 20

3. A strategic approach to pandemic preparedness ......................................................... 22
   Strategic objectives .................................................................................................. 22
   Precautionary: responding in relation to the risk .................................................... 23
   Proportionality: planning for uncertainty ................................................................. 24
   Flexibility: managing the phases of pandemic response ........................................ 29
   Phases of a pandemic response: Detection, Assessment, Treatment, Escalation and Recovery ...... 31
   Evidence based ......................................................................................................... 34
   Ethical principles for pandemic preparedness ........................................................ 35
   Building on established systems and business continuity ...................................... 36
   Whole of society preparedness ................................................................................. 36
   Coordination within the UK .................................................................................... 37
   Command & Control in Jersey ................................................................................. 37
   Command & Control in Guernsey ............................................................................ 38

4. Key elements of the pandemic response ..................................................................... 39
   Detection & Assessment ......................................................................................... 39
   Reducing the spread of disease: infection control & respiratory and hand hygiene .......... 40
   Facemasks and respirators ..................................................................................... 40
   International travel, border restrictions and screening ......................................... 42
   Restrictions on public gatherings and public transport ......................................... 43
5. Communication and public and professional engagement .................................................. 49
   Enabling people to share responsibility for preparedness and response .......................... 50
   Communications for the public ......................................................................................... 51

6. Whole of society response ............................................................................................... 54
   Business as usual ............................................................................................................... 54
   Maintaining essential services and normal life ................................................................. 54

7. Glossary ............................................................................................................................ 55

Appendices

Appendix 1  Jersey HSSD Influenza Pandemic Command & Control Structure
Appendix 2  Guernsey Command and Control Schematic and Summary of Emergency Powers and Planning (Jersey) Law 1990
Appendix 3a  A summary of the H1N1 (2009) influenza pandemic in Jersey
Appendix 3b  Summary of an epidemiological study to quantify the impact of the influenza pandemic vaccination campaign in Jersey 2009-2010
Appendix 4  A summary of the H1N1 (2009) influenza pandemic in Guernsey

DOCUMENT REVISION HISTORY

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Author</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Aug 2013</td>
<td>Dr Linda Diggle / Elaine Burgess</td>
<td>Version approved by HSSD CMEX and accepted by Jersey Council of Ministers</td>
</tr>
<tr>
<td>2.0</td>
<td>19 Nov 2013</td>
<td>Dr Linda Diggle</td>
<td>Appendix 1 and section 3.27 updated to reflect Jersey HSSD revised Major Incident Management Structure - Command and Control</td>
</tr>
</tbody>
</table>
It is impossible to predict the exact nature, timing or impact of any future pandemic because the root cause will be the circulation of a new strain of influenza virus and such viruses differ in their attributes and effects. Despite their variability, previous pandemics can still provide a valuable contribution to planning assumptions and experience.

Archived material from the Jersey Medical Officer of Health reports during the 1918 pandemic led to the recognition that Jersey and Guernsey saw a more rapid spread of pandemic influenza disease than had occurred within the UK mainland. Subsequently reviewing this historical epidemiology with influenza specialists from the UK Health Protection Agency in 2007/08 led to a revision of initial pandemic planning assumptions and an expectation that a future pandemic could pass through each small island community within only four weeks (as opposed to an expected four month pandemic wave within the UK). This has obvious ramifications for local pandemic preparedness planning due to the potential impact upon our health service, hospitals, public services, schools, finance industries and the economies of Jersey and Guernsey as a whole.

During the more recent 2009 H1N1 influenza pandemic, we saw intensive care units within UK hospitals struggling to cope with an overload of patients from within their own borders and we learnt that our normal reliance upon UK hospitals to accept seriously ill patients from the Channel Islands may not be a viable option during a future pandemic.

We also learnt in the 2009 H1N1 influenza pandemic that with timely access to antivirals and a definite expected delivery of pandemic specific vaccine (that is, vaccine which is developed after the pandemic starts to specifically protect against the newly identified influenza virus type), we could swiftly mobilize antiviral stock to try and limit the spread of disease until such time that we received and could administer vaccine to protect the population. The 2009 experience was therefore a helpful test of our mitigation plans. Subsequent analysis of this response by epidemiologists acting for the European Centre for Disease Control (ECDC)
concluded that Jersey's containment and vaccination strategy in 2009 substantially averted the number of pandemic influenza disease cases. They estimated that the strategy of extended containment throughout the summer of 2009, and subsequent vaccination of 82% of the island's children, prevented up to 11,000 children and almost 12,000 adults in Jersey from being infected. An exponential rise in laboratory confirmed (A)H1N1 influenza disease cases did take off in Jersey following the October half term school break (a period of peak pandemic influenza activity in the UK and half term travel of Jersey families and children to the mainland) but the epidemiologists pointed to the evidence of a remarkably abrupt halt in cases. The timing of this halt correlated perfectly to vaccine immunity and protection ‘kicking in’ amongst the children (with a subsequent herd immunity effect preventing disease spread to the adult population) following a vaccination campaign which saw 12,500 children immunised in school, nurseries and parish halls within six days. Administering vaccine to so many in such a short space of time was logistically challenging and staff in Health and Education, who were involved in that combined effort, were justifiably proud of their achievement in protecting island children, and in turn, our population. Jersey’s 2009 pandemic containment and vaccination strategy was subsequently praised by European infectious disease experts when, in 2011, we were invited to present this at an international conference in The Hague.

Building on global lessons learnt from the 2009 pandemic, the World Health Organization have (in June 2013) introduced a new risk-based approach to future pandemic influenza risk management. This approach encourages countries to take into account the WHO’s own global risk assessment of each influenza virus with pandemic potential that is infecting humans. This approach also advises countries to use this information to develop their own flexible plans and management decisions for the benefit of their country’s specific situation and needs, based on a local risk assessment.

In applying this approach, we have tracked some new and known avian influenza threats through the monitoring provided by the WHO. In 2013, we saw the emergence of a new avian influenza virus - H7N9. Thus far, all human cases of H7N9 appear as being linked to China and to have occurred only in those with direct exposure to chickens. However, intelligence gathered by the WHO warns that the
potential for spread of H7N9 amongst humans is unknown and the possibility of further adaptation of the virus leading to human to human spread is a threat.

We are also constantly tracking the H5N1 avian influenza threat which we have known about for some time. This threat hasn’t gone away and the WHO pandemic warning status for H5N1 remains set at ‘ALERT’ – with the WHO recommending each country revisits their local risk assessment and reviews their preparedness plans. With the learning from the 2009 pandemic fresh in our minds, the Public Health Departments of both islands have come together to produce a Channel Islands pandemic preparedness strategy (using the excellent clinical, health and scientific advice and information contained within the United Kingdom Influenza Pandemic Preparedness Strategy 2011).

Our primary objective in any pandemic is to protect health and reduce the proportion of the population that may develop influenza or become critically ill. Linked to this is the importance of reducing the likelihood of overwhelming demand on our islands’ acute hospitals. Particularly for small islands with limited healthcare capacity, advance planning and preparedness are critical to mitigate the potential impact of a pandemic and we recommend the following principles which underpin our updated pandemic preparedness strategy. These principles are:

- That our plans enable a response proportionate to a range of scenarios reflecting pandemic viruses of low, moderate and high impact;
- That we aim to reduce the risk of disease entering our islands for as long as possible through community infection control measures;
- That we enable antiviral medicines to be provided promptly where they are needed;

• That we aim to assist self support by islanders by providing public advice and information to promote good respiratory and hand hygiene (and our public messages in this regard are unified);
• That we aim to reduce illness and complications and minimise deaths of symptomatic patients by rapid access to health assessment;
• That we protect the public by preventing disease, when possible and appropriate, through pandemic vaccination.

In summary, the purpose of this document is to set out the background information and a recommended strategy for dealing with an influenza pandemic. Integral to this strategy is a recommendation that both islands ensure access to antiviral medicines and pandemic specific vaccine. We welcome comments on this document and seek agreement with its principles. This will enable detailed operational plans (antiviral distribution and pandemic influenza vaccination plans) to be updated so that our islands can continue to be as prepared as possible for when, not if, the next pandemic strikes.

Dr Susan Turnbull
Medical Officer of Health, Jersey

Acknowledgement: We are very grateful to the UK Pandemic Preparedness Team for providing us with the UK Government's strategic approach for responding to an influenza pandemic – this helpful document has formed the basis for a Jersey and Guernsey pandemic preparedness strategy.
1. INTRODUCTION

1.1 Each year, seasonal influenza affects many thousands of people in the UK and hundreds of people across Jersey and Guernsey. Occurring mainly in winter, influenza is an infectious respiratory disease capable of producing symptoms ranging from those similar to a common cold, through to very severe or even fatal disease. It brings about variable effects in successive winters and in some years causes intense pressure on our health and social care service and significant levels of absence from the workplace and schools.

1.2 From time to time, with unpredictable frequency, a distinctly different strain of influenza virus will emerge that spreads rapidly across the world, causing an influenza pandemic. The World Health Organization (WHO) currently defines a pandemic as:

“… the worldwide spread of a new disease. An influenza pandemic occurs when a new influenza virus emerges and spreads around the world, and most people do not have immunity.”

1.3 When an influenza pandemic occurs, large swathes of the population may become infected by the new virus over a relatively short period of time. It may be associated with mild to moderate illness in the population (which may or may not be widespread), or significant severe illness and mortality in certain age or patient groups, and may significantly disrupt the normal functioning of our society. It is necessary to mobilise the collective efforts of society in order to manage the impact of a pandemic. For these reasons, the UK Department of Health, Social Services and Public Safety and the Scottish and Welsh Governments have collectively recognised that a new influenza pandemic continues to be one of the greatest threats facing the UK. Equally, in Jersey and Guernsey, we recognise the magnitude of risk to our islands and in Jersey the pandemic threat is the greatest threat on our community risk register.

1.4 In many respects, pandemic influenza can be responded to in the same way as seasonal influenza. The same good hygiene measures can reduce the spread of infection. The same self-care measures – staying at home, keeping warm, drinking plenty of fluids and the use of over the counter cold and ‘flu medicines - should be sufficient to meet the needs of most patients infected with an influenza virus that causes mild to moderate symptoms.

1.5 However, additional plans, over and above those for seasonal influenza, are needed for pandemic influenza to:

- Ensure we monitor intelligence provided by the World Health Organisation (WHO), the European Centre for Disease Control (ECDC) and Public Health England (PHE) so as to be aware should a new virus emerge. Intelligence monitoring of these organizations will enable us to ascertain the severity of illness, the age groups and populations most affected, how transmissible the new virus is and to know when the it arrives in the UK or on the European mainland.

- Take account of the potentially much greater number of people who will become ill with influenza and / or experience more severe symptoms and of the resulting potential impact on our islands’ health systems and wider economies.

- Prepare for an influenza pandemic that may have a high impact on our health systems and the wider societies of our islands.

1.6. Whilst influenza pandemics have been relatively infrequent over the past century, a new pandemic could emerge at any time. Plans for responding to any influenza pandemic build on and enhance normal business continuity planning for more routine pressures such as bad weather and winter illness. Pandemic preparedness is therefore an integral part of wider emergency response and preparedness.

**Purpose of this document**

1.7 Jersey and Guernsey have been preparing for an influenza pandemic for some years. Our preparations were tested by the H1N1 (2009) influenza pandemic although, in comparison with previous influenza pandemics, the H1N1 (2009) influenza pandemic was mild. This document describes Jersey and Guernsey’s strategic approach to planning for and responding to the demands of an influenza pandemic. It builds on previous pandemic planning and takes into account the local and national experience and lessons learnt in the H1N1 (2009) influenza pandemic. This learning includes:

- The need to work together across both islands to provide unified health messages for the public and the media.

- That our plans need to ensure a response that is proportionate to meet the differing demands of pandemic influenza viruses of milder and more severe impact, but we must still be prepared for “worst case” planning assumptions.

- That we take into account the learning from behavioural scientists about how people are likely to think, feel and behave during an influenza pandemic.
• That we ensure plans include dealing with subsequent seasonal influenza outbreaks (that is, the ‘sting in the tail’ in subsequent years that follows a pandemic).

1.8 If the principles of this document are agreed and if access to antiviral and pandemic vaccine is enabled, operational plans may be individually updated by each island to include:
   • a pandemic influenza antiviral distribution plan
   • a pandemic influenza vaccination plan
   • a pandemic influenza communications plan.
2. THE CHALLENGE OF PANDEMIC INFLUENZA

2.1 There are three types of influenza virus – A, B and C. Influenza A viruses cause most winter epidemics and can affect a wide range of animal species as well as humans. During any year, a small proportion of slightly altered viruses will emerge from the larger population of influenza viruses. The human immune system effectively protects against previously seen influenza viral strains. However, upon encountering such an altered virus pre-existing immunity will be only partial or even non-existent, leading to clinical symptoms in those infected.

2.2 Pandemic influenza occurs when an influenza A virus subtype emerges or re-emerges which is markedly different from recently circulating strains. Therefore, it is able to spread widely because few, if any, (and then mainly older) people have natural or acquired immunity to it. It is readily transmissible from person to person and capable of causing illness in a large proportion of those infected.

2.3 During the last century there were three influenza pandemics (Box 1). The most significant of these, the so-called Spanish Flu of 1918/1919, was estimated to be responsible for between 20-50 million deaths more than would usually be expected. The other two declared pandemics of the last century, the Asian Flu of 1957/58 and the Hong Kong Flu of 1968/69, although associated with less morbidity and fewer deaths than the 1918 pandemic, nevertheless caused significant illness in the working population, affecting capacity in the UK (and in our islands) to care for the sick and to maintain services essential to national and local infrastructures.

2.4 A published study of the H1N1 (2009) pandemic has provided the first global estimate of the number of deaths that occurred. The study estimated the 2009 H1N1 virus infection to have caused between 151,700 and 575,400 deaths worldwide during the first year that the virus circulated (a disproportionate number of these deaths occurred in Southeast Asia and Africa, where access to prevention and treatment resources were likely to have been limited). The study also estimated that 80% of the 2009 H1N1 deaths were in people younger than 65 years of age which differs from typical seasonal influenza epidemics during which 80-90% of deaths are estimated to occur in people 65 years of age and older\(^3\).

Box 1: Influenza pandemics of the last 100 years

<table>
<thead>
<tr>
<th>Pandemic</th>
<th>Area of emergence</th>
<th>Estimated Case fatality ratio</th>
<th>Estimated attributable excess mortality worldwide</th>
<th>Age groups most affected (simulated attack rates)</th>
<th>UK GDP loss (% change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1918–1919 “Spanish Flu”</td>
<td>Unclear</td>
<td>2-3%</td>
<td>20 – 50 million</td>
<td>Young adults</td>
<td>-16.9 to 2.4</td>
</tr>
<tr>
<td>1957 – 1958 “Asian Flu”</td>
<td>Southern China</td>
<td>0.1 -0.2%</td>
<td>1 – 4 million</td>
<td>Children</td>
<td>-3.5 to 0.4</td>
</tr>
<tr>
<td>1968 – 1969 “Hong Kong Flu”</td>
<td>Southern China</td>
<td>0.2-0.4%</td>
<td>1 – 4 million</td>
<td>All age groups</td>
<td>-0.4 to (-1.5)</td>
</tr>
<tr>
<td>2009 – 2010 “Swine Flu”</td>
<td>Mexico</td>
<td>&lt;0.025%</td>
<td>100,000 – 400,000</td>
<td>Children (5-4), young adults and pregnant women</td>
<td>-0.03 to - 0.05</td>
</tr>
</tbody>
</table>

Information relating to 1918, 1957 and 1968 provided by WHO
1 Based on analysis undertaken by the Health Protection Agency (HPA) – submitted for publication
2 But emerging evidence of multiple locations
3 Based on WHO study of Thailand, Uganda and South Africa

The uncertainty of pandemic influenza

2.5 Despite over sixty years of scientific scrutiny there is still controversy and debate over many issues related to influenza, including:

- The changes in animal viruses that are associated with human transmission and that might allow early warning
- The genetic changes that indicate whether a new influenza virus is going to be associated with severe disease (pathogenicity) or the ease of transmission or periods of infectivity.
- The factors or circumstances that can cause severe illness and death in apparently healthy individuals infected with the virus, or why different influenza strains attack different age groups.

2.6 Major challenges therefore have to be addressed when developing response plans to pandemic influenza.
Uncertainty about when an influenza pandemic could occur

2.7 The interval between influenza pandemics is variable, ranging from 11 to 39 years during the last century. There are no known markers that herald the start of a new pandemic. H5N1 emerged as a potential threat in 1997 and again in 2003; eight years on, the threat from the virus remains unchanged, although the emergence of a subtype capable of being efficiently transmitted to humans has not yet occurred, despite the global spread of the virus. In contrast, the common ancestor of H1N1 (2009) is estimated to have appeared between 3 November 2008 to 2 March 2009 and caused the first pandemic of the 21st century later in 2009.

2.8 The WHO Global Influenza Surveillance Network, comprising 105 countries, acts as a global alert mechanism, monitoring circulating influenza viruses in order to detect the emergence of those with pandemic potential. Its work enables WHO to recommend the viral subtypes included in each year’s seasonal influenza vaccine.

Unpredictability about how severe a future influenza pandemic could be

2.9 There are currently no genetic markers that will predict the pathogenicity or spread in the human population. Until the virus emerges and has affected a significant number of people, it is not possible to determine many of the features of the disease that will be important in assessing its severity or impact.

2.10 There is also no known evidence of association between the rate of transmissibility and severity of infection. It is possible that a virus could be both highly transmissible and cause severe symptoms.

The speed with which a pandemic can develop

2.11 Modern mass global transit also affords opportunities for the virus to be rapidly spread across the world, even before it has been identified. The short incubation period of influenza means that within a relatively short period of time a significant number of cases will appear across the globe. It is likely to take at least four to six months after a novel virus has been identified and isolated for an effective pandemic influenza vaccine to become available from manufacturers.

---

2.12 This means that it almost certainly will not be possible to contain or eradicate a new virus in its country of origin or on arrival in the UK, Jersey or Guernsey. The expectation must be that the virus will inevitably spread.

The potential impact of an influenza pandemic

2.13 The impact a pandemic has on our populations and each island’s wider society will be determined by three interdependent factors:

**Disease characteristics:** the number of cases and deaths and the proportion of severe disease in the populations of our neighbouring countries (such as the UK, France and the rest of mainland Europe), the clinical groups most affected and the rate of onward transmission. It will only become possible for Public Health in Jersey and Guernsey to assess this once sufficient data is available in our neighbouring countries.

**Service capacity:** the number of patients presenting within our neighbouring countries to primary care services and / or admitted to hospital and intensive care and specialist treatment (e.g. extracorporeal membrane oxygenation (ECMO)), and the capacity of public services, utilities and businesses to cope with increased demands and staff absence.

**Behavioural response:** the levels of concern experienced by the UK and our island’s populations, positive reactions to good respiratory and hand hygiene campaigns, the likely uptake of antiviral medicines and vaccination and the way our health services are accessed and used.

2.14 So, for example:

- A highly transmissible virus producing relatively mild symptoms may still cause significant disruption to businesses and individuals as well as to health and social care services, due to the high incidence of sickness and staff absence over an extended period.

- A concentrated wave of infection, where a large number of people are infected over a short period with a more severe illness is likely to have a greater impact on society and service capacity than the same number of cases spread over a longer period (experience tells us this scenario is likely within island communities).

- Uncertainty about the severity of a new pandemic, and any alarmist reporting in the media, may drive large numbers of people to seek reassurance from health providers, placing strain upon primary and hospital services.
Potential economic impact of an influenza pandemic

2.15 Given the lack of relevant information, assessments of impact on a country’s economy are necessarily simplistic and can only be illustrative. One such illustration would be to assume illness-related absence from work of 50 per cent of employees over the course of the pandemic and an average absence from work duration of 1.5 weeks per person with consequent loss to our economies. This loss could be mitigated through effective business continuity planning.

Lessons from the H1N1 (2009) influenza pandemic

2.16 Pandemic planning in the first decade of the 21st century was largely driven by concerns about the potential of a pandemic associated with significant morbidity and mortality arising from the H5N1 (avian flu) virus. The emergence of the H1N1 (2009) influenza pandemic demonstrated the unpredictability of influenza pandemics. Most people experienced relatively mild illness. The recorded level of illness from influenza in the community in 2009 was below that experienced in the 1999/2000 influenza season – the most recent severe influenza season - and day-to-day life for most people continued largely unaffected.

2.17 Nonetheless, in the UK some younger adults and children, particularly those with underlying health conditions, and some women who were pregnant, experienced severe or even fatal illness and NHS and primary care services came under pressure. In 2009 in Jersey, it was this evolving UK picture and the limited intensive care provision locally that contributed to the response to offer H1N1 vaccine to those in clinical at-risk groups, pregnant women and all children - subsequent expert analysis indicated that this approach undoubtedly saved Jersey from experiencing large numbers of H1N1 infection which would have impacted substantially on healthcare services (see appendix 3b). In the following 2010/11 winter season, the UK again saw the virus re-emerge and cause widespread illness – once again this led to a Jersey response to enable flu vaccine availability locally so as to prevent widespread illness within the islands.

2.18 There are no grounds for complacency and any presumption that the relatively mild H1N1 (2009) influenza pandemic is representative of future pandemics is dangerous. Nonetheless, the 2009 pandemic provided an important test of pandemic preparedness plans and important lessons were identified:

- **Uncertainty**: there will be little or no information at the outset of a new pandemic about the severity of the illness and we will need to look for information emerging from UK and European authorities as they gather accurate and detailed surveillance data on numbers affected, and hospital and critical care admissions.
• **Speed**: we have to be prepared for the number of cases and demand for services to develop with great pace, requiring an agile yet coordinated response.

• **Hotspots**: the demands of the pandemic are unlikely to be uniform and different UK areas will be under pressure at different times (and some not at all). This may have implications for services we source from parts of the UK; we may ourselves become a ‘hot-spot’.

• **Information**: the media and public and professional appetite for information is likely to be intense at times – frequent and consistently coordinated communications between health departments in Jersey and Guernsey will help prevent conflicting messages and confusion.

• **Duration**: a pandemic wave can be expected to continue for many weeks in the UK but could pass through our island communities at a much quicker pace and impacting harder upon our limited island healthcare resources. In time, further waves may also occur.

• **Cross-sector**: whilst our health departments will be under particular pressure, the response will span different departments, requiring close working and mutual support.

### Planning assumptions for a future influenza pandemic

2.19 Previous influenza pandemic planning in Jersey and Guernsey had been based upon UK models of the “reasonable worst case”. This was derived from the experience and mathematical analysis of influenza pandemics and seasonal influenza in the 20th century. This suggested that, given known patterns of spread of infection, up to 50 per cent of the population (50,000 in Jersey) could experience symptoms of pandemic influenza during one or more pandemic waves lasting four weeks in our islands (15 weeks in the UK). The nature and severity of the symptoms would vary from person to person.

2.20 For deaths, the analysis of previous influenza pandemics suggested that we should plan for a situation in which up to 2.5% of those with symptoms (1250 in Jersey) would die as a result of influenza, assuming no effective treatment was available.

2.21 However, it is important to note that:

  • The “reasonable worst case” planning assumptions take no account of the potential effect of response measures such as practising good respiratory and hand hygiene, the use of antiviral medicines and antibiotics, and hospital care for those with severe illness. Such measures should reduce the number of patients needing hospital care
or dying, even in a widespread and severe pandemic, although the extent cannot be known in advance.

- Planning assumptions are not a prediction of what could happen. A lesson learned from the H1N1 (2009) influenza pandemic was that calling the planning assumptions ‘reasonable’ was not well understood. Many people wrongly thought that it meant this was the likely scenario as no indication was given of how unlikely it was that this scenario would be exceeded.

- Planning assumptions can be informed by evidence from the past and analytical work but there will inevitably be an element of judgement. There is no ‘right answer’ and even experts may disagree on the ‘reasonable’ levels for planning.

- Influenza pandemics are intrinsically unpredictable. Plans for responding to a future pandemic should therefore be flexible and adaptable for a wide range of scenarios, not just the “reasonable worst case”. During a pandemic, the assumptions on which to base the response will be updated in the light of emerging evidence about the range of likely scenarios at the time.

- Even influenza pandemics with only mild or moderate impact are likely to put considerable pressure on small island services.

- In an influenza pandemic that has a higher impact on society, services and businesses would be under extreme pressure and may be unable to continue to meet all demands, even with the best of preparations. Step changes, including island wide contingency measures, could be necessary in such circumstances.

2.22 Despite the uncertainty associated with any planning assumptions, it is important to have a consistent basis for planning for a future pandemic response across both our islands. This avoids confusion and could facilitate integrated preparation.

2.23 The reasonable worst case scenario (RWC) on which the planning assumptions below are based will be reviewed by UK pandemic planners authorities on an annual basis. Should the RWC be altered in light of changes to the scientific or wider evidence on which it is based, our planning assumptions below may be subsequently revised.
2.24 A pandemic is most likely to be caused by a new subtype of the Influenza A virus but the plans could be adapted and deployed for scenarios such as an outbreak of another infectious disease, e.g. Severe Acute Respiratory Syndrome (SARS) in health care settings, with an altogether different pattern of infectivity. An influenza pandemic could emerge at any time, anywhere in the world, including in Jersey and Guernsey. It could emerge at any time of the year. Regardless of where or when it emerges, it is likely to reach the UK (and our islands) very quickly.

2.25 It will not be possible to stop the spread of, or to eradicate, the pandemic influenza virus, either in the country of origin or in Jersey or Guernsey, as it will spread too rapidly and too widely. From the first case in the UK, it could be a further one to two weeks until sporadic cases and small clusters of disease are occurring in our islands. Early influx into Jersey appears to have been attenuated in the H1N1 pandemic with containment measures.

2.26 In the UK, initially, pandemic influenza activity may last for three to five months, depending on the season. In Jersey and/or Guernsey, activity may be ‘short & sharp’. In the UK, there may be subsequent substantial activity weeks or months apart, even after the WHO has declared the pandemic to be over (it is difficult to predict whether this will/will not happen in our islands).

2.27 Following an influenza pandemic, the new virus is likely to re-emerge as one of a number of seasonal influenza viruses and based on observations of previous pandemics, subsequent winters are likely to see a higher level of seasonal flu activity compared to pre-pandemic winters.

2.28 Although it is not possible to predict in advance what proportion of the population will become infected with the new virus, previous studies suggest that a greater proportion of children than adults are likely to be effected and that up to one half of all people may display symptoms of some kind (ranging from mild to severe).

2.29 The transmissibility of the pandemic virus and the proportion of people in which severe symptoms are produced will not be known in advance.

Infectivity and mode of spread

2.30 Influenza is spread by droplets of infected respiratory secretions which are produced when an infected person talks, coughs or sneezes. These fall onto surfaces and are acquired by subsequent hand-to-face contact after

---

5. The Scientific Pandemic Influenza Advisory Committee’s Modelling Sub-Group Summary (Annex 1). Available at: http://www.dh.gov.uk/ab/SPI/DH_095904
a person or surface contaminated with infectious droplets has been touched.

2.31 Spread of the disease may also be possible via fine particles and aerosols but the contribution to spread is, as yet, still unclear with the latest evidence suggesting this mode of transmission may be more important than previously thought.

2.32 The incubation period will be in the range of one to four days (typically two to three). Adults are infectious for up to five days from the onset of symptoms. Longer periods have been found, particularly in those who are immunosuppressed. Children may be infectious for up to seven days. Some people can be infected, develop immunity, and have minimal or no symptoms but may still be able to pass on the virus.

2.33 Regardless of the nature of the virus, it is likely that members of the population will exhibit a wide spectrum of illness, ranging from minor symptoms to pneumonia and death. Most people will return to normal activity within 7 - 10 days.

2.34 All ages are likely to be affected but those with certain underlying medical conditions, pregnant women, children and otherwise fit younger adults could be at relatively greater risk as older people may have some residual immunity from previous exposure to a similar virus earlier in their lifetime. However the elderly have increasing co-morbidity with age. The exact pattern will only become apparent as the pandemic progresses.

Responding to an influenza pandemic

2.35 Maintaining stockpiles of antiviral medicines sufficient for a widespread and severe pandemic and planning distribution arrangements is recommended as a countermeasure to tackle a pandemic (this is commensurate with the strategy within Jersey and Guernsey prior to and during the H1N1 2009 influenza pandemic).

2.36 Health services should continue to prepare for up to 30% of symptomatic patients requiring assessment and treatment by primary care, assuming the majority of symptomatic cases do not require direct assistance from healthcare professionals.

2.37 Between 1% and 4% of symptomatic patients will require hospital care, depending on how severe the illness caused by the virus is. There is likely to be increased demand for intensive care services.

2.38 For deaths, the analysis remains that up to 2.5% of those with symptoms would die as a result of influenza if no treatment proved effective. These figures might be expected to be reduced by the impact of countermeasures but the effectiveness of such mitigation cannot be
certain. The combination of particularly high attack rates and a severe disease is also relatively (but unquantifiably) improbable. Taking account of this, and the practicality of different levels of response, when planning for excess deaths, local planners should prepare to extend capacity on a precautionary but reasonably practicable basis, and aim to cope with a population mortality rate of around 1250 people in Jersey possibly over as little as a 4 week period. In a lower impact influenza pandemic, the number of additional deaths would be lower.

2.39 In Guernsey, if estimates that 50% of the population could contract pandemic influenza during an outbreak and that 2.5% of those could die (applied to the latest available Guernsey and Alderney population numbers for 2011, obtained from Policy Council), this would equate to approximately 31,500 infected and just under 790 additional deaths in Guernsey. In Alderney approximately 1,050 people would be infected and between 25 and 30 additional deaths.

Staff Absence

2.40 Up to 50 per cent of the workforce may require time off at some stage over the period of the pandemic. In a severe pandemic, affecting 35-50 per cent of the population, this could be even higher as some with caring responsibilities will need additional time off.

2.41 Staff absence could follow the pandemic profile. In a widespread and severe pandemic, affecting 50 per cent of the population, between 15 per cent and 20 per cent of staff may be absent on any given day.

2.42 Some small organisational units (5 to 15 staff) or small teams within larger organisational units where staff work in close proximity are likely to suffer higher percentages of staff absences. In a widespread and severe pandemic, affecting 50 per cent of the population, 30-35 per cent of staff in small organisations may be absent on any given day.

2.43 Additional staff absences are likely to result from other illnesses, taking time off to provide care for dependants, to look after children in the event of schools and nurseries closing, family bereavement, practical difficulties in getting to work and/or other psychosocial impacts.

UK/ International research and development

2.44 Given the uncertainty about pandemic influenza, the UK Department of Health advises that research and development into animal and human influenza and behavioural science continues to be necessary. Research and development could make a particular contribution to pandemic preparedness and response through the development of a universal vaccine and a better understanding of how influenza is transmitted between people.
• The development of a universal influenza vaccine would provide long-term protection against a wide range of influenza viruses. However, there is unlikely to be any development capable of widespread application in this area in the short term and further research is ongoing.

• Influenza viruses can be transmitted by respiratory droplets, direct and indirect contact and small airborne particles (i.e. aerosols). However, the evidence base is insufficiently clear to determine the relative contribution of each of these routes in the transmission of influenza. Important health policy and infection control issues therefore remain unresolved; for example, how effective surgical masks or respirators might be reducing transmission. International organisations, including the WHO, have therefore prioritised understanding the modes of influenza transmission as a critical need for pandemic planning.

2.45 Rapid research is particularly vital at the onset of a pandemic to improve the understanding of the health and wider impacts of a new virus and to inform the response to the pandemic. In the UK, work is underway to commission the development of research protocols, with the necessary regulatory and ethical approvals in advance of a future pandemic to ensure that research can begin as soon as possible after a novel virus with pandemic potential arrives in the UK.
3. A STRATEGIC APPROACH TO PANDEMIC PREPAREDNESS

Strategic objectives

3.1 Any new influenza pandemic can be expected to have a significant effect on individual members of the population, healthcare providers and society at large. The response needs therefore to be wider than just that of Health. We recommend the overall objectives of a Jersey and Guernsey approach to planning and preparing for an influenza pandemic should therefore be to:

i. Minimise the potential health impact of a future influenza pandemic by:
   - Promoting individual responsibility and action to reduce the spread of infection through good hygiene practices and uptake of antiviral medications plus seasonal influenza vaccination to identified high-risk groups.
   - Ensuring our health and social care systems are ready to provide treatment and support for the large numbers likely to suffer from influenza or its complications whilst maintaining other essential care.

ii. Minimise the potential impact of a pandemic on our society and the economy by:
   - Supporting the continuity of essential services and protecting our local infrastructure as far as possible.
   - Supporting the continuation of everyday activities as far as practicable.
   - Upholding the rule of law and the democratic process.
   - Preparing to cope with the possibility of significant numbers of additional deaths.
   - Promoting a return to normality and the restoration of disrupted services at the earliest opportunity.

iii. Instill and maintain trust and confidence by:
   - Ensuring that health and other professionals, the public and the media are engaged and well informed in advance of and throughout the pandemic period and that health and other
professionals receive information and guidance in a timely way so they can respond to the public appropriately.

3.2 Given the uncertainty about the scale, severity and pattern of development of any future pandemic, three key principles should underpin all pandemic preparedness and response activity:

- **Precautionary**: the response to any new virus should take into account the risk that it could be severe in nature. We must therefore plan for an influenza pandemic with the potential to cause severe symptoms in individuals and widespread disruption to our society.

- **Proportionality**: the response to a pandemic should be no more and no less than that necessary in relation to the known risks. We therefore need to have plans in place not only for high impact pandemics, but also for milder scenarios, with the ability to adapt them as new evidence emerges.

- **Consistency across islands with flexibility**: we should be unified across our islands in responding to a new pandemic whilst taking into account the different healthcare systems in Jersey and Guernsey, but with local flexibility and agility in the timing of transition from one phase of response to another to take account of local patterns of spread of infection.

3.3 In addition, our pandemic preparedness and response should continue to be:

- Evidence based.

- Based on best practice in the absence of evidence.

- Based on ethical principles.

- Based on established practice and systems, as far as is possible.

- Across the whole of our island societies.

- Coordinated at a local level taking into account what is happening nationally and internationally.

**Precautionary: responding in relation to the risk**

3.4 In the early stages of the influenza pandemic, it is unlikely that UK authorities will be able to assess with any accuracy the severity and impact of the illness caused by the virus. There will be some information available from other countries but the uncertainty about the quality of
information that is available and its applicability to the UK and to our islands will mean that our initial response will need to reflect the levels of risk based on this limited evidence. Monitoring of data from early cases arising closer to home will be essential in further informing and tailoring our response.

**Proportionality: planning for uncertainty**

3.5 As reliable information becomes available from our close country neighbours, our appropriate response to the pandemic can be determined. Table 1 below outlines how the response might be taken forward in different pandemic scenarios. These are indicative only – the actual response measures will be determined at the time in the light of scientific, clinical and operational advice.
<table>
<thead>
<tr>
<th>Impact</th>
<th>Nature and scale of illness</th>
<th>Key healthcare delivery</th>
<th>Impact on wider society</th>
<th>Public messages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial phase</strong></td>
<td>Sporadic influenza cases may be reported within the UK</td>
<td>Response in each Channel Island led by Medical Officer of Health (with pandemic operational group convened)</td>
<td>Possible public concern arising from media reporting of cases in the UK or abroad (or reporting of suspected cases at home)</td>
<td>Advice on good respiratory and hand hygiene</td>
</tr>
<tr>
<td>(pandemic impact unknown at this stage)</td>
<td>No confirmed cases within the Channel Islands</td>
<td>Public health engaging support of primary care and pharmacy services, and making preparations should this initial phase be extended</td>
<td>Possible disruption to international travel and concern among intending / returning travellers</td>
<td>Advice about how to obtain further information e.g. to consult <a href="http://www.gov.je">www.gov.je</a> (Jersey) and <a href="http://www.gov.gg">www.gov.gg</a> (Guernsey) websites for up to date Information.</td>
</tr>
<tr>
<td></td>
<td>Possible limited local outbreaks in the UK (schools, care homes)</td>
<td>Local detection, diagnosis and reporting of suspected cases through laboratory testing (and contact tracing as appropriate by local Health Protection teams)</td>
<td>Review and update of pandemic response plans</td>
<td>Public Health to make use of local media to get information messages out to public - establish transparent approach to communicating emerging science, the level of uncertainty about severity and impact, and the likely evolution of the situation</td>
</tr>
<tr>
<td></td>
<td>UK experiencing possible increased proportion of critical care cases with influenza</td>
<td>Plan arrangements for possible antiviral distribution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consider activating local information telephone line.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Normal health services continue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 1: Proportionate response to pandemic influenza

<table>
<thead>
<tr>
<th>Impact</th>
<th>Nature and scale of illness</th>
<th>Key healthcare delivery</th>
<th>Impact on wider society</th>
<th>Public messages</th>
</tr>
</thead>
</table>
| LOW    | Confirmed cases occurring within the island  
UK experiencing similar numbers of cases to moderate or severe seasonal influenza outbreaks  
AND  
In the vast majority of cases – mild to moderate clinical features | PH continuing engagement with Primary Care and pharmacy services  
Primary Care and hospital services coping with increased pressures associated with respiratory illness, with maximum effort  
No significant deferral of usual activities yet  
Antiviral distribution in place (via GPs, via Public Health, Public Health distributing when necessary in schools).  
Local influenza information telephone helpline active  
Laboratory reporting continuing and Health Intelligence analysis | Increase in staff absence due to sickness – similar to levels seen in seasonal influenza outbreaks  
No significant or sustained impact on service and business capacity | As above;  
Information on the pandemic and the clinical effects of infection, and what to do  
Information about antiviral medicines and tailored messages for children, pregnant women, elderly and other at risk groups.  
Employers advised to plan in advance for sickness absence, service reprioritisation and alternative ways of working  
Continued engagement by health leaders of local media |
<table>
<thead>
<tr>
<th>Impact</th>
<th>Nature and scale of illness</th>
<th>Key healthcare delivery</th>
<th>Impact on wider society</th>
<th>Public messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODERATE</td>
<td>Higher number of cases than large seasonal epidemic</td>
<td>Health services no longer able to continue all activity</td>
<td>Concern among teachers and parents about infection spread in educational settings may lead to teacher and pupil absence (CCDC to advise if school closures needed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Young healthy people and those in at-risk groups severely affected</td>
<td>Local decisions to cease some health care activity</td>
<td>Potential disruption to general supplies due to staff absence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AND/OR</td>
<td>ICU under pressure</td>
<td>Supply chain companies implement business continuity plans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>more severe illness</td>
<td>Local information telephone line active.</td>
<td>Routine maintenance afforded a lower level of priority if there are staffing shortfalls, essential repairs expected to continue</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Antiviral distribution may need increasing</td>
<td>Prepare to implement business continuity arrangements for management of excess deaths, if necessary</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contingency plans for supporting care at home and respite care</td>
<td>Maintain essential services in accordance with established business priorities</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engagement with parishes to request community support</td>
<td>Critical Care</td>
<td></td>
</tr>
</tbody>
</table>

Information on the pandemic and the clinical effects of the infection
Advice on seeking medical assessment when not improving or getting worse
Information about antiviral medicines and tailored messages for children, pregnant women, elderly; and other at-risk groups
Information on collection of medicines
Infection control and business continuity advice for specific occupations. e.g. funeral directors, registrars, cemetery and crematorium managers, police etc as appropriate
Managing expectations of Critical Care
<table>
<thead>
<tr>
<th>Impact</th>
<th>Nature and scale of illness</th>
<th>Key healthcare delivery</th>
<th>Impact on wider society</th>
<th>Public messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH</td>
<td>Widespread disease in the Channel Islands AND/OR most age-groups affected AND/OR severe, debilitating illness with or without severe or frequent complications</td>
<td>GPs, community pharmacies, FNHC district nurses, dental practitioners and social carers, independent sector, residential homes and voluntary organisations fully stretched trying to support essential care in the community with consequential pressure on secondary care Hospitals can only provide emergency services Antiviral distribution working to capacity and under pressure Influenza information helpline fully active Critical Care services: demand outstrips supply, even at maximum expansion UK laboratory testing may be at full stretch and unable to provide services to islands</td>
<td>Emphasis on maintaining supplies and staffing Transport, schools, shops affected by sickness and family care absences Numbers of deaths putting pressure on mortuary, undertaker and crematorium services Possible implementation of legislative changes to facilitate changes in working practice (eg sickness self-certification requirements, benefits payments) Justice system affected by absence of staff, judiciary and other parties. Maintain essential services in accordance with established business priorities</td>
<td>Messages about progress of the pandemic, availability of healthcare and other services Advice on how to minimise risks of transmission Information on how to support family members/neighbours Advice on where to get help for emergencies Truth about how services are coping and what they are doing to cope Explanation of triage systems to align demand and capacity Some civil contingencies advice, including advice to specific occupations such as paramedics, funeral directors, registrars, cemetery and crematorium managers, police etc as appropriate</td>
</tr>
</tbody>
</table>
Flexibility: managing the phases of pandemic response

3.6 The World Health Organization (WHO) is responsible for identifying and declaring an influenza pandemic based on the global situation. Following a revision of their guidance in June 2013, the WHO have introduced a new risk-based approach to pandemic influenza risk management. This encourages countries to firstly take into account the WHO’s own global risk assessment of each influenza virus with pandemic potential that is infecting humans, and then to use this information to develop their own flexible plans and management decisions for the benefit of their country’s specific situation and needs, based on a local risk assessment.

3.7 The revised WHO global phases are termed interpandemic, alert, pandemic and transition and they are designed to describe the spread of a new influenza subtype, taking account of the disease it causes, around the world. This risk-based approach to pandemic influenza phases is represented in Figure 1 as a continuum.

Figure 1: The continuum of pandemic phases showing WHO actions


Interpandemic phase: This is the period between influenza pandemics.
**Alert phase:** This is the phase when influenza caused by a new subtype has been identified in humans. Increased vigilance and careful risk assessment, at local, national and global levels, are characteristic of this phase. If the risk assessments indicate that the new virus is not developing into a pandemic strain, a de-escalation of activities towards those in the interpandemic phase may occur.

**Pandemic phase:** This is the period of global spread of human influenza caused by a new subtype. Movement between the interpandemic, alert and pandemic phases may occur quickly or gradually as indicated by the global risk assessment, principally based on virological, epidemiological and clinical data.

**Transition phase:** As the assessed global risk reduces, de-escalation of global actions may occur, and reduction in response activities or movement towards recovery actions by countries may be appropriate, according to their own risk assessments.

In developing their revised guidance, the WHO recognize that as pandemic viruses emerge, countries and regions face different risks at different times. The impact of the H1N1 (2009) influenza pandemic across the UK varied significantly, particularly in the early stages. In London, the West Midlands and Glasgow, health services experienced extreme pressures before parts of the North West and Northern Ireland had any cases. In Jersey & Guernsey, because of our frequent travel links to London, we expected our islands to be impacted sooner rather than later and it quickly became apparent that the timing for the introduction or cessation of response measures needed to be determined flexibly in the light of our local indicators. It is for that reason that the WHO now advise countries to develop their own national risk assessments based on local circumstances, taking into consideration the information provided by WHO global assessments. Risk management decisions by countries are therefore expected to be informed by global risk assessments, but to be based on local risk assessments. A local risk assessment document will be maintained alongside this preparedness strategy.

3.8 In the UK, the Department of Health is likely to adopt a consistent overall approach to dealing with the pandemic – so as to ensure an effective clinical and operational response, optimise use of limited resources and to maintain public confidence. Decisions about the nature of the UK’s national response to the pandemic – for example who should be given priority for vaccination and how antiviral medicines will be used – will be taken by UK Ministers based on scientific and clinical advice and will be reported on national media. This may present a challenge locally as there may be good reasons why a different approach is needed to protect the population of a small island. For example, given the respective sizes of Jersey and Guernsey, each island may experience a single rapid pandemic wave which puts greatest pressure on healthcare services over a concentrated shorter period of time. In addition, the limited intensive care beds in each island may necessitate local Public Health teams to respond in a different way (and perhaps sooner) that that of
the UK. The challenge for those leading the local health response during a pandemic will be to ensure the public and media understand why a small island approach might be different from that of the UK – in this respect it is vitally important that Jersey and Guernsey deliver one unified message.

**Phases of a pandemic response: Detection, Assessment, Treatment, Escalation and Recovery**

3.9 The UK Pandemic Influenza Preparedness team have developed a new approach to the indicators for action in a future pandemic response and this approach is useful for Jersey and Guernsey. The UK approach takes the form of a series of phases, named: **Detection, Assessment, Treatment, Escalation and Recovery** and incorporates indicators for moving from one phase to another.

3.10 The phases are not numbered as they are not linear, may not follow in strict order, and it is possible to move back and forth or jump phases. It should also be recognised that there may not be a clear delineation between phases, particularly when considering regional variation and comparisons.

3.11 **Detection** – In the UK, this phase would commence on either the declaration of the current WHO phase 4 or earlier on the basis of reliable intelligence or if an influenza-related “Public Health Emergency of International Concern” (a “PHEIC”) is declared by the WHO. The focus in this stage would be:

- Intelligence gathering by the UK Health Protection Agency/Public Health England from countries already affected.

- Enhanced surveillance within the UK (at this point it is likely that Jersey and Guernsey would also move to an enhanced surveillance situation).

- The development by UK authorities of diagnostics specific to the new virus.

- Information and communications to the public and professionals.

The indicator for the UK to move to the next stage would be identification of the novel influenza virus in patients in the UK. At this stage it is only a matter of time until the novel virus is identified within the islands due to the abundance of business and personal travel opportunities. Once detected in the Channel Islands, Jersey or Guernsey (as appropriate) would move to the next operational phase.

3.12 **Assessment** – The focus in this stage would be:
The local collection and analysis of detailed clinical and epidemiological information on early cases, on which to base early estimates of impact and severity.

Reducing the risk of transmission and infection with the virus within the community by:

- actively finding cases;
- self isolation of cases and suspected cases; and
- treatment of cases / suspected cases and use of antiviral prophylaxis for close / vulnerable contacts, based on a risk assessment of the possible impact of the disease.

The indicator for moving from this stage would be evidence of sustained community transmission of the virus, i.e. cases not linked to any known or previously identified cases.

**These two stages – Detection and Assessment - together form the initial response.** This may be relatively short and the phases may be combined depending on the speed with which the virus spreads, or the severity with which individuals and communities are affected.

### 3.13 Treatment – The focus in this stage would be:

- Treatment of individual cases and population treatment from named centres if necessary.
- Enhancement of the health response to deal with increasing numbers of cases.
- Consider enhancing public health measures to disrupt local transmission of the virus as appropriate, such as localised school closures based on a public health risk assessment.
- Depending upon the development of the pandemic, to prepare for targeted vaccinations as the vaccine becomes available.

Arrangements will be activated to ensure that necessary detailed surveillance activity continues in relation to samples of community cases, hospitalised cases and deaths.

When demands for services start to exceed the available capacity, additional measures will need to be taken.

This decision is likely to be made on a specific island wide basis as not each island may be affected simultaneously, nor to the same degree of
intensity (it is worth noting that during the H1N1 2009 influenza pandemic, local media were keen to know the exact number of flu cases that would signify a change in provision and the concept of HSSD waiting until demand outstrips capacity before this happens was not well understood).

3.14 Escalation – The focus in this stage would be:

- Escalation of surge management arrangements in health and other sectors.
- Prioritisation and triage of service delivery with aim to maintain essential services.
- Resiliency measures, encompassing robust contingency plans.
- Consideration of de-escalation of response if the situation is judged to have improved sufficiently.

These two stages (treatment and escalation) form the Treatment phase of the pandemic. Whilst escalation measures may not be needed in mild pandemics, it would be prudent to prepare for the implementation of the Escalation phase at an early stage of the Treatment phase, if not before.

3.15 Recovery – The focus in this stage would be:

- Normalisation of services, perhaps to a new definition of what constitutes normal service.
- Restoration of business as usual services, including an element of catching-up with activity that may have been scaled-down as part of the pandemic response e.g. reschedule routine operations.
- Post-incident review of response, and sharing information on what went well, what could be improved, and lessons learnt.
- Taking steps to address staff exhaustion.
- Planning and preparation for a resurgence of influenza, including activities carried out in the Detection phase.
- Continuing to consider targeted vaccination, when available.
- Preparing for post-pandemic seasonal influenza.

The indicator for this phase would be when influenza activity is either significantly reduced compared to the peak or when the activity is considered to be within acceptable parameters. Although the objective is to return to inter-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. Therefore, a gradual return to normality is to be expected.

Health and social care services may 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 may continue to suffer potential medium or long-term health complications.
- A backlog of work resulting from the postponement of treatment for less urgent conditions.
- Possible increased demand for services through post-pandemic seasonal influenza.

The reintroduction of “business as usual” also needs to recognise that there may be reduced access to skilled staff and their experience. Many staff will have been working under acute pressure for prolonged periods and are likely to require rest and continuing support. Facilities, essential supplies, and medicines may also be depleted. Re-supply difficulties might persist and critical physical assets are likely to be in need of backlog maintenance, refurbishment or replacement.

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 and machinery start up and so on.

Although recovery is characterised as a move back to normality, it is not possible to predict further waves of the pandemic or the shape and impact of the pandemic virus as it becomes a future seasonal influenza virus, which will emerge and which will again require a regroup and response.

### Evidence based

3.16 Preparations for, and response to, an influenza pandemic will continue to be informed by the best available scientific evidence. In the early stages of a future influenza pandemic there will be uncertainty about the effects of the disease and ongoing development of the pandemic. Scientific and clinical advice alongside expert judgement will be important in directing the response.

3.17 In the UK a Scientific Advisory Group for Emergencies (SAGE) will coordinate strategic scientific and technical advice to support UK cross-government decision making. This would include ensuring a common
understanding of the scientific aspects of the pandemic, providing advice on prognosis, scientific evidence supporting decision making and highlighting the nature and extent of any uncertainties or differences in expert opinion (during the H1N1 2009 influenza pandemic Public Health authorities in Jersey found the information issued by SAGE and the European Centre for Disease Control (ECDC) to be extremely helpful).

3.18 In the UK, England’s CMO will act as the government’s principal source of public health advice and information. In Jersey and Guernsey, this role will be performed by the Medical Officer of Health/Director of Public Health for each respective island.

**Ethical principles for pandemic preparedness**

3.19 In preparing for, and responding to, an influenza pandemic, departments, organisations and individuals will face difficult decisions and choices that may impact on the freedom, health and in some cases prospects of survival of individuals. Decisions will be needed on how to make the fairest use of resources and capacity, in proportion to the demands of the pandemic alongside other pressures that may be in place at the same time, in order to minimise the harm caused by the pandemic as a whole. Many people are also likely to face individual dilemmas and tensions between their personal, professional and work obligations.

3.20 Given the potential level of additional demand, capacity limitations, staffing constraints and potential shortages of essential medical material, including medicines, hard choices and compromises may be particularly necessary in the fields of health and social care.

3.21 People are more likely to understand and accept the need for, and the consequences of, difficult decisions if these have been made in an open, transparent and inclusive way. Local preparations for an influenza pandemic should therefore be based on widely held ethical values, and the choices that may become necessary should be discussed openly as plans are developed, so that they reflect what most people will accept as proportionate and fair. The UK Department of Health requested an independent committee with cross-UK representation develop an ethical framework to inform the development and implementation of response policy both in the health and social care sector and more widely. The systematic use of the principles it contains can act as a checklist to ensure that all the ethical aspects have been considered at all levels.

3.22 The ethical framework was first published in 2007. It has been reviewed by the Committee on Ethical Aspects of Pandemic Influenza (CEAPI) in the light of the experience of the H1N1 (2009) influenza pandemic and the Committee has concluded that it remains appropriate and fit for purpose in
planning for a further pandemic. The framework is available online\(^6\). The routine use, in each organisation, of professional practice mechanisms based on the ethical framework will support staff in resolving any ethical issues that may arise out of their work.

**Building on established systems and business continuity**

3.23 Pandemic influenza response plans should be based on existing systems and processes wherever possible. Business continuity plans for responding to other pressures, such as winter illness or major incidents such as flooding, are well established, tried and tested. Building on these familiar procedures provides a robust foundation for responding to fluctuation in demand for capacity that may occur in an influenza pandemic.

**Whole of society preparedness**

3.24 The challenges of an influenza pandemic are far reaching and require a cross-society approach. As with all emergencies, the Emergency planning department takes primary responsibility for developing preparedness plans for an effective operational response to major emergencies – in Jersey, this strategy document highlights the health response to an influenza pandemic and links in with existing coordinated plans and arrangements put in place by the Emergency Planning Officer.

In Guernsey, the “Strategic Coordinating Group” would be activated (see Strategic Coordinating Group User Manual) and the Civil Contingencies Authority convened when necessary to support the response led by Health and Social Services Department. Guernsey’s Health and Social Services Department take the lead in planning purposes with the support of the Guernsey Emergency Planning Officer.

3.25 Experience from previous emergency responses indicates a number of key factors which are critical for ensuring effective, coordinated responses. These are:

- **Clear leadership:** Pre–established and tested command and control structures with clear roles and responsibilities, along with strong working relationships, are essential in ensuring coordination and channelling communication at every level of the response. However, those placed in leadership roles also need to understand the

---

importance of public confidence and engagement, facilitated through an approach encompassing openness and transparency.

- **Exercising arrangements**: These test that response plans work and are efficient. Staff familiarity with plans and their likely roles and responsibilities helps to ensure that arrangements run smoothly. The involvement of relevant partner organisations in testing and exercising will improve understanding of each other’s response plans and ensure that any links and assumptions are identified and validated.

- **Knowledge & Information Management**: Effective knowledge and information management is important during any adverse event. A structured approach to knowledge management throughout the planning and response phases will help with evaluation and recovery following a pandemic and can assist in incorporating lessons learned which will improve and strengthen any future response.

**Coordination within the UK**

3.26 Given the national scale, complexity and international dimensions of a pandemic, strong cross-government planning and central government coordination remains critical. The UK Department of Health is the lead government department for pandemic preparedness and response in the UK. It has overall responsibility for developing and maintaining the contingency preparedness for the health and social care response, maintaining liaison with international health organisations and providing information and specialist advice to Ministers, other government departments and responding organisations. It is likely that the UK Cabinet Office Briefing Room (COBR) will activate a Scientific Advisory Group for Emergencies (SAGE) to coordinate strategic scientific and technical advice to support UK cross-government decision making.

**Command & Control in Jersey**

3.27 In Jersey, the Emergencies Council (EC) is the overarching body responsible for dealing with emergency situations. The Council holds full executive powers for decision-making and strategy in the event of a major emergency, and provides the legislative controls and political direction for its overall management. The Emergencies Council is chaired by the Chief Minister and membership includes the Minister for Home Affairs, Minister for Economic Development, the Minister for Transport and Technical Services, the Minister for Health and Social Services and a Connétable nominated by the Comité des Connétables (the Bailiff, Lieutenant Governor and Attorney General are entitled to attend, and be heard at any meeting of the Council).

In Jersey, in the event of a pandemic, the immediate pressures are likely to fall primarily on the Health and Social Services Department (HSSD).
The schematic in Appendix 1 shows HSSDs major incident management structure for command and control. Although for most other major incidents the Strategic Co-ordination Group (SCG) would be led by the Chief of Police, in the event of a pandemic the lead of the SCG would likely be designated to the HSSD Chief Executive. The Medical Officer of Health (MoH) would likely lead the Silver (Tactical) Coordination Group and as Silver Commander, the MoH would be the pivotal link in the chain of command between Gold and Bronze level. The MoH would likely instruct key tactical command group staff to be situated within a ‘Pandemic Hub’ based within Classrooms 1 & 2 of the Harvey Besterman Education Centre as these rooms are ideally placed with telephone lines and internet connections. During the 2009 H1N1 Pandemic these rooms served this purpose very well with laptops, internet connections and telephones quickly set up in this area (the experience in the H1N1 2009 influenza pandemic was that HSSD’s pandemic effort became more focused when staff moved into a ‘Pandemic Hub’ as it provided a visible centre for co-ordination of operational level (Bronze) activities).

**Command & Control in Guernsey**

3.28 Co-ordination of response between the two islands will be undertaken by the Medical Officers of Health with telephone discussions at appropriate frequencies depending on the phase of the pandemic.

In Guernsey, the Director of Public Health/Medical Officer of Health (MoH) would lead HSSD’s response to an influenza pandemic during the initial stages. It is likely that the MoH would convene an Expert Influenza Panel with key members of staff from HSSD, including chief pharmacist, surgery representatives (see terms of reference) in the Emma Ferbrache Room.

The MoH would provide regular briefings to the HSSD Chief Officer and Corporate Management Team.

If a strategic level of response is required, the MoH would alert the HSSD Chief Officer who is a member of the Civil Contingencies Advisory Group (CCAG). The CCAG is the strategic level, multi-agency body responsible for emergency planning in Guernsey and if necessary will convene a multi agency Strategic Coordinating Group to oversee the strategic level response, setting the aim and objectives and strategy for the tactical group. They may also determine the media strategy and take responsibility for other specialist cells e.g. logistics or recovery.

The CCAG may decide to brief the political members of the Civil Contingencies Authority.
4. KEY ELEMENTS OF THE PANDEMIC RESPONSE

4.1 The 2007 National Framework set out a ‘defence in depth’ approach to responding to pandemic influenza. This was based on a combination of behavioural interventions and the availability of pharmaceutical countermeasures. The reviews of recent scientific evidence confirm the continuing overall appropriateness of this approach. Jersey and Guernsey health departments recommend adopting a ‘defence in depth’ strategy such as that adopted for the UK. This ‘defence in depth’ strategy aims to minimise the spread, treat individual clinical cases of pandemic influenza and protect the public by:

- Detecting and assessing the impact of the virus and identifying the groups most at risk of severe illness, hospitalisation, admission to ICU, and death.

- Reducing the risk of transmission and infection with the virus as far as possible, supported by good hygiene advice, appropriate behavioural interventions, and provision of personal protective equipment for front-line health and social care staff.

- Minimising serious illness and deaths, supported by rapid access to antiviral medicines, antibiotics and healthcare.

- Protecting the public through preventing the disease when possible and appropriate, through vaccination.

- Working during the inter-pandemic period to develop the capacity and resilience of our islands.

4.2 During a pandemic, Governments of all countries will need to make final decisions and issue local advice on the application of specific measures in the light of emerging scientific evidence and data. In doing so, the ethical framework and in particular the principles of precaution (which assists in ensuring that harm is minimised), proportionality and flexibility should apply throughout. No additional restrictions, such as restrictions to public events should be placed on the public unless it is absolutely necessary to protect the health of the public and then only for so long as it is appropriate.

Detection & Assessment

4.3 Early comprehensive assessment of the epidemiological and clinical characteristics of a novel influenza virus is essential to enable the implementation of a proportionate response to a new pandemic. As the
pandemic evolves, UK authorities will monitor and report on the spread and impact of the pandemic to high statistical standards – this is the role of surveillance. Closer to home, surveillance measures will be put into place by the public health departments of each island, working closely with health care providers. There will also be a need to assess rapidly the uptake and effectiveness of clinical measures that are undertaken.

**Reducing the spread of disease: infection control & respiratory and hand hygiene**

4.4 Influenza viruses can spread from person to person via the respiratory route when an infected person coughs and sneezes, and through hand-to-face (nose, mouth or eye) contact after a person or surface that is contaminated with infectious respiratory droplets has been touched. Spread of the disease is also possible via fine particles and aerosols but the contribution to spread is as yet still unclear. Research suggests that influenza viruses can survive on commonly touched surfaces for periods ranging from a few hours to several days, depending on environment condition, but certainly long enough to facilitate person-to-person transmission. In general, viruses survive longer on hard nonporous surfaces, such as door handles, than on soft porous surfaces, such as tissues.

4.5 To protect others and reduce the spread of infection, anyone ill with pandemic influenza should:

- Stay at home.
- Minimise close contacts.
- Adopt thorough respiratory and hand hygiene practices, i.e. covering the nose and mouth with a tissue when coughing and sneezing, disposing immediately of that tissue after use, and washing hands frequently with soap and warm water, or alcohol gel if water is not readily available.

**Facemasks and respirators**

4.6 Facemasks and respirators have a role in providing healthcare worker protection, as long as they are used correctly and in conjunction with other infection control practices, such as appropriate hand hygiene and, most importantly, vaccination of frontline healthcare workers as soon as vaccine becomes available.

---

7 Routes of transmission of the influenza virus. Scientific Evidence Base Review 2011

8 The use of facemasks and respirators in an influenza pandemic. Scientific Evidence Base Review 2011
4.7 Facemasks, or surgical masks, are primarily designed to protect the environment from particles expelled by the wearer. If fitted properly, and used and changed in accordance with manufacturers instructions, they provide a physical barrier to large droplets but will not provide full respiratory protection against smaller particles such as aerosols.

4.8 Respirators are more sophisticated than facemasks and are designed to protect the wearer from breathing in fine or very small airborne particles (i.e. aerosols), which might contain viruses and other microorganisms, in addition to larger droplets. They should be worn when performing procedures that have the potential to generate infectious aerosols; examples include intubation, extubation and related procedures. It is a legal requirement that anyone who might be required to wear a respirator be fit-tested to ensure that an adequate seal can be achieved to provide the best level of protection and that training in use be provided. More than one make of respirator should be made available to help account for different face shapes among employees.

4.9 Although there is a perception that the wearing of facemasks by the public in the community and household setting may be beneficial, there is in fact very little evidence of widespread benefit from their use in this setting. Facemasks must be worn correctly, changed frequently, removed properly, disposed of safely and used in combination with good respiratory, hand, and home hygiene behaviour in order for them to achieve the intended benefit. Research also shows that compliance with these recommended behaviours when wearing facemasks for prolonged periods reduces over time.

4.10 Jersey and Guernsey should maintain small stockpiles of facemasks and respirators for health and social care workers. In line with the scientific evidence, we will not stockpile facemasks for general use in the community. The responsibility for providing advice on the use of facemasks and respirators, as well as their provision and training, for non-health workers in the public and private sector rests with employers.

4.11 Employers will need to undertake risk assessments to determine whether the provision of facemasks or respirators is appropriate for their staff, and workers who need to wear a facemask or respirator will need to receive training in their safe use, removal and disposal. Where a risk assessment indicates respirators are necessary, staff must be fit tested. Employers should refer to Pandemic Infection Control Guidance at www.dh.gov.uk/pandemicflu (and www.hps.scot.nhs.uk), and Health & Safety Executive (HSE) guidance on conducting risk assessments when considering the supply of facemasks and respirators to other front-line workers (www.hse.gov.uk/biosafety/diseases/pandemic.htm). These are UK policies that will be kept under review as new scientific evidence emerges.
International travel, border restrictions and screening

4.12 The Foreign and Commonwealth Office will issue advice regarding travel to affected countries. There are no plans to attempt to close borders in the event of an influenza pandemic. The UK expects to be one of the earlier countries to receive infectious individuals because of its high level of international connectivity - in turn, Jersey has high connectivity to the UK. Modelling suggests that imposing a 90% restriction on all air travel to the UK at the point a pandemic emerges would only delay the peak of a pandemic wave by one to two weeks\(^9,10\). Even a 99.9% travel restriction might delay a pandemic wave by only two months. During 2009 it became clear that the pandemic virus had already spread widely before international authorities were alerted, suggesting that in any case the point of pandemic emergence had been missed by several weeks. The economic, political and social consequences of border closures would also be very substantial, including risks to the secure supply of food, pharmaceuticals and other supplies.

4.13 In the UK, in general, normal port health arrangements will apply during a pandemic. Given the expected two to three day incubation period for pandemic influenza, there is no evidence of any public health benefit to be gained from meeting planes from affected countries or similar pro-active measures such as thermal scanning or other screening methods. Such measures are largely ineffective, impractical to implement and highly resource intensive\(^11,12\).

4.14 Passengers should be encouraged to self-report symptoms to crew and ground staff to enable information gathering, investigations and treatment to be undertaken. This will be accompanied by an information campaign at ports of entry, reminding passengers of the symptoms of influenza, what to do should they become ill, and to defer travel if unwell. Communications to the general public to explain the basis for the policy, as well as to reassure them, will also be important.

---


\(^11\) Cowling BJ, Lau LLH, Wu P, Wong HWC, Fang VJ, Riley s, Nishiura H. “Entry screening to delay local transmission of 2009 pandemic influenza A (H1N1)” BMC Infectious Diseases 2010, 10:82

\(^12\) Priest PC, Duncan AR, Jennings LC, Baker MG. 2011 Thermal Image Scanning for Influenza Border Screening. Results of an Airport Screening Study. PLoS ONE 2011, 6(1)
Restrictions on public gatherings and public transport

4.15 UK pandemic experts advise that there is very limited evidence that restrictions on mass gatherings will have any significant effect on influenza virus transmission\textsuperscript{13}. Large public gatherings or crowded events where people may be in close proximity are an important indicator of ‘normality’ and may help maintain public morale during a pandemic. The social and economic consequences of advising cancellation or postponement of large gatherings are likely to be considerable for event organisers, contributors and participants. There is also a lack of scientific evidence on the impact of internal travel restrictions on transmission and attempts to impose such restrictions would have wide-reaching implications for business and welfare.

4.16 For these reasons, the working presumption by UK authorities will be that they will not impose any such restrictions. The emphasis will instead be on encouraging all those who have symptoms to follow the advice to stay at home and avoid spreading their illness. During a pandemic, the Medical Officer of Health / Consultant in Communicable Disease will advise according to the local situation.

School closures

4.17 There is modelling data highlighting the potential benefit of school closures in certain circumstances\textsuperscript{14}, both in terms of protecting individual children from infection and in reducing overall transmission of the virus in the population. However, to be effective prolonged closures are required. This may involve schools over a wide area, but carries a risk that social mixing of children outside school would defeat the object of the closures.

4.18 However, under some circumstances head teachers (and their Boards of Governors where relevant) may take the decision to close individual establishments temporarily. Such closures should be guided by the following planning principles:

- Using a precautionary approach in the early stages of an influenza pandemic and depending on the public health risk assessment, the MoH (Jersey) and / or Director of Public Health (Guernsey) may advise individual school closures. The purpose would be to reduce the initial spread of infection locally while gathering more information about the spread of the virus.

\textsuperscript{13} Impact of mass gatherings on an influenza pandemic. Scientific Evidence Base Review 2011

• Once the virus is more established in the islands, the general policy would be that schools should not close – unless there are specific local business continuity reasons (staff shortages or particularly vulnerable children). This policy will be reviewed in light of information about how the pandemic is unfolding at the time.

• Depending on the situation there may be an argument for school closure if school wide vaccination is imminent (the degree of admixture for delivery of vaccine is low compared with normal activity).

• Voluntary exclusion from school, for the duration of the incubation period on return from high prevalence areas, may be part of the early containment response.

4.19 The impact of closure of schools and similar settings on all sectors would have substantial economic and social consequences, and have a disproportionately large effect on health and social care because of the demographic profile of those employed in these sectors. Such a step would therefore only be taken in an influenza pandemic with a very high impact and so, although school closures cannot be ruled out, it should not be the primary focus of schools’ planning.

Minimising serious illness and deaths

4.20 A pandemic will inevitably place substantial pressures on small island health services sooner than would happen within the UK where support from hospitals and services in neighbouring towns and cities can be readily utilised. Clinical countermeasures such as antiviral medicines and antibiotics may reduce the severity of illness in individuals, lessen the number of deaths resulting from pandemic influenza and ease pressure on intensive care and hospital services.

Antiviral medicines

4.21 When used to treat influenza, antiviral medicines, such as oseltamivir (Tamiflu™) and zanamivir (Relenza™), can reduce the length of symptoms and usually their severity\textsuperscript{15}. Evidence suggests that when antivirals are taken within two days of the onset of symptoms, the total duration of illness is reduced by around a half to one full day. There may therefore be a reduction in the burden on primary and secondary healthcare services. Further evidence suggests that a range of public health benefits may be achieved such as a reduction in the number of complications, hospitalisations and deaths. Although licensed for use within 48 hours of symptom onset, clinical trials’ data are very clear that the earlier that treatment can be started the greater the likely degree of benefit. Therefore, the individuals for whom antiviral medicines are

\textsuperscript{15} Use of antivirals in an influenza pandemic. Scientific Evidence Base Review 2011
recommended must be treated as soon as possible. In addition, in persons with severe illness, treatment commenced more than 48 hours of symptom onset may still be beneficial and reduce the risk of fatal outcome and should therefore be considered on a case-by-case basis.

4.22 During seasonal influenza outbreaks, the prescribing of antiviral medicines is normally restricted to those in ‘at risk’ groups. The UK Department of Health is planning to change regulations to allow GPs to prescribe antiviral medicines for patients who are not in an at-risk group, but who they consider may be at risk of developing serious complications from influenza. In the UK, GPs would be guided by the CMO in using this flexibility; in the channel islands guidance would be given by the Consultant In Communicable Disease Control (CCDC). In a pandemic, where infection levels are expected to be widespread due to the absence of population immunity and the nature and severity of the virus is unknown in advance, and when a vaccine may be unavailable for some time, more widespread deployment of antiviral medicines may be recommended.

4.23 Jersey and Guernsey plans include maintaining a stockpile of antiviral medicines for use in a pandemic. In line with current scientific advice, both oseltamivir and zanamivir should be stockpiled to ensure the response can be as flexible and resilient as possible, particularly against the risk of a pandemic virus strain developing resistance to oseltamivir.

4.24 In the light of scientific and clinical advice at the time, antiviral treatment may be limited, for part or all of the pandemic, to those in at risk groups if the pandemic proves to be very mild in nature or if antiviral medicine supplies are being depleted too rapidly.

The use of antiviral medicines for prophylaxis

4.25 Antiviral medicines can also be used for the prophylaxis (or prevention) of pandemic influenza, as a way of limiting the spread of the disease from person to person. Targeted prophylaxis on clinical grounds (i.e. for those in at risk groups) can be an effective way of protecting at risk individuals in a household where there is illness, as was demonstrated during the H1N1 (2009) influenza pandemic.\(^{16,17}\). Antiviral medicines used in prophylaxis will only protect an individual for as long as the medicine is taken. After the end of prophylaxis, the individual remains susceptible to infection and no long term immunity is conferred.

---


\(^{17}\) Pebody R et al, EID in press
4.26 Modelling data suggest that a widespread policy of “household prophylaxis” - that is giving antiviral medicines to the household contacts of a person with influenza symptoms - could, in theory at least, substantially reduce the overall number of cases of infection in the population. However, to achieve this effect, all household contacts of all patients with influenza symptoms would have to receive the antiviral medicines within 24 hours of the onset of their symptoms.

4.27 UK authorities believe it is unlikely to be possible to assure these conditions have been met on a universal basis, and that such a strategy could further result in large numbers of antiviral medicines being wasted or issued unnecessarily (if, for example, the sick person in fact had another illness). In addition, there is evidence from the H1N1 (2009) influenza pandemic that many individuals who received them for prophylaxis did not complete the course. For these reasons, apart from an initial period (this will depend upon compliance from the public) as part of a range of precautionary measures to attempt to reduce the risk of transmission and infection with the virus, the UK does not plan at the current time to adopt a general strategy of household prophylaxis.

**Antibiotics**

4.28 Secondary bacterial infections are likely to be a major cause of death during an influenza pandemic. The main role of antibiotics is to reduce the severe illness and deaths which could arise from such secondary complications. The UK plans to maintain a stockpile of antibiotics most likely to be useful for complications arising from pandemic influenza. These would be made available if there was clear evidence of shortages in the supply chain in primary or secondary care during a pandemic.

**Protecting people through vaccination**

4.29 People considered to be “at risk” from seasonal influenza are invited for vaccination each year. However, as an influenza pandemic will result unexpectedly from an entirely new viral strain or subtype, seasonal influenza vaccines could not be expected to provide any protection against pandemic influenza.

4.30 There are two distinct types of pandemic vaccine:

- **Pre-pandemic vaccines** that are produced in advance of a pandemic and are designed to protect against a strain of influenza virus that

---


19 Use of antibiotics in an influenza pandemic. Scientific Evidence Base Review 2011
experts judge to be a potential cause of a future pandemic, e.g. H5N1. The degree of protection will depend on how similar the pandemic viral strain is to the strain used to prepare the vaccine.

- **Pandemic-specific vaccines** that are developed specifically to protect against the pandemic viral strain, once it has been isolated. Once available, a pandemic specific vaccine should protect most recipients from clinical illness and may also reduce illness severity, hospitalisation and death and therefore the wider impact of subsequent waves of the virus.

**Pre-pandemic vaccine**

4.31 The UK government currently holds a limited supply of H5N1 vaccine. This could potentially offer some protection in the event of an increased threat of a new pandemic arising from this highly pathogenic virus (“avian flu”). However, this vaccine would not necessarily be well-matched to the specific pandemic strain once it emerges and so the level of protection offered by the vaccine would not be known until a new pandemic virus emerges.

4.32 Taking account of this and the current Joint Committee on Vaccination and Immunisation (JCVI) advice, the UK Government’s policy is that these vaccines, if useful, would be prioritised for the protection of frontline healthcare workers and those in clinically at-risk groups.

**Pandemic-specific vaccine**

4.33 The development of a new pandemic-specific vaccine can only begin once the new pandemic influenza viral strain has been identified and isolated. Arrangements have been put in place by the European Medicines Agency (EMA) to enable manufacturers to conduct studies with prototype pandemic-specific vaccines and seek approval of ‘mock up’ licences in the inter-pandemic period. These studies mean that the form of pandemic-specific vaccine will already have undergone detailed clinical trials, including safety studies, which allows the new vaccine to be licensed and available for use as quickly as possible.

4.34 The production process is highly complex and it is likely to take at least four to six months after the start of a pandemic before a pandemic-specific vaccine would start to become available.

4.35 As a contingency measure, the UK Government is currently in discussion with manufacturers about the possibility of securing new advance supply agreements for a pandemic-specific vaccine to be available as soon as it is developed. The health departments in Jersey and Guernsey
recommend Channel Island pre-purchase agreements are set up to ensure a supply of pandemic-specific vaccine is available to each island as soon as it was developed. UK authorities believe it is not realistic to expect that vaccination with a pandemic-specific vaccine will have an impact during the first UK wave of an influenza pandemic although pandemic-specific vaccines could be an important tool in preventing further cases and protecting the vulnerable, particularly if further waves of infection occur. In Jersey, however, during the 2009 H1N1 pandemic, containment measures, including use of antivirals did help to delay the first pandemic wave until nearer the time when pandemic specific vaccine became available.

Pandemic vaccination programme

4.36 Once pandemic-specific vaccine starts becoming available, deliveries of supplies are likely to be phased over a number of weeks or months. The Joint Committee on Vaccination and Immunisation (JCVI) has agreed that the primary objective of a pandemic-specific vaccination programme should be to reduce morbidity and mortality. Therefore, vaccine, once available in the UK, would be prioritised to groups of the population to reduce morbidity and mortality as far as may be possible.

4.37 JCVI also supported the proposed early use of the vaccine in front-line health and social care workers, given the greater potential exposure to the virus and the possibility of transmitting that infection to susceptible patients or people they were supporting and because this will help to maintain the resilience of the health service.

4.38 The UK Committee on Ethical Aspects of Pandemic Influenza CEAPI has previously considered the use and prioritisation of vaccine. They concluded that the most appropriate course of action would depend on the particular circumstances, including what could be achieved with the amount of vaccine available at the time, and this remains their view following the experience of the H1N1 (2009) influenza pandemic. Health authorities within Jersey and Guernsey would therefore consider the particular circumstances at the time of the pandemic to determine priorities for use of the vaccine, taking into account available advice provided by organisations such as JCVI. If it is not possible to limit the spread by achieving herd immunity, where so many people are immune that the disease cannot continue to infect people to maintain itself in the population, it is important to reduce the impact of the pandemic. Targeting ‘superspreaders’ during prioritization of the vaccination programme is important.(as occurred in Jersey during the 2009 pandemic).

---

20 The primary aim of vaccination is to protect the individual who receives the vaccine. Vaccinated individuals are also less likely to be a source of infection to others. This reduces the risk of unvaccinated individuals being exposed to infection. This means that individuals who are not vaccinated will still benefit from the routine vaccination programme. This concept is called population (or ‘herd’) immunity.
5. COMMUNICATION AND PUBLIC AND PROFESSIONAL ENGAGEMENT

5.1 There are particular challenges in providing clear information and advice during a pandemic. Scientific knowledge will at first be limited, the pattern of disease spread may be variable across the UK and/or across both islands and public concern may be high. Communications also need to reflect the differences of health and other systems across the UK and in Jersey and Guernsey.

5.2 Consistent, clear public messaging, consistent across both islands, is critical to a successful response to a pandemic. This will help to maintain public trust and support, as well as in increasing uptake of recommended actions such as good respiratory and hand hygiene practices, effective and responsible use of antiviral medicines, and uptake of vaccination.

5.3 As well as consistency of public messaging, it is vital that communications within and between local health and resilience organisations are also clear and consistent. Pandemics require the whole of society to respond, and this response will be improved if everyone has access to the information they need, in a form which works for them. This is not an easy task, but one which all organisations should strive towards.

5.4 The main aims of a Jersey / Guernsey pandemic influenza communications and public engagement strategy would be to:

**Explain the outbreak**

- The Public Health department in each island is responsible for providing accurate and timely information throughout the course of the pandemic to the public, staff and stakeholders.

- In particular, it should ensure that health and social care staff have the right information at the right time to perform their role and enable them to respond to enquiries from the public.

**Establish confidence**

- Communications should also establish and maintain confidence in the ability of the Public Health Department and the health services in each island to prepare and manage an effective response.

**Minimise the risk of infection**

- Communications will advise people what to do to protect themselves and others and encourage them to modify their behaviour through:
– Helping them understand the potential seriousness for themselves, their family and society at large and encouraging them to take positive action through hygiene behaviours;

– helping people to recognise the symptoms;

– helping them to understand what to do if they get infected;

– advising people how best to look after themselves and others; and

– communicating the role of vaccines and antiviral medicines (bearing in mind that lay people often confuse the roles of these two types of medications).

5.5 All communication should be high quality and cost effective, using the most efficient and reliable ways of delivering information in a range of scenarios to a variety of audiences so to maximise understanding and encourage appropriate behaviour without causing panic or appearing disproportionate.

Enabling people to share responsibility for preparedness and response

5.6 However well plans for a new pandemic are prepared and implemented by health and other organisations, their overall effectiveness will ultimately depend on the cooperation of individuals and their willingness to follow advice, take personal responsibility for their health and accept responsibility for supporting each other. Public Health Departments alone cannot mitigate the progression and impact of a pandemic. Rather, it will require people, communities and States departments to work together and act appropriately to achieve this.

5.7 During an influenza pandemic, the Public Health Department in each island will be primarily responsible for the provision of information about the course of the outbreak and for developing plans to deliver treatments and vaccinations.

5.8 Openness and transparency is central to an effective pandemic response. People are likely to respond better and are more likely to take effective and appropriate action if they trust both the advice given and the person or organisation offering it.

5.9 Research also suggests that people are more likely to take up recommended behaviours when they clearly understand the risk the pandemic poses to them (e.g. understanding they could become infected with influenza themselves.) Alongside this understanding of the risk, people need to have access to the tools and information to respond to it.
Communications are likely to be most effective when they explain clearly why certain actions are protective and why people are being asked to take them. If individuals understand the risk but do not know how to mitigate it, then this is likely to increase the uptake of non-recommended behaviours, e.g. requesting a home visit rather than presenting at a GP surgery for assessment and treatment – with the attendant infection risk posed to others.

5.10 Additionally, behavioural science indicates that communication should not rely upon an overly linear or ‘rational’ model of human behaviour, where information is provided and people judiciously weigh up the pros and cons of acting on that information. Awareness is not always correlated with action, and approaches such as those outlined in the MINDSPACE report\(^\text{21}\) should be applied in pandemic communication strategies. For example, demonstrating the normality of having a vaccination could be more effective than focusing on non-compliance as it harnesses the impact of social norms. Messaging should avoid “one-size fits all” approaches and instead be targeted to segments of the population so as to achieve the greatest level of engagement with any communications campaign.

**Communications for the public**

5.11 During a pandemic, the Public Health Department in each island will work with their respective communications department to use a wide range of media to communicate information effectively to the public, to engage in discussion and to identify areas of concern. Information may also be made available directly to the public through telephone help lines and other interactive channels. Regular press briefings, local TV, radio, key websites and social media and other information channels will be used to reach a wide audience and to encourage responsible, informed reporting.

5.12 Consideration should be given to developing new ways of engaging proactively with journalists, the professions, and the public. Use could be made of social networking sites and to creating online engagement through blogs and webchats.

5.13 Communication plans need to remain flexible and pragmatic. They should also be scalable and straightforward to implement. During an influenza pandemic the UK government will track public awareness and attitudes through market research to find out how effectively messages are working and to measure engagement. Tracking surveys will help to ensure that the communications messages are reaching all groups of the population and that those who are particularly vulnerable have similar access to advice. In Jersey and Guernsey, it may be possible to utilise some of the messages

---

coming from the UK media, although this can also present challenges if that information differs from the approach being taken in the islands.

5.14 Where possible, communication about regular winter flu should be compatible with core objectives of pandemic communication, encouraging positive behaviours such as good respiratory and hand hygiene practices and vaccination uptake.

Communication of statistical data in an influenza pandemic

5.15 Public health services are responsible for the collection and publication of surveillance and other data relating to public health threats such as a pandemic. Transparent, orderly and proportionate release of data is important to update the public and professionals and to enable open and transparent discussion of complex issues.

5.16 Any release of statistical information regarding deaths should be balanced against risk to patient confidentiality.

5.17 The communication of planning assumptions for the response to a pandemic can pose a particular challenge as they may be perceived, erroneously, to be a prediction of what will happen. They will also change over the course of the pandemic, as they are updated when more information becomes available. In the UK, further work is underway to consider how best to communicate risk during a pandemic.

Communications for health and other professionals

5.18 Healthcare and other professionals need access to timely and accurate clinical information and advice to enable them to treat patients appropriately. The Royal Colleges and other professional organisations play an important role in this. The UK Government is working with professional bodies and the devolved administrations to identify the best way for health professionals to have access to direct clinical advice during an influenza pandemic through an appropriate website (health professionals in Jersey & Guernsey will also be able to access this).

5.19 Healthcare professionals also play an important role in explaining and reassuring patients about the pandemic and need to have timely and relevant information. The Public Health Department in each island will use established mechanisms to alert health professionals to new developments during a pandemic so that they are well placed to deal with enquiries from the public. However, as in other situations, this may not always be achievable where events are proceeding rapidly. Further advice on how the public can prepare for emergencies can be found at: www.direct.gov.uk/preparingforemergencies
Suggested key messages for the public

<table>
<thead>
<tr>
<th>Preparing in advance</th>
</tr>
</thead>
<tbody>
<tr>
<td>An influenza pandemic is one of many types of emergency that can disrupt normal daily life. Developing a household emergency plan or talking to your family about what you would do in an emergency can help you to prepare and respond to such events.</td>
</tr>
<tr>
<td>Ensure that you are routinely vaccinated against seasonal influenza and pneumonia if you are in a high-risk group because you are at greater risk of getting seriously ill.</td>
</tr>
<tr>
<td>To reduce the risk of catching viruses, cover your mouth and nose with a tissue when coughing or sneezing, dispose of tissues quickly and regularly wash your hands with soap and water, or use a sanitising gel.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>During a pandemic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow public health advice and consider how you and your family might prepare for disruption such as closure of schools or childcare facilities due to staff absence or shortages.</td>
</tr>
<tr>
<td>Get ready in case you or your family catch influenza by ensuring that you have supplies of normal over-the-counter cold and ‘flu medicines and other basic necessities and that you can care for any existing health conditions.</td>
</tr>
<tr>
<td>Familiarise yourselves with local arrangements for accessing health and social care support early should you need them, including getting antiviral medicines if needed.</td>
</tr>
<tr>
<td>Help friends and family who are ill. They might need you to pick up medicines for them or help in other practical ways.</td>
</tr>
<tr>
<td>Be a good neighbour – you may know of those in your community who are more vulnerable than others or could be made vulnerable due to a pandemic.</td>
</tr>
<tr>
<td>You can help them by checking if they are alright or need help.</td>
</tr>
<tr>
<td>If infected with pandemic influenza, stay at home, keep warm and drink plenty of fluids.</td>
</tr>
<tr>
<td>If you have influenza and your symptoms are getting worse, or you have a long-term medical condition, you should contact your GP or other health professional for assessment and advice.</td>
</tr>
<tr>
<td>Take advantage of pandemic vaccine as soon as possible if you are in one of the groups for whom vaccination is recommended.</td>
</tr>
</tbody>
</table>
6. WHOLE OF SOCIETY RESPONSE

6.1 An effective response to an influenza pandemic relies upon government and cross sector collaboration to manage wider societal impacts and the interdependences between health responses and other sectors.

6.2 Influenza pandemics have the potential to impact upon a wide-range of sectors, creating a range of cross-cutting issues. The scale, extent and nature of these impacts and issues are dependent upon the characteristics of the virus, mitigation measures and the way in which people respond and react.

**Business as usual**

6.4 During a pandemic, the Public Health department in each island will encourage those who are well to carry on with their normal daily lives for as long and as far as that is possible, whilst taking basic precautions to protect themselves from infection and lessen the risk of spreading influenza to others (see section 4).

**Maintaining essential services and normal life**

6.5 During a pandemic, staff absence is likely to be significantly higher than normal across all sectors. This absence may come from a combination of reasons including fear of infection, personal illness, the need to look after family members who are ill, bereavement, school closures or possible transport difficulties. Levels of absence may vary due to the size and nature of a workplace, the kind of activity that takes place there and the composition of the workforce.
# 7. GLOSSARY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acquired Immunity</strong></td>
<td>Immune defence that develops following exposure to a pathogen (e.g. bacterium or virus) or vaccine. It involves the production of specific defensive blood cells (lymphocytes) and proteins (antibodies), and provides lasting immunity based on the experience or ‘memory’ of previous exposure.</td>
</tr>
<tr>
<td><strong>Aerosol</strong></td>
<td>A gaseous suspension of fine solid or liquid particles which remain suspended in the air for prolonged periods of time.</td>
</tr>
<tr>
<td><strong>Airborne</strong></td>
<td>Carried by or through the air.</td>
</tr>
<tr>
<td><strong>Airborne transmission</strong></td>
<td>Movement of viral particles through the air either attached to solid particles (such as dust) or suspension in droplets of liquid.</td>
</tr>
<tr>
<td><strong>Antibiotic</strong></td>
<td>A type of drug that can prevent the growth of bacteria.</td>
</tr>
<tr>
<td><strong>Antiviral medicines</strong></td>
<td>Used to describe a chemical or drug that inhibits virus replication.</td>
</tr>
<tr>
<td><strong>Antiviral resistance</strong></td>
<td>The lack of responsiveness of a virus to an antiviral drug, caused by natural variation or as a result of adaptation by the virus.</td>
</tr>
<tr>
<td><strong>At risk’ groups</strong></td>
<td>Groups of people who, through their immune disposition or long-term illness (e.g. diabetes, chronic heart or respiratory disease) are deemed to be especially threatened by infection.</td>
</tr>
<tr>
<td><strong>Case fatality ratio</strong></td>
<td>The proportion of the population who develop symptoms, ranging from severe to mild during an influenza outbreak and who subsequently go on to die as a result of that infection.</td>
</tr>
<tr>
<td><strong>Clinical attack rate</strong></td>
<td>The cumulative proportion of people infected and showing symptoms over a specified period of time.</td>
</tr>
<tr>
<td><strong>Community</strong></td>
<td>The general population, outside of a hospital or clinical environment.</td>
</tr>
</tbody>
</table>
| **Confirmed cases**         | Cases of illness that have been confirmed by
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>laboratory analysis.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Countermeasures</strong></td>
<td>Interventions that attempt to prevent, control or treat an illness or condition.</td>
</tr>
<tr>
<td><strong>Critical Care</strong></td>
<td>Care of a patient in a life-threatening situation by staff specially trained in recognising and responding to emergencies.</td>
</tr>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Specific identification of the illness that is causing a disease or set of symptoms.</td>
</tr>
<tr>
<td><strong>Droplet</strong></td>
<td>Airborne particle which is larger than an aerosol and drops quickly to the ground.</td>
</tr>
<tr>
<td><strong>Epidemic</strong></td>
<td>The widespread occurrence of significantly more cases of a disease in a community or population than expected over a period of time.</td>
</tr>
<tr>
<td><strong>Epidemiological</strong></td>
<td>Relating to the study of the patterns, causes and control of disease in groups of people.</td>
</tr>
<tr>
<td><strong>Excess Mortality</strong></td>
<td>The number of deaths that occur during an outbreak and above that expected for the time of year.</td>
</tr>
<tr>
<td><strong>Face mask</strong></td>
<td>A protective covering for the mouth and nose.</td>
</tr>
<tr>
<td><strong>H5N1</strong></td>
<td>Highly pathogenic avian influenza virus, enzootic in birds in South East Asia.</td>
</tr>
<tr>
<td><strong>Hand hygiene</strong></td>
<td>Thorough, regular hand washing with soap and water, or the use of alcohol-based products containing an emollient that do not require the use of water to remove dirt and germs at critical times, e.g after touching potentially infected people/objects and before touching others or eating.</td>
</tr>
<tr>
<td><strong>Household Prophylaxis</strong></td>
<td>Post exposure prophylaxis of household contacts with antiviral drugs.</td>
</tr>
<tr>
<td><strong>Immune</strong></td>
<td>The state of a person that is protected from a specific type of infection.</td>
</tr>
<tr>
<td><strong>Immunisation</strong></td>
<td>Manipulation of the immune system to confer, or</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Immunosuppressed</td>
<td>A state in which the immune system is suppressed by medications during the treatment of other disorders, like cancer, or following an organ transplantation.</td>
</tr>
<tr>
<td>Incubation period</td>
<td>The time from the point at which infection occurs until the appearance of signs or symptoms of disease.</td>
</tr>
<tr>
<td>Infection</td>
<td>The acquisition and active growth of a foreign microbial agent in a host, such as a human or animal, usually with a detrimental outcome.</td>
</tr>
<tr>
<td>Infectious</td>
<td>A disease caused by a micro-organism that can be transmitted from one person to another.</td>
</tr>
<tr>
<td>Infectivity</td>
<td>The extent to which a given micro-organism infects people (or animals), i.e. the ability of the organism to enter, survive and multiply in people and cause disease.</td>
</tr>
<tr>
<td>Isolation</td>
<td>Separation of individuals infected with a communicable disease from those who are not for the period they are likely to be infectious in order to prevent further spread.</td>
</tr>
<tr>
<td>Mitigation</td>
<td>Strategy to delay of the spread, or moderate the severity or extent, of a pandemic.</td>
</tr>
<tr>
<td>Modelling</td>
<td>Use of the mathematical theory of disease dynamics to make a quantitative assessment from available data of the range of possible behaviours of a pandemic and the impact of various responses, most importantly those that are likely to be both effective and robust over the range of uncertainty.</td>
</tr>
<tr>
<td>Osteltamivir</td>
<td>Antiviral drug, marketed by Roche Pharmaceuticals under the trade name Tamiflu®, that acts by inhibiting Neuraminidase activity and thus blocking viral spread.</td>
</tr>
<tr>
<td>Outbreak</td>
<td>Sudden appearance of, or increase in, cases of a disease in a specific geographical area or population, e.g. in a village, town or closed institution.</td>
</tr>
<tr>
<td><strong>Pandemic</strong></td>
<td>Worldwide epidemic – an influenza pandemic occurs when a new strain of influenza virus emerges which causes human illness and is able to spread rapidly within and between countries because people have little or no immunity to it.</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Pandemic-Specific Vaccine</strong></td>
<td>Vaccine developed against the antigens of the specific viral strain responsible for the pandemic.</td>
</tr>
<tr>
<td><strong>Pathogenic</strong></td>
<td>Able to cause disease.</td>
</tr>
<tr>
<td><strong>Pre-pandemic vaccine</strong></td>
<td>Vaccine developed, ahead of a pandemic, against antigens of a viral subtype.</td>
</tr>
<tr>
<td><strong>Post-exposure prophylaxis</strong></td>
<td>Use of antiviral drugs to prevent infection after exposure to infected contacts.</td>
</tr>
<tr>
<td><strong>Prognosis</strong></td>
<td>A prediction of the probable course and outcome of a disease.</td>
</tr>
<tr>
<td><strong>Prophylaxis</strong></td>
<td>Administration of a medicine to prevent disease or a process that can lead to disease – with respect to pandemic influenza, this usually refers to the administration of antiviral medicines to healthy individuals to prevent influenza</td>
</tr>
<tr>
<td><strong>Quarantine</strong></td>
<td>Separation of those who are thought to have been exposed to a communicable infection, but are well, from others who have not been exposed in order to prevent further spread.</td>
</tr>
<tr>
<td><strong>Relenza®</strong></td>
<td>See ‘Zanamivir’.</td>
</tr>
<tr>
<td><strong>Respirator</strong></td>
<td>A face mask incorporating a filter. In this document, it implies a particulate respirator, usually of a disposable type, often used in hospital to protect against inhaling infectious agents. Particulate respirators are ‘air-purifying’ respirators because they filter particles out of the air as one breathes.</td>
</tr>
<tr>
<td><strong>Respiratory</strong></td>
<td>Relating to the respiratory system (e.g. the nose, throat, trachea and lungs).</td>
</tr>
<tr>
<td><strong>Seasonal epidemic</strong></td>
<td>An epidemic that occurs at a defined time each year, typically in the autumn and winter months in Jersey and Guernsey due to climatic or social factors (e.g. the end of school holidays).</td>
</tr>
<tr>
<td><strong>Seasonal flu / influenza</strong></td>
<td>Annual period of widespread respiratory illness,</td>
</tr>
</tbody>
</table>
Typically occurring during the autumn and winter months in Jersey and Guernsey, caused by the circulation of a strain of influenza virus that is slightly altered from the previous season.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening</td>
<td>Institution of special measures at points of exit/entry into a country to detect individuals who have – or may have – been exposed to an infection as a measure to reduce the spread of infection.</td>
</tr>
<tr>
<td>Sero-prevalence</td>
<td>The overall occurrence of a disease within a defined population at one time, as measured by blood tests.</td>
</tr>
<tr>
<td>Subtype</td>
<td>Viral strain classified by the versions of Haemagglutinin and Neuraminidase that it possesses.</td>
</tr>
<tr>
<td>Surge capacity</td>
<td>The ability to expand provision beyond normal capacity to meet transient increases in demand, e.g. to provide care or services above usual capacity, or to expand manufacturing capacity to meet increased demand.</td>
</tr>
<tr>
<td>Surgical mask</td>
<td>A disposable face mask that provides a physical barrier but no filtration.</td>
</tr>
<tr>
<td>Surveillance</td>
<td>The continuing scrutiny of all aspects of the occurrence and spread of disease pertinent to effective control in order to inform and direct public health action.</td>
</tr>
<tr>
<td>Suspected cases</td>
<td>Cases of illness identified through symptoms but not confirmed by laboratory analysis.</td>
</tr>
<tr>
<td>Swine flu</td>
<td>H1N1 influenza arising in 2009 from pigs and the cause of the 2009 pandemic in humans.</td>
</tr>
<tr>
<td>Symptomatic</td>
<td>Showing symptoms of disease or illness.</td>
</tr>
<tr>
<td>Tamiflu®</td>
<td>See ‘Oseltamivir’.</td>
</tr>
<tr>
<td>Transmission</td>
<td>Any mechanism by which an infectious agent is spread from a source or reservoir (including another person) to a person.</td>
</tr>
<tr>
<td>Vaccine</td>
<td>A substance that is administered in order to generate an immune response, thereby inducing acquired immunological memory that protects</td>
</tr>
</tbody>
</table>
against a specific disease.

<table>
<thead>
<tr>
<th><strong>Virological</strong></th>
<th>Pertaining to viruses.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Virulence</strong></td>
<td>The capacity of an infectious agent to infect and cause illness.</td>
</tr>
<tr>
<td><strong>Virus</strong></td>
<td>A micro-organism containing genetic material (DNA or RNA) which reproduces by invading living cells and using their constituent parts to replicate itself.</td>
</tr>
<tr>
<td><strong>Wave</strong></td>
<td>The period during which an outbreak or epidemic occurs either within a community or aggregated across a larger geographical area. The disease wave includes the time during which the disease occurrence increases, peaks and declines back towards baseline.</td>
</tr>
<tr>
<td><strong>Zanamivir</strong></td>
<td>Antiviral drug, marketed by GSK Pharmaceuticals under the trade name Relenza® that inhibits Neuraminidase activity, thus blocking viral spread.</td>
</tr>
</tbody>
</table>
Appendix 1 Jersey Command and Control Schematic

Health and Social Services **Major Incident Management Structure – Command and Control**

- **UK GOVT (COBR)**
- **Dept of Health (SAGE)**
- **HSSD GOLD**
  - HSSD Chief Executive / Deputy Chief Executive
  - Corporate Directors / Deputy CDs
  - Chief Ambulance Officer
  - Communications Officer
  - Ministerial Liaison
- **EC**
  - Chief Minister
- **SCG**
  - Chair: Chief of Police
  - HSSD Chief Executive
  - Medical Director of Health
- **TCG**
  - HSSD Nominated Representative
- **STAC**
  - STAC Advisor
- **Hospital Silver**
  - Senior Management Team
    - (Hospital Emergency Plan)
- **CSS Silver**
  - Senior Management Team
    - (CSS Emergency Plan)
- **Public Health Silver**
  - Senior Management Team
    - (PH Emergency Plan)
- **Scene Bronze**
  - e.g. Press liaison
- **Scene Bronze**
  - Ambulance
- **Scene Bronze**
  - A&E Facilities
- **Scene Bronze**
  - Rest Centre Manager
- **Scene Bronze**
  - EHO
Appendix 2 Guernsey Influenza Pandemic Command and Control Structure

GUERNSEY’S COMMAND AND CONTROL STRUCTURE

Summary of Civil Contingencies Legislation (Guernsey)

The Guernsey Emergency Services Liaison Panel Manual sets out the agreed procedures adopted by each of the emergency services (and supporting states departments) in response to a major incident/emergency so that there is an effective coordination of their joint efforts. The plan is aimed at tactical and bronze level responders and concentrates on activities at or close to the scene of the incident which will be of limited value for an island wide flu pandemic. However specific references might be of use including crisis communication and emergency mortuary arrangements. The States of Guernsey Island Risk Register (currently owned by the Policy Council but ownership will be transferred to the Civil Contingency Authority once the Civil Contingency legislation comes into force in February 2013) states that influenza type disease (pandemic) is rated as “very high” and is indeed the islands highest emergency planning risk based on likelihood and impact scoring.

The Civil Contingencies Legislation provides powers for the Civil Contingencies Authority to deal with an actual emergency as well as powers in relation to monitoring risks and contingency planning and to enable action to be taken to prevent a threat from turning into an emergency (see appendix 2 for more details).
As well as providing powers to deal with an actual emergency, the Civil Contingencies Act also includes powers in relation to monitoring risks and contingency planning and to enable action to be taken to prevent a threat from turning into an emergency.

The Civil Contingencies Authority have responsibility for:

a) monitoring and assessing risks,

b) taking action to prevent a threat developing into an actual emergency; and

c) dealing with an emergency should one occur.

The legislation defines an emergency as -

a) an event or situation which threatens serious damage to human welfare or the environment in the Bailiwick, or any part thereof, or

b) war, or terrorism, which threatens serious damage to the security of the Bailiwick, or any part thereof.

An event or situation will fall into sub-paragraph (a) only if it involves, causes or may cause loss of human life; human illness or injury; homelessness; damage to property; the disruption of the supply and distribution of food, water, energy, fuel or money, the disruption of a system of communication, facilities for transport or services relating to health; contamination of land, water or air with biological, chemical or radioactive matter; or the disruption or destruction of plant life or animal life.

Permanent membership of the Authority, consists of:

a) the Chief Minister,

b) the Minister of the Home Department

c) the Minister of the Public Services Department

d) the Minister of the Health and Social Services Department

The Bailiff will have the right to attend, and offer advice at, meetings of the Authority.

A Law Officer will have to be present at all meetings of the Authority to advice on the proportionality of the exercise of certain powers by the Authority.
There is also provision for the temporary membership of a representative from the States of Alderney and Chief Pleas of Sark if a threat or an emergency affects either Alderney or Sark or both Islands.

The Authority is able to take advice from any person who may have knowledge or experience that is relevant to any matter before it. Such a person will not be a member of the Authority and will have no vote.

The Civil Contingencies Authority will be supported with officers from the Civil Contingencies Advisory Group (formerly the Emergency Powers Advisory Group) providing a direct link to any Strategic Coordinating Group set up in response to a major incident/emergency.

The Civil Contingencies Advisory Group (CCAG) is made up of the Chief Executive or Deputy Chief Executive, the Home Department Chief Officer or Deputy Chief Officer, HSSD Chief Officer, the Chief of Police, the Emergency Planning Officer, HM Procureur or HM Comptroller and an advocate.

In an emergency the CCAG may sit on the Strategic Coordinating Group as observers initially to provide a link to the CCA. In time they may take over responsibility for chairing the Strategic Coordinating Group or leading on specific areas e.g. recovery, logistics.
Appendix 3a A summary of the H1N1 (2009) influenza pandemic in Jersey (unpublished)

Introduction
In Jersey the A/H1N1 influenza attack rate during 2009 was low (762 per 100,000), the first wave seen in Europe did not occur and an island outbreak which peaked in mid-November post-dated the UK second wave; subsequently cases declined to single figures within a fortnight.

Given the strong links between Jersey and the UK, the risk of an early outbreak on the island was considerable and we aimed to contain influenza spread, that is, slow the spread of the virus in Jersey and buy time until pandemic-specific vaccine became available.

We propose that the containment measures put in place on our island were instrumental in achieving success. These measures included a public hygiene campaign, voluntary 48 hour school exclusion for children returning from abroad and antiviral treatment for cases with prophylaxis for their contacts. Vaccination uptake among priority groups was high. Vaccinating school children probably stopped the schools’ outbreaks and prevented further spread affecting other age-groups within the community.

Occurrence of A/H1N1 influenza in Jersey
Jersey is a small island nine by five miles with a population of approximately 92,000 situated 14 miles off the French Normandy coast. Despite the island’s geographical proximity to France, communication and cultural links with the UK are strong; this has relevance to both the spread of communicable diseases and to the health policies adopted.

During the A/H1N1 pandemic period of 2009, a total of 706 confirmed cases of the new influenza A/H1N1 variant occurred in Jersey; equivalent to an overall attack rate of 762 per 100,000. The majority of cases were confirmed by laboratory PCR tests (with the exception of a small number of cases which were estimated from a random sample of throat swabs taken during the peak week of the outbreak).

Although many other parts of the world experienced a first wave during the spring and summer seasons of 2009, a first wave did not occur in Jersey at that time (Figure 1). Whilst a second wave was observed to be most serious across Northern Europe during early autumn, this appears to have been delayed in Jersey with an outbreak finally occurring during November 2009. This rapidly declined to single figures of confirmed cases within a fortnight.

There were seven patients admitted to hospital with confirmed 2009 A/H1N1, including three children and one patient who stayed overnight in the Intensive Care Unit but who did not require ventilation. There were no deaths. No Jersey schools were closed as a result of influenza outbreaks.

Containment measures
The Jersey Government and Pandemic Incident Team made a policy decision to minimise the impact of 2009 influenza on the island’s population and economy through measures designed to contain the virus (that is, slow the spread) until the
pandemic-specific vaccine became available. The containment measures deployed included a public hygiene campaign, a request to parents to keep their children away from school for 48 hours after returning from affected countries, prompt antiviral treatment for cases and prophylaxis for their contacts.

The public hygiene campaign ‘Catch it, Bin it, Kill it,’ as promoted in the UK, advised how to slow the spread of respiratory viruses and a similar campaign was vigorously promoted in Jersey. Campaign materials used in Jersey, including posters and leaflets, were produced in English, Polish and Portuguese. Radio public service announcements ran throughout June to November and were carried by the two island radio broadcasters and a screensaver was displayed on all computer screens served by the Public Sector intranet. The Health Promotion Department manned stalls in prominent public places offering free tissues and demonstrating hand-washing. A public poll, carried out on Jersey’s main street, found that 78% of adults said they knew of the campaign and 49% said they had changed their behaviour as a result; washing hands more regularly and using alcohol hand gels and tissues.

Parents were advised to keep their children off school for 48 hours after returning from countries affected by influenza. This policy was based on the UK observation that A/H1N1 outbreaks had tended to start in schools before extending to the wider community. Most island children would have developed symptoms of influenza within a time period of approximately 48 hours following return to the island from abroad, this generally being at least 62 hours after potential exposure to influenza.

The Jersey antiviral policy from June until October 2009 was to treat laboratory confirmed cases and offer prophylaxis to their contacts according to the English Health Protection Agency clinical guidelines for containment which were regularly released on the HPA website. In early November influenza-like illness started to rise in the island (Figure 1) and the proportion of suspected cases testing positive for A/H1N1 climbed to 62%. At this point, symptomatic patients were considered probable cases and treatment/prophylaxis was offered immediately upon diagnosis without waiting for laboratory confirmation. Most of the cases occurring in November were school children and school contacts were offered prophylaxis through a school distribution centre to aid prompt access.

**The vaccination programme**

Jersey was well-placed to make full use of the 2009 A/H1N1 pandemic-specific vaccine when it arrived in October. With no substantial first wave outbreak occurring in the spring/summer, most of the population were presumed not to have immunity to the virus prior to being offered the vaccine.

The scale and urgency of the vaccination programme presented considerable logistical challenges. Vaccination phase I included General Practitioners vaccinating patients with underlying medical conditions at their surgeries and nurse/paramedic immunisers offered vaccination to pregnant women, all health/social care staff and staff of nursing and residential homes using mobile immunisation teams (to make best use of the immunisers time, residents and patients of nursing homes were offered vaccination at the same time as staff). Hospital patients were also offered vaccination prior to discharge. Phase II aimed to vaccinate pre-school children (aged from six months to four years) and school children (aged five to 18 years).
The majority of those offered vaccine during phases I and II consented to be vaccinated. Vaccine uptake was particularly good amongst health and social care staff (80%) and children attending a school or nursery (82%) with nurses/paramedics vaccinating 12,500 children in 72 schools and nurseries within six working days. Children of pre-school age who did not attend a nursery were invited to attend at community clinics; uptake here was lower (24%). Uptake amongst pregnant women was 55%. GPs achieved an estimated 75% coverage for patients with underlying medical conditions.\textsuperscript{22}

In total, 34,721 people (38% of the island’s population) were vaccinated, most of whom formed part of the high priority phases I and II of the programme. In phase III, vaccine was offered to all islanders via General Practitioners. Uptake was low in the general adult population possibly because the threat of infection was perceived to be much less by that time and because vaccination was not actively promoted during the phase III period.

We ran an extensive information campaign about vaccination approximately two weeks prior to and during phases I and II. This included the Director of Public Health and Director of Nursing briefing the majority of health care workers in their workplace setting, backed up by a dedicated staff vaccination telephone helpline/email service, posters and an intranet screensaver. A joint health and education team presented vaccination ‘road-shows’ for parents within the schools and parents received a briefing pack containing a letter of invitation, questions and answers sheet and a consent form. GPs invited ‘at risk’ patients to dedicated vaccination clinics at their surgeries enclosing an information leaflet. The island’s Government website carried information about vaccination and the local news media covered the campaign.

**The outbreak in more detail**

A Jersey outbreak seemed likely during the autumn/winter given the considerable burden of disease occurring in neighbouring UK and France following the start of the autumn school term. We considered that a local outbreak was imminent once a large proportion of throat swabs tested positive. As anticipated, an outbreak started during the week ending 15th November with a peak of 247 new cases (267 per 100,000) being confirmed during the following week.

Secondary school students were most affected (Figure 2) and the outbreak occurred contemporaneously with the schools’ vaccination programme. This left us with a short-term outbreak-control challenge as immunity from vaccination could not be expected immediately. This ‘waiting period’ was bridged by a change in antiviral policy in which Tamiflu was offered to presumed cases and their contacts (as opposed to waiting for laboratory confirmation). There was a subsequent sharp drop in cases the following week and, once the majority of children became immune through vaccination and some from natural infection, A/H1N1 cases dropped to single figures. Jersey adults remained largely free of influenza during 2009.

**Discussion of findings/implications**

Jersey faced particular challenges from the 2009 pandemic as the island’s small community was likely to experience rapid communicability and had limited acute

\textsuperscript{22} Patient registration and disease registers are not in place in primary care in Jersey so both the numerator and denominator were estimated.
healthcare capacity to respond, particularly with paediatric critical care beds. These concerns drove the Jersey response which was intended to minimise spread and severe illness. Equally, Jersey’s small size and geographical isolation, relative to mainland countries, afforded opportunities for slowing the spread of the virus through prompt policy making and delivery linked to real-time local surveillance.

We believe that we achieved something remarkable in Jersey given the extent of the pandemic reported in countries neighbouring the island. We measured a temporal association between an apparent suppression of influenza occurrence with the interventions put in place, which is both biologically and epidemiologically plausible. The observed timing of the start of the outbreak, shortly after some children returned to school after half term holidays abroad, and the sharp fall in cases following outbreak control interventions, seems particularly marked. It appears that community outbreaks affecting adults had been prevented through vaccinating children and that the use of prophylactic antivirals enabled us to bridge the gap between vaccination and immunity developing. We are aware, however, that without seroprevalence data, our study is observational and therefore a definitive causal relationship between interventions and disease occurrence remains a hypothesis.

We believe the voluntary 48 hour school exclusion period for returning children considerably reduced both the number developing symptoms whilst at school and subsequent infection to other pupils. This in turn meant reduced onward spread to adults within the community.

It seems that the convenience and efficiency achieved through offering vaccination in the workplace or school led to higher, swifter uptake compared with the lower percentage coverage achieved for pre-school children invited to attend clinics; although GPs achieved good coverage for those with underlying medical conditions. We also believe that our extensive and intensive vaccination promotion campaign was highly effective; personal contact was made with many parents, pregnant women and health care workers which included presentations and their questions answered. The telephone help lines and email address were also busy with vaccination enquiries.

The island’s response to 2009 A/H1N1 was based largely on guidance provided by the UK Health Protection Agency and England’s Department of Health. However our local response was reviewed and updated weekly and tailored to react to local surveillance data and emerging international findings and advice. Information about the new influenza strain and how it had impacted gradually unfolded throughout 2009. Key early information which influenced our containment decisions included initial reports of moderate to high death rates in Mexico, the rapidity of spread across the world and pressures on critical care units in Australia including groups of patients who succumbed to respiratory failure. We propose that the containment measures put in place in Jersey were instrumental in achieving success.

References
Figure 1 2009 A/H1N1 laboratory confirmed cases in Jersey

Figure 2 The Jersey outbreak – daily attack rate by age group
Appendix 3b Summary of an epidemiological study to quantify the impact of the influenza pandemic vaccination campaign in Jersey, 2009-2010

A study was conducted by epidemiologists from Epiconcept, Paris, funded by the European Centre for Disease Control (ECDC) as part of the I-MOVE (Influenza Monitoring Vaccine Effectiveness in Europe) network set up to monitor seasonal and pandemic influenza vaccine effectiveness (the full study report is available within the Public Health Department).

Objectives of the study

Primary objective: (How many cases of A(H1N1) were prevented by the vaccination campaign?)

1. To assess the impact of the pandemic vaccination campaign on the incidence of medically-attended ILI confirmed as A(H1N1)v among the following target groups:
   - Children from 6 months to 18 years
   - H&SS staff
   - Pregnant and post-partum women

2. To assess the impact of the pandemic vaccination campaign on the incidence of medically-attended ILI confirmed as A(H1N1)v among the general population of Jersey.

Secondary objective: (How protective was the vaccine?)

1. To estimate the crude vaccine effectiveness of one dose of pandemic vaccine against medically-attended ILI confirmed as A(H1N1)v.

Descriptive data

*Figure 1. Number of MA-ILI patients testing positive for A(H1N1)v (N=693), by week of swabbing, Jersey, week 24 of 2009 to week 6 of 2010*

*The arrows show the start of the pandemic vaccination campaign among H&SS staff, pregnant and post-partum women (week 43) and children from 6 months to 18 years (week 46)*
**How effective was the vaccine?**

Vaccination Phase 1: 20th Oct 2009 (week 43) - H&SS staff, pregnant & post partum women, those with chronic diseases, housebound individuals, residents and staff from nursing & care homes.

Vaccination Phase 2. 13th Nov 2009 (week 46) - children aged from 6 months attending nurseries, primary schools and secondary schools.

Vaccination Phase 3: Started Jan 2010 (week 2) - Fire service, Police officers, University students returning to the UK, rest of the population.

Screening method and case control study used to determine vaccine effectiveness stratified by age group.

Case control study: Crude vaccine effectiveness of 89%. Point estimate for VE among children for one dose of vaccine given more than 14 days before onset of symptoms was 100% (95% CI: 70-100) – ie, there were no vaccine failures among children.

Summary: Vaccine efficacy was high and in line with other estimates from the I-MOVE project.
Figure 3. Weekly incidence of A(H1N1)v per 10 000 and vaccine coverage (1 dose against A(H1N1)v, by week of injection, a. in the general population, b. among children aged 6 months to 4 years, c. among children aged 5-9 years, d. among children aged 10-18 years, Jersey, week 24 of 2009 to week 6 of 2010

a. General population

b. children aged 6 months to 4 years
c. children aged 5-9 years

![Graph showing incidence and vaccination coverage for children aged 5-9 years.]

**How many cases of A(H1N1) were averted by the vaccination campaign?**

Two methods could be used to calculate this. Using the Pinner method, the researchers estimated that 837 to 969 cases would have been detected among medically attended IILI patients in the absence of vaccination (ie, this method says that almost 1000 people with symptoms were prevented from presenting to their GP...
including 132 to 244 children). However the Pinner method does not take herd immunity into account and therefore this method underestimates the number of cases prevented by the vaccination campaign.

**Mathematical modelling**

The effect of herd immunity was taken into account in a crude deterministic model that the researchers built to simulate transmission (that is, this model considers the number of people a single infected individual will infect, in a population with no immunity to the disease; 0.6 in adults, 1.4 in children).

When the researchers ran the model without vaccination, they estimated there would have been:

- a total of 24,074 A(H1N1)v infections (9,629 medically-attended cases) from week 40 (End Sept) (11,409 infections among children and 12,665 infections among adults respectively).

- the peak of the projected outbreak without vaccination would have occurred on week 51 with 4,187 infections, corresponding to 1,674 medically-attended cases.

However, this model doesn’t take into account that control measures such as antiviral therapy would have had some effect. Nevertheless, the results suggest that vaccinating children during the ascending phase of a pandemic can mitigate the burden of influenza when vaccine efficacy is high.

Comparing the epidemic curves of weekly medically-attended laboratory confirmed A(H1N1)v cases from England and Jersey, the shape of the second wave is different in the two countries (Figure 4). While the initial increase in the number of cases (exponential increase) and the timing of the peak are similar, the epidemic curve from England is much wider and mimics a typical bell shape suggesting that the natural exhaustion of susceptibles gradually decreased transmission.

In Jersey, on the contrary, the decrease in cases observed from week 48 onwards is much more abrupt, suggesting that transmission was stopped by an exogenous factor which corresponds well to the vaccination campaign among children. The two surveillance systems are very different (e.g. exhaustive swabbing in Jersey, sentinel surveillance in England and does not allow comparison of incidence - but it does allow a comparison of the shape of the two epidemic curves. Also note that the absence of a significant ‘first wave’ in Jersey implies that the pool of susceptibles was proportionally larger at the beginning of the ‘second wave’.
Figure 4 Comparing weekly number and proportion of specimens collected positive for A(H1N1) in a. England* and b. Jersey, week 20 of 2009 to week 39 of 2010

In summary:
The epidemiologists conducting this study believe that the vaccination campaign in Jersey had a substantial impact in terms of number of cases averted. Many European countries offered pandemic vaccine to high-risk groups including those with chronic diseases and pregnant women. Jersey, like the USA, Canada, Finland, Sweden and Austria also included all children in their vaccination campaign. This strategy is supported by mathematical models and influenza field studies and aims to target the population group most responsible for transmission (children), while also covering the reachable high-risk groups (people with chronic diseases, pregnant women), who would also receive considerable indirect protection.

Authors: Dr Stephen Bridgman, Director of Public Health & Medical Officer of Health, Elaine Burgess Lead Nurse Infection Prevention and Control.

After the identification of the first case of pandemic influenza H1N1 in 2009 in Mexico and the United States, the WHO issued an alert on 24th of April 2009. On 27th April, it declared that the world was now at pandemic phase 4 indicating human to human transmission of an influenza virus with pandemic potential had occurred.

As a result Guernsey prepared to mount a robust public health response based upon the previous five years of pandemic planning. The objective of planning are to reduce the risk of the transmission of the pandemic virus, to decrease cases, hospitalizations and deaths, to maintain essential services and to reduce the economic and social impact of an influenza pandemic

Guernsey’s response to the WHO recommendations in preparing for a flu pandemic included:
- An island wide –plan for a flu pandemic working closely with the Island’s Emergency Planning Officer
- A detailed HSSD plan for health and social services
- All public and private sector were encouraged to produce a contingency plan in the event of a pandemic.
- Identification of spotter practices for detecting the amount of the flu-like illness in the community
- Bought in stocks of personal protective equipment (masks, gloves, aprons, gowns and goggles)
- Bought in stocks of anti-virals and antibiotics
- Bought in extra equipment, such as ventilators.
- Production of public information leaflets

The Timeline of the development of the pandemic, worldwide and in Guernsey is shown in Table (below).

What was unprecedented for this pandemic outbreak was that it was tracked in detail as it spread across the world and this information was transmitted to the general public through media and directly via Health Protection Agency web sites.

<table>
<thead>
<tr>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>18th March 2009</strong> First cases of swine flu in Mexico, with a worrying picture of unusually severe disease, in large numbers of previously healthy people, with medical resources exceeded by demand</td>
</tr>
<tr>
<td><strong>21st April 2009</strong>: The PEH microbiology laboratory receive 2 swabs for the H1N1.</td>
</tr>
</tbody>
</table>
One returning from Mexico cruise, the other from New York. Both results were negative.

**24th April 2009:** WHO announces an outbreak of human cases of A(H1N1) in Mexico and USA.

**27th April 2009:** WHO held its second emergency meeting, in line with International Health Regulations, and raised pandemic alert level from 3 to 4 having confirmed human-to-human transmission able to cause 'community-level outbreaks'. "Phase 4 indicates a significant increase in risk of a pandemic but does not necessarily mean that a pandemic is a forgone conclusion. Containment of outbreak not considered feasible and focus should be on mitigation measures.

**27th April 2009:** Guernsey’s Influenza Pandemic Preparedness Group meet to plan Guernsey’s response to a potential pandemic

**27th April 2009:** The first two UK cases of A(H1N1) are confirmed in Scotland after travel from Mexico

**29th April 2009:** WHO announces Phase 5 of a Pandemic alert, which meant there was sustained human-to-human transmission of a novel influenza strain of animal origin in one WHO region of the world, and exported cases detected in other regions, and a call for Governments to take "stronger preparations" to reduce the impact of the virus

**11th June 2009.** WHO raises its pandemic alert level to 6, the highest level, defined as sustained community outbreak in at least one other country in a second WHO region. This is the first flu pandemic since 1968/1969, with 30,000 cases in 74 countries
http://www.who.int/mediacentre/influenzaAH1N1_presstranscript_20090611.pdf

**15th June 2009:** First UK death attributed to H1N1
First microbiologically confirmed case in Guernsey, acquisition associated with travel to the UK. Phase 2 containment to reduce spread of outbreak See below.

**26th June : Second positive case in Guernsey.**
**7th July 2009:** Guernsey changes to alert Phase 3 moving from containment to outbreak management.

**21st October 2009:** Vaccination available in UK.

**4th November 2009:** Guernsey received its first dose of vaccine and commenced first vaccination phase for those patients in the high risk groups and those staff in high risk groups.

**24th November:** Second phase of vaccination programme children over 6 months and under 5 years old, carers for the elderly and those in the at risk categories.

**2nd January 2010:** Third Vaccination phase offered to front line support staff such as domestics and porters those members staff part of the clinical environment e.g. housekeeping and portering staff.

**7th January 2010:** Vaccination offered to members of the general public not in the at risk groups.

**2nd March 2010:** Influenza Pandemic Expert Group stood down.

**18th March 2010.** 457 Deaths in UK (Hine 2010) 0 in Guernsey.

**4th July 2010.** Over 214 countries, overseas territories or communities have had a laboratory confirmed case of H1N1 (pandemic) including over 18,300 deaths, with at least 4879 in the WHO Europe Region

**12th July 2010.** Nearly every country in the world has had a confirmed case http://gamapserver.who.int/mapLibrary/Files/Maps/GlobalSubnationalMasterGrad colour_20100704_weekly.png

**10th August:** The H1N1 swine flu pandemic is declared over by the WHO.

The pandemic in Guernsey

**Containment Phase in Guernsey**

Further international spread of the pandemic was considered to be inevitable, therefore a strategy of containment was adopted in Guernsey to slow the spread of infection and to buy time until a pandemic specific vaccine was available. Antiviral drugs were offered to cases and antiviral prophylaxis for close contacts. Also isolation of both was initially recommended to reduce the spread of infection to the rest of the population. Suspected cases were screened according to the UK Health Protection Agency (HPA) guidance and as Guernsey does not have the specialised equipment to isolated the virus the swabs were sent of island to the HPA in Birmingham.
The initiation by the Influenza Expert Group (consisting of Primary, and Medical Specialist Group of a GP influenza surveillance scheme captured patients attending GP practices with a flu like illness. Theses patients were directed to dedicated “flu Clinics” were they received antiviral treatment if appropriate and a risk assessment was also undertaken on their at risk contacts. The objective of this phase was to try to slow the spread of the outbreak, to try to reduce the number of cases, and allowing time for vaccine development.

As cases started to increase in North America, high risk of a pandemic was announced, in Guernsey the public health team initiated in collaboration with the Customs and Port Authorities (airport and harbour) put in place procedures to identify and manage any visitors or residents returning to the island who had visited affected areas or who were exhibiting flu-like illnesses in order to reduce the risk of spread here.

Figure 1. Total number of patients presenting to all GP practices with flu like illness from June 2009 to date
**Figure 2** Number of swabs sent away for H1N1 testing and the number of positive results from June 2009 to December 2009

**Figure 3:** Patients seen by a GP between 1st of June 2009 and 22nd February with a flu like illness by gender and age.

*The occurrence of* sporadic sustained cases (with no links to other known cases or travel) indicated that sustained community transmission, (i.e. transmission*
occurring outside the household or schools) occurred in July 2009 and during the second wave in November 2009. The first wave of cases ran from the end of June to the beginning of August, with 164 clinically diagnosed cases identified in the peak week (Fig.1). The second wave was from the beginning of November to the beginning of December 2009, with a peak of 372 clinically identified cases in the week beginning 16th November 2009. Cases of pandemic influenza were dispersed evenly throughout Guernsey. All areas experienced multiple school-related outbreaks.

The highest numbers of cases of flu-like illness recorded by GPs was in the under 65 year old age group, the reverse of what is recorded for seasonal influenza (Figure 3). This age distribution is likely to reflect past exposure to other strains of influenza A H1N1 and some level of cross-protecting antibodies among older age groups. In addition, exposure opportunities through attendance at school and travel to the high risk countries may have been relatively higher for younger than older age groups. There were no apparent gender differences.

**Outbreak management**

On 7th July 2009, because of accumulating evidence of widespread community transmission, Guernsey abandoned containment. Instead GPs offered advice and antiviral treatment for people with flu-like illness at Primary Care ‘Flu Clinics”, rather than attending patients in their own homes.

Outbreaks of flu-like illness occurred in several local schools. Unlike the UK, Guernsey did not advocate the closure of schools as there had been no significant evidence from the UK that this prevented further spread of influenza. The DPH and an Infection Control Nurse spoke at a Head Teachers’ meeting, and provided them with leaflets and advice on cleaning the schools. A senior representative from the Education Department regularly attended pandemic meetings and acted as a link with schools.

**Vaccination**

Part of the objectives of the earlier phases was to keep the outbreak controlled and slowed until an effective vaccination was developed. Co-operation between government agencies and manufacturers led to the first vaccine trials being carried out in Australia in July 2010, based on the US Centre for Disease Control isolate. [http://www.msnbc.msn.com/id/32082687/](http://www.msnbc.msn.com/id/32082687/)

It is understood that some jurisdictions paid premium rates to secure early batches of the flu vaccine. Guernsey made judgements early, as the flu strain appeared not to be particularly virulent; it would purchase stocks of flu vaccine through the NHS in the UK, our normal method of procurement.

On 4th November 2009, Guernsey received its first batch of vaccines, 8,000 doses of Pandemrix and 600 doses of Celvapan for patients with a known egg allergy. Local general practices held flu clinics and administered the vaccines. The flu vaccine was provided by the States free of charge, with just an administration fee charged by the practices. A special clinic was set up for pregnant women and those who had an allergy to Pandemrix. As we started the
programme, evidence was emerging as to whether one or two doses of vaccine would be satisfactory.

Residents were divided into risk groups based on the likelihood, from emerging world epidemiology of the differential risks, that different members of the population would be severely affected by flu.

Our initial priority groups, Phase 1 of our programme, based on UK expert advice were as follows:

- Pregnant women.
- Those over 65 years in the current seasonal flu vaccine clinical at risk groups.
- Household contacts of immuno-compromised individuals.
- Frontline health and social care workers identified as having direct patient contact.
- Those between the ages of 6 months and up to 65 years who were in the current seasonal flu vaccine clinical at risk groups.
  - Chronic respiratory disease, such as chronic obstructive pulmonary disease (COPD);
  - Chronic heart disease, such as heart failure;
  - Chronic kidney disease, such as kidney failure;
  - Chronic liver disease, such as chronic hepatitis;
  - Chronic neurological disease, such as Parkinson’s disease;
  - Diabetes requiring insulin or oral hypoglycaemic drugs, and
  - Immunosuppression (a suppressed immune system), due to disease or treatment.

On 24th November 2009 we introduced Phase 2 of the programme, offering vaccination to all children under 5 years old.

On the 2nd January 2010, Phase 3 of the programme began, when it was decided that the next level of prioritisation would be front-line support staff such as domestics and porters who were in regular contact with patients.

The last phase of our vaccination programme, Phase 4 began on 7th January 2010, when vaccination became available to normal risk members of the general public.

Vaccination uptake

Figures provided by the three primary care practices in Guernsey and one of the two practices in Alderney show that a total of 13,299 ‘at risk’ patients were identified and offered vaccination, of which 7,103 received the vaccine, giving an overall percentage uptake of 53.4%. Older patients were more likely to be
vaccinated than younger patients (Fig 4). During the outbreak 668 healthcare workers were vaccinated, 40% of all those eligible.

**Figure 4** Percentage of at risk patients vaccinated by age.

![Bar chart showing percentage of patients vaccinated by age group](chart.png)

Source: Bailiwick general medical practices, Healthcare Group, Island Medical Centre, Queens Road, L’Aumone and St Sampson’s

*Communication*
The Guernsey public had considerable exposure to largely UK based media, through the television, radio and the press. Also the majority of the public have access to international sources of information through the internet, a situation which was novel for a pandemic flu outbreak.

At one point the Public Health team was under considerable pressure from requests from the local media for information on pandemic flu, such that it started to interfere with the running of the local response to the pandemic.

Therefore, an early decision was made that all communications would be co-ordinated by Treasury and Resources’ Director of Communications. The Guernsey Expert Group and Health and Social Services Department Board agreed a single principle spokesperson, the DPH, to improve chances of consistent messages to the public through the media.

The Guernsey strategy differed from the UK and Jersey in that we did not mail-shot households, as we felt it was not cost-effective. We decided to communicate to the public through the mass media of the press, TV and radio. We also made information available in public places such as GP surgeries and libraries. We put locally tailored information on the States website.
In the containment phase public information was displayed at our Ports of Entry. In addition, local ferry and air carriers made public health announcements before passengers disembarked.

There were isolated problems with how the local media dealt with some issues. However, I believe the local media can take great credit for how they handled this issue and worked with local health professionals in a helpful and supportive way to give balanced and appropriate advice and reassurance to the public.

Local businesses, some of which are international ventures, naturally had significant concerns on the possible impact of a pandemic. A couple of meetings were organised to brief businesses who were encouraged to create their own contingency plans. The Public Health Directorate office received many requests for advice from businesses and therefore to improve communication with businesses and reduce the strain on the office, the Chamber of Commerce volunteered to be a single point of contact for businesses. This offer was gratefully received and I understood worked well.

Public Health Legislation:
At the start of the outbreak it was noted that the existing Public Health Orders were very outdated, as the original legislation was aimed at controlling vessels which might bring in human plague, cholera, yellow fever or smallpox.

Therefore the existing Orders were revised to enable other infectious diseases such as influenza to be controlled and to ensure the new Orders were Human Rights compliant including an appeal system. The States legal team worked rapidly to amend the Orders. Both Orders were ‘made’ and ‘commenced’ on Friday 15 May, 2009. The updated orders can be found below.

- The Public Health (Vessels) (Guernsey) (Amendment) Order, 2009
  http://www.guernseylegalresources.gg/CHttpHandler.ashx?id=74034&p=0

- The Public Health (Aircraft) (Guernsey) (Amendment) Order, 2009
  http://www.guernseylegalresources.gg/CHttpHandler.ashx?id=74030&p=0

Emergency Powers Advisory Group (EPAG)
In response to this public health emergency I requested a meeting of EPAG. This was chaired by the Chief Officer of the Home Department and included legal and other key operational members. This arrangement worked well in giving the authority and urgency to actions required to manage the outbreak.
It is unclear, however, how the Emergency Powers Law of 1965 as amended relates to situations in which there is risk of a public health emergency developing and I suggest that clear legislative provision should be made in that respect.

*Recommendations and lessons learnt following the H1N1 Influenza Pandemic as taken from the 111th Annual MOH/DPH/CMO Report.*

| Recommendation 1: | The legislation currently under development to replace the Emergency Powers (Bailiwick of Guernsey) Law, 1965, as amended should clarify the arrangements for specifically addressing the risk of public health emergencies. |
| Recommendation 2: | The relationship between health policy bodies in the UK should be reviewed and options for greater direct relationships explored. The greater involvement and representation of Guernsey’s interests through the UK to WHO should also be assessed to enable more efficient channels of communication to be developed. There must be more support for Guernsey from the DOH regarding antiviral medication and pandemic specific vaccines. |
| Recommendation 3: | Approach Sark with an offer to work with insular authorities and the relevant UK authorities to review Sark’s compliance with International Health Regulations and its systems for dealing with public health emergencies. |
| Recommendation 4: | Plan for other pandemic scenarios other than the worst case. |
| Recommendation 5: | Significant businesses including some other States Departments should obtain professional occupational health advice. |
| Recommendation 6: | Surge capacity and resilience for public health emergencies should be strengthened. |
| Recommendation 7: | The public should continue to implement hygiene measures to prevent the spread of respiratory diseases, both in Guernsey and abroad. |

*Bibliography*


Guernsey Membership of Influenza Response Expert Panel

Consultant Respiratory Physician
Consultant Anaesthetist
Consultant Paediatrician
On-call Consultant Virologist
On –call Consultant Microbiologist
Director of Public Health (Chair)
Deputy Medical Officer of Health
Infection Prevention and Control Lead Nurse
Chief Pharmacist

Senior Managers in acute in patient areas only for the Expert panel. (However senior managers for all other areas will be invited as their areas are reviewed.).

Terms of reference:

- The Expert Panel will be responsible for advising the States of Guernsey (SoG) and provide strategically advise to all health and non healthcare providers. Many of whom will be part of the Operational Influenza Pandemic Group.
- The panel will be responsible for direct liaison with the UK and external national agencies.
- In addition to their work the Panel will be called upon to provide advice on matters arising on which the members particular expertise may be of assistance with the pandemic. It is recognised that in a pandemic situation, such request will need to be made at short notice and that deadlines are likely to be short.
- The group will play a critical role in ensuring that the SoG and the Operational Group are provided with a high standard of advice to support the response to a pandemic.
- Be prepared as requested by the Chair to provide occasionally expert advice on relevant issues outside the meetings.
Guernsey Membership of Influenza Pandemic Operational Group
Director of Public Health/MoH/CMO (Chair)
Assistant Chief Officer - Head of Law Enforcement Customs & Excise, Immigration and Nationality Service
Lead Nurse Infection Prevention and Control
Clinical Nurse Specialist Infection Prevention and Control
Assistant Directors
Pharmacist Manager
Team Leader, School Nurses and Health Visitors
Consultant Pathologist
Chief Pharmacist
States Emergency Planning Officer
GP, Queens Road
GP, L’Aumone and St Sampsons
GP, Healthcare Group/Deputy MoH
Respiratory Physician, MSG
Director of Human Resources
Occupational Health Senior Advisor
Deputy Director, Education Department
Head of Emergency Planning,
St John Ambulance and Rescue
Director of Environmental Health and Pollution Control
PA to Director of Public Health
Guernsey Physiotherapy Group
Guernsey Dental Association
Consultant Paediatrician, MSG
Consultant Anaesthetist, MSG
Agricultural Advisor

Minutes to:
Chief Officer, Deputy Chief Officer, Director Of Finance, GPs Alderney and Sark

Terms of reference

- The purpose of this committee is to facilitate the flow of information on preparedness, provide support and, where appropriate, make joint decisions, providing a coherent approach with each organisation involved. This is a multi-agency committee with involvement of organisations at different stages.
- It is the responsibility of the member organisations to report to the committee at regular intervals on their progress, updates and problems in planning. Any concerns should be raised with the Lead of the Influenza Response Expert Panel.
- Discuss published or consultative national guidance which effects multi-agency planning, provided by the Expert panel.
- assess internal responses
- ensure completed action plan based on national guidance,
- consolidating business continuity plans
- plans to cover supply chains, mutual aids, staff register etc
- Coordinate local multi-agency exercises and where possible, training.