PANDEMIC FLU

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

*The Government’s Chief Medical Officer 2002*

This briefing note has been written in view of the increasing concern that the rise of an avian influenza virus in South East Asia since 2003 – H5N1 – could provide the basis of a new human influenza virus with pandemic potential. So far the virus has been limited to poultry and other birds and those who have very close contact with avian species. Despite some sensationalised media coverage so far the virus has not jumped across from birds to humans but the potential for it to do so is high.

An influenza pandemic results when a new virus emerges which has different characteristics to other strains and is able to-

- Infect people (rather than, or in addition to, other mammals or birds);
- Spread rapidly from person to person;
- Cause illness in a high proportion of the people infected, and
- Spread widely, because most people will have little or no immunity to the new virus and will be susceptible to infection (they will not previously have been exposed to it or a similar strain of virus, and any previous vaccinations will not have covered the strain.

Normal annual influenza vaccines will not protect against a pandemic strain and a specific vaccine has yet to be developed and manufactured. The UK Government is building up a stock of antiviral drugs such as Tamiflu but such drugs can only alleviate the symptoms of such a virus and not as such provide a treatment. Such drugs are likely to be prioritised to health care workers and vulnerable groups in society.

CPT Member companies are advised to develop contingency plans to deal with the potential effects of a pandemic on their business. Reference should be made to information contained on the Department of Health website together with in England, guidance issued by the Regional Resilience Units contained within the Government offices of the Regions. In Scotland, Wales and Northern Ireland reference should be made to material produced by the appropriate devolved administrations. A summary of current Department of Health guidance is provided as an annex to this briefing sheet which is correct at the time of writing (January 2005).

There are three key areas in which specific contingency plans should be developed.

a) Absence from work
b) Effect on schools

c) Impact on demand for transport

Absence from Work

If established in the UK, the disease is likely to spread rapidly over 2-3 weeks and then gradually decline over the next 4-6 weeks; a second wave of illness may occur 6-9 months later. Some 20-30% of the population or even more may be affected over a 1-2 year period including children and normally fit young adults and a greater proportion of people are likely to require hospitalisation or die than for seasonal flu.

Planning should be based on a cumulative total of 25% of workers taking some time off – possibly 5-8 working days – over a period of 3 months. This first wave is likely to be followed by a second wave of similar duration. The interval between each wave could be several weeks or months. Absenteeism may be more than this either due to a higher rate of illness, the need to care for sick family members or fear of exposure to infection. Past pandemic experience indicates that between 10-35% of the workforce may be absent from work. The absentee rate is expected to peak for 1-2 weeks at the height of the outbreak (around weeks 8 to 9).

Total deaths in the UK normally run at around 12,000 per week. During a pandemic, without effective interventions, total deaths are likely to gradually rise to 50% higher than normal at the peak of a pandemic wave, and then gradually decline. However, there is the potential for as many deaths in 12 weeks of a pandemic as in the rest of the year (around 600,000 excess deaths across the UK).

Member companies need to bear in mind that many staff will wish to stay at home to care for sick children or children who are unable to attend schools in view of school closures. Absenteeism is likely to rise as well due to a fear of illness through contact with infected persons.

Companies should in their contingency planning advise staff of the importance of hygiene measures bearing in mind the risks to contagion inherent in extensive cash handling. The availability of alcohol based sanitizers at garages and other operational facilities would assist in this. A culture of cleanliness emphasising the importance of hand washing needs to be instilled.

The use of face masks is not recommended as such equipment is normally only appropriate for medical staff in very close proximity to those affected. The logistics of ordering, storing and issuing face masks over the period of a pandemic attack would mitigate against this as a realistic policy option.

Personnel managers need to be attuned to the importance of those displaying symptoms of the disease being sent home and for reporting arrangements for those
who feel symptoms developing. Those who have experienced the virus in the first wave are likely to be immune during the second wave.

Effect on Schools

There is a greater risk of infection in the school age population than in any other group. The Health Departments of England, Wales, Scotland and Northern Ireland will inform Education Departments to advise local education authorities and the education sector to advise local education authorities and the education sector about measures to be taken to slow down the spread of the virus. It is highly likely that in the event of such a pandemic attack this will result in a decision to close down schools. Clearly this will impinge on the transport sector in view of the high numbers of home to school transport movements carried out every day which may mean staff in certain circumstances being reallocated where appropriate to other commercial or tendered operations. However as mentioned above many staff with school age children will wish to take time off to care for them at home and also in any event be wary about reporting for work in view of exposing themselves further to the virus.

Impact on demand for travel

Obviously the fact that the general population will be affected by any virus to the same extent as employees in the industry will lead to a general reduction in the demand for travel. It is likely as well, that restrictions will be placed on public gatherings e.g. football matches etc in order to reduce further the danger of the virus spreading. People as well even if they remain unaffected by the disease may well opt not to travel in any event.

However it is recommended that in contingency planning, operators determine at what levels of given staff absence, service levels would need to be cut. Arrangements would also need to be put in place to inform and liaise with regulatory and contracting authorities in the event of a pandemic attack.

Structure of a contingency plan

Recommended best practice is that a contingency plan to deal with an outbreak of pandemic flu should cover the following key areas:

- Communications Strategy
- Resources Strategy
- Sickness Monitoring Strategy
- Service Impacts Strategy
- Employee Movements Strategy
- Employee Arrangements Strategy

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Annex – Extracts from Department of Health Guidance.

Introduction

The widespread occurrence – and continued spread – of a highly pathogenic avian (bird) influenza virus (H5N1) in poultry in SE Asia since 2003 has increased concern that this could provide the seedbed for the emergence of a new human influenza virus with pandemic potential. While international efforts are being directed at preventing such an event, or aborting it early in its tracks, the opportunities to do this are limited and once established, the virus will spread rapidly. The Government states that the tools to limit its spread and impact are limited and will have to be used to best effect and that it gives a high priority to improving the UK’s preparedness to manage an influenza pandemic.

A pandemic is the worldwide spread of a disease, with outbreaks or epidemics occurring in many countries and in most regions of the world. Influenza pandemics have swept the globe from time to time throughout history with devastating effect far in excess of that resulting from the ‘seasonal’ influenza which in the UK occurs most winters.

A pandemic of influenza results when a new influenza virus emerges which is markedly different from recently circulating strains and is able to:-

- Infect people (rather than, or in addition to, other mammals or birds);
- Spread rapidly from person to person;
- Cause illness in a high proportion of the people infected, and
- Spread widely, because most people will have little or no immunity to the new virus and will be susceptible to infection (they will not previously have been exposed to it or a similar strain of virus, and any previous vaccinations will not have covered the strain.

The normal annual influenza vaccine will not protect against a pandemic strain, and a specific vaccine will need to be developed and manufactured. The UK Government is building up a stock of antiviral drugs to treat the anticipated number of people with influenza during a pandemic based on World Health Organisation (WHO) advice about the likely attack rate but it will not be known until the time how effective they will be.

The Phases of an influenza pandemic
The WHO has defined phases in the evolution of an influenza pandemic which allow a step wise escalating approach to preparedness planning and response leading to declaration of the onset of a pandemic. Once a pandemic has been declared, UK action will depend on whether cases have been identified in the UK and how extensively it has spread. For UK purposes, therefore, additional UK alert levels are included within the WHO pandemic phase (Phase 6).

Inter-pandemic period.

Phase 1  No new influenza virus subtypes have been detected in humans.

Phase 2  As above but a circulated animal influenza virus subtype poses a substantial risk of human disease.

Pandemic Alert Period

Phase 3  Human infection with a new subtype, but no new human-to-human spread, or at most rare instances of spread to a close contact.

Phase 4  Small cluster(s) with limited human-to-human transmission but spread is highly localised, suggesting that the virus is not well adapted to humans.

Phase 5  Large cluster(s) but human-to-human spread still localised, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).

Pandemic Period

Phase 6  Pandemic phase: increased and sustained transmission in the general population.

Past experience suggests that a second, and possibly further, wave of illness caused by the new virus are likely 3-9 months after the first wave has subsided. The second wave may be as, or more, intense than the first.

Within the UK the following alert levels apply during this first phase.

Alert Level 1  Cases only outside the UK (in a country or countries with or without extensive UK travel/trade links)

Alert Level 2  New virus isolated in the UK.

Alert Level 3  Outbreak(s) in the UK.
Alert Level 4  Widespread activity across the UK.

Post Pandemic Period

Return to inter-pandemic period.
National authorities are expected to be prepared to activate their national contingency plan following announcements of WHO Phase 5.

An influenza pandemic is thought most likely to emerge from South East Asia, but could start anywhere in the world. For planning purposes, working estimates of the most likely subsequent spread and impact have been derived by the Department of Health’s theoretical modelling. Once established a pandemic is likely to spread to the UK in less than a month. In a further 2-3 weeks, it could have spread across the UK. Thereafter, activity could last 3-5 months, with a peak in cases at about Week 6. Subsequent waves are likely, weeks to months later. The illness is likely to affect more people than the annual ‘seasonal’ influenza which occurs each winter in the UK; about a quarter of the population may have developed the disease, with 50,000 excess deaths or more, by the end of the pandemic.

A future influenza pandemic could occur at any time (intervals between the most recent pandemics have varied from about 10 to 40 years with no recognisable pattern, the last being in 1968/0).

A new virus may not follow the usual seasonal pattern of influenza, and may occur at any time of year.

Following arrival in the UK it will take a further 2-3 weeks until cases are occurring across the whole country.

Once influenza levels exceed the baseline threshold of 30 new GP consultations per 100,000 population per week, influenza activity in the UK may last for 3-5 months, depending on the season, and there may be subsequent waves, weeks or months apart.

Influenza is mainly spread by the respiratory route, though droplets of infected respiratory secretions produced when an infected person talks, coughs or sneezes; it may also be spread by hand/face contact after touching a person or surface contaminated with infectious respiratory droplets. Finer respiratory aerosols (which stay in the air for longer and are therefore more effective at spreading infection) may occur in some circumstances.

People are highly infectious from the onset of symptoms for 4-5 days.
The incubation period is 1-3 days.

One person infects on average 1.4 to 1.8 people.

For planning purposes the base scenario based on previous pandemics in the 20th Century is a cumulative clinical attack rate of 25% of the population over one or more waves of around 15 weeks each, weeks or months apart. This compares with a usual seasonal influenza attack rate of 5-10%. The second wave may be the more severe.

The total cumulative attack rate over a number of waves is unlikely to exceed 50%.

All ages will be affected, but children or otherwise fit adults could be at relatively greater risk.

The age specific differential attack rate will affect the overall impact. If working age adults are predominantly affected this will impact more seriously on provision of services and business continuity.

Total deaths in the UK are normally around 12,000 per week. Total deaths are likely to gradually rise to at least twice this at the peak of a pandemic wave, and then gradually decline. However, there is the potential, in the more severe scenario, for as many deaths to occur over 15 weeks of a pandemic as normally occur in one year.

Mortality rates are likely to vary considerably between different age groups. At least a third of the total excess deaths may be in people under 65 years compared with less than 5% in inter-pandemic years.

**Absence from work**

Work patterns have changed so much since previous pandemics that it is unwise to extrapolate from historical data on sickness absence.

Absence from work will depend on the age-specific attack rate, although even if working age people are relatively spared, additional absenteeism may result from staff needing to take time off to care for family members, or difficulties with transport.

Accelerated transmission may occur in the workplace, resulting in staff being ill during a narrower time frame than in the general population.
It is suggested that business continuity plans are based on a cumulative total of 25% of workers taking some time off – possibly 5-8 working days – over a period of 3-4 months.

Modelling suggests absenteeism due to the pandemic will rise to a peak of 5 to 7%, the higher number including those who would need to look after those who are ill. This equates to about three times the normal average absenteeism in a private sector company, and double that in the public sector. Even in the reasonable worst case of a 50% attack rate these figures only rise to 10-15%. However the absenteeism rate would not be uniform and some employers may be particularly badly affected.

**Schools**

Influenza will rapidly spread in schools. In 1957 (a major influenza outbreak) for example, up to 50% of schoolchildren developed influenza but even those schools which were most severely disrupted had returned to normal four weeks after the appearance of the first case. This will impact on working parents.

However, closing schools has a significant effect on business continuity and maintenance of essential services, particularly health care, due to parent workers needing to stay at home for childcare.

**Impact on other services**

In the absence of early or effective interventions there will be an effect on other services, through staff sickness, any travel restrictions imposed and through the knock on effects of other disrupted businesses and services.

This includes essential services such as transport.

**Impact on travel**

Travel will be impacted through:-

- any explicit advice or restrictions on travel and public gatherings as a policy option.

- people opting not to travel (e.g. because of cancellation of work/school etc, fear of acquiring information through travel or fear of leaving home).

- availability of fuel and transport workers.
Extent to which interventions might ameliorate the impact

Vaccination with a vaccine specifically formulated against the pandemic virus strain, when an appropriate vaccine becomes available, can be expected to achieve the greatest reduction in illness, complications and deaths, and lessening the impact on health and other services, although the effectiveness of a pandemic vaccine will not be known until it is in use.

Even in inter-pandemic years, when the virus strains predicted to be circulating the following winter, and included in the vaccine, are well matched to those which actually do occur, vaccine reduces infection by around 70-80%, hospitalisations in high risk individuals by around 60% and deaths by around 40%.

Much work has been done on the most effective strategies for the use of antiviral drugs. If treatment with antiviral drugs provides benefits of the same order as those demonstrated during seasonal influenza, early treatment (within 48 hours of onset of illness) should shorten illness by around one day, reduce the severity of the symptoms, and reduce the need for hospitalisation. If, as planned, it is possible to treat all those with clinical symptoms, there should be a reduction in the number of hospitalisations needed (by around 50%), and deaths, and possibly in the size of the peak and the total numbers affected. However the effectiveness of antivirals in a pandemic, and particularly in reducing mortality in cases of severe disease (including primary viral pneumonia), is not known. Predicting precisely how large these effects would be is impossible with current information.

The amount of antiviral drug required if it were to be taken to prevent people getting the disease over the entire pandemic period is prohibitive and a treatment strategy is the only realistic option, other than in some very specific circumstances.

A specific vaccine is unlikely to be available in any quantity at least in the early stages of a pandemic.

Even with advance work to improve preparedness for vaccine production, the lead time before a new vaccine becomes available in quantity is likely to be at least 4-6 months. There may be no vaccine initially and then availability will depend on production rates. At the same time, international demand for vaccine will be high. Vaccine will have to be distributed equitably and administered to pre-determined priority groups first, according to nationally agreed recommendations.

Strategies for the optimal use of antiviral drugs
The National Institute for Clinical Excellence (NICE) guidance for the use of antivirals for seasonal influenza does not apply in an influenza pandemic.

Phase 2 Potential Prevention of a pandemic virus emerging.

In the event of outbreaks of highly pathogenic avian influenza in poultry, antiviral agents will be offered to occupational groups exposed to dead or diseased birds.


Antivirals will be used to treat cases.

Phase 5 and possibly very early in Phase 6.

Treatment of those in case by case basis to prevent spread of disease.

Phase 6.

This will be the main strategy once a pandemic is established. Until the full stockpile is established, or the clinical attack rate is greater than the 25% planned for, treatment will be offered in provisional order of priority, to:

- Health care workers, if and when they develop fever or other influenza like symptoms (regardless of whether vaccinated).
- Unimmunised people in high risk groups (or groups emerging that information suggests are at special risk), to ameliorate illness and reduce complications and death.
- Other unimmunised people
- Immunised people, using the same criteria as above, if emerging information suggests the vaccine being used is not effective at reducing serious illness, complications or deaths.

Limited use of antiviral drugs may be recommended, if supplies allow, to limit the spread in certain defined situations.

Longer term prophylaxis on a population level (i.e. taking the drug to prevent infection throughout the period of possible exposure) is not considered likely to represent an efficient use of the drugs (bearing in mind the virus may be circulating in the population for several months or weeks.)
As with seasonal flu, it is likely that for maximum effect the drugs will need to be started as soon as possible, and within 48 hours of (for treatment) onset of symptoms or (for post-exposure prophylaxis) exposure to infection.

Prophylaxis The prevention of disease or control of its possible spread.

Other public health and/or ‘social distancing’ measures to reduce morbidity and/or contain spread.

National Travel

- Reducing unnecessary, especially long distance travel may help slow the spread of infection at the beginning of the pandemic in the UK.
- Local restrictions in the movement of people, e.g. in a community or town are unlikely to have much impact.

Mass gatherings

- Decisions on whether to restrict mass gatherings will depend on whether they are local, national or international events, the size, duration and whether in confined spaces or the open air.
- Closing schools will have an impact on maintaining the workforce in other sectors.

Personal and respiratory hygiene

- People can reduce, but not eliminate, the risk of catching or spreading influenza during a pandemic by:
  o Covering their nose and mouth when coughing or sneezing using a tissue when possible;
  o Disposing of dirty tissues promptly and carefully – bagging and binning them.
  o Avoiding non-essential travel and large crowds whenever possible.
  o Maintaining good basic hygiene, for example washing their hands frequently with soap and water to reduce the spread of the virus from their hands to their face, or to other people.
  o Cleaning hand surfaces (e.g. kitchen worktops, door handles) frequently, using a normal cleaning product.
  o Making sure their children follow this advice.
- If someone catches flu, they should:
  Stay at home and rest
  Take medicines such as aspirin, ibuprofen or paracetemol to relieve the symptoms.
  Drink plenty of fluids.

Annex J

Information for other organisations

Interim advice on the risks of an influenza pandemic

Purpose:

This note is to inform emergency and business continuity planning by local authorities, schools and other educational establishments, essential services and the business sector for the contingency of a world-wide pandemic of influenza. It highlights key issues to take account in such planning.

Context:

The main source of information for this guidance is the UK Health Departments’ Influenza Pandemic Plan. It also draws on the results from consultation during 2004 by the World Health Organisation on preparedness for an influenza pandemic which was largely driven by concerns amongst public health experts that the current outbreaks of avian influenza in parts of Asia could give rise to a pandemic.

The Pandemic Plan highlights, among other things, that Health Departments would implement a public education campaign early on in a pandemic, on the nature of the infection and the measures the public and organisations can take to reduce its spread. Information would be widely available on Health Departments’ websites and in leaflet form. However, a key message to the public would be that the ability of health services to reduce the impacts of a flu pandemic on health are limited, and as a result, infection is likely to be widespread.

This guidance is issued to local responders to provide advice on the likely impacts of an influenza pandemic in order to inform and assist emergency and business continuity planning. The guidance is not intended either to be prescriptive or to be an operations manual, nor does it place any obligations on local authorities or service providers. The guidance is intended to help establish a coordinated national framework for effective local contingency panning. The guidance is interim because thinking and planning continue to evolve.
Background

Influenza pandemics have occurred at irregular intervals throughout history, three in the last century: in 1918 (‘Spanish flu’), 1957 (‘Asian’ flu) and 1968 (‘Hong Kong’ flu). Each of these events was associated with illness, deaths and general societal disruption far in excess of that experienced in a ‘normal’ winter. The 1918/19 pandemic, for instance, is estimated to have caused over 20 million deaths world-wide with 150,000 deaths in the UK. A further pandemic is thought to be inevitable. There may not be much warning and therefore advanced planning is essential for a smooth response.

Nature and Scale of a flu pandemic

The outbreaks or epidemics of influenza which occur most winters affect some 5-10% of the population. The vast majority will have an unpleasant but self-limiting illness or even no symptoms, with less than 0.05% consulting their GP. Those most at risk of serious illness or death (the elderly, and those with chronic underlying diseases) are offered annual vaccination. Death from flu is usually due to complications such as secondary bacterial infections, e.g. pneumonia, or exacerbation of an underlying disease, rather than the direct effects of the influenza virus itself.

An influenza pandemic arises when an entirely new strain of influenza virus emerges to which most people are susceptible. Thus it is able to spread widely. Some important features of influenza pandemics are:

- they are unpredictable;
- they may occur at any time of year;
- they are most likely to start in Asia, or at least outside the UK, and gradually spread; this spread has been divided into phases allowing an escalating response according to the scale and geographic spread of the pandemic;
- spread to the UK may take several months, but may be shorter;
- once established in the UK may take several months, but may be shorter;
- once established in the UK, the disease is likely to spread rapidly over 2-3 weeks and then gradually decline over the next 4-6 weeks; a second wave of illness may occur 6-9 months later;
• some 20-30% of the population or even more may be affected over a 1-2 year period, including children and normally fit young adults and

• a far greater proportion of people are likely to require hospitalisation or die than for seasonal flu.

Confirming a flu pandemic

The World Health Organisation (WHO) monitors influenza across the world. Once a new influenza virus has been identified and shown to have pandemic potential, the WHO will announce the various phases of a pandemic and inform national Governments (further details in Chapter 3 of the main plan). The UK Government will then put its own plans into action with the Department of Health in the lead working closely with the Health Departments in the Devolved Administrations (DAs) and supported by the Health Protection Agency and its equivalents in the DAs. This will include guidance and advice from Health Departments and/or the Health Protection Agency for the public and for planners across all sectors.

Department of Health influenza pandemic planning assumptions

Based on previous pandemics and current internationally agreed arrangements co-ordinated by the WHO, UK Health Departments have agreed the following planning assumptions (further details in Chapter 4 of main plan):

1) spread from the source country to the UK will take no more than one to two months. Following arrival in the UK it will take a further 2-3 weeks until cases are occurring across the whole country. Our aims are to slow its spread, at least in the short term, in order to buy time and spread the load on health and other services, and to reduce its impact.

2) most people will be susceptible to the new virus, although not all will necessarily develop clinical illness. All ages will be affected, but children and otherwise fit adults could be at relatively greater risk should elderly people have some residual immunity from exposure to a similar virus earlier in their lifetime.

3) influenza is mainly spread by the respiratory route, through droplets of infected respiratory secretions produced when an infected person talks, coughs or sneezes; it may also be spread by hand/face contact after touching a person or surface contaminated with infectious respiratory droplets. Finer respiratory aerosols (which stay in the air for longer and are therefore more effective at spreading infection) may occur in some circumstances.

4) vaccine will not be available in the early stages. A pandemic vaccine cannot be stockpiled in advance: it must be produced specifically for the virus concerned
so development cannot start until the virus is known. Everything will be done to produce a vaccine as quickly as possible, but it is likely to take at least 6 months.

5) as vaccine becomes available it will be given according to nationally agreed priorities, starting with health care and other essential workers. Beyond that, the final decisions will be based on early information about the age groups being affected most severely. When vaccine supplies become more widely available, vaccination will be offered to the general population.

6) antiviral drugs are available for treating influenza, but even with a national stockpile, there will not be an unlimited supply. They may be used initially to try to contain small outbreaks. Later they will be used to treat certain narrowly-defined priority groups according to agreed guidelines in order to achieve the maximum health benefits.

7) planning should be based on a cumulative total of 25% of workers taking some time off – possibly 5-8 working days – over a period of 3 months. This first wave is likely to be followed by a second wave of similar duration. The interval between each wave could be several weeks or months. Absenteeism may be more than this either due to a higher rate of illness, the need to care for sick family members or fear of exposure to infection. Past pandemic experience indicates that between 10-35% of the workforce may be absent from work. The absentee rate is expected to peak for 1-2 weeks at the height of the outbreak (around weeks 8 to 9).

8) total deaths in the UK normally run at around 12,000 per week. During a pandemic, without effective interventions, total deaths are likely to gradually rise to 50% higher than normal at the peak of a pandemic wave, and then gradually decline. However, there is the potential for as many deaths in 12 weeks of a pandemic as in the rest of the year (around 600,000 excess deaths across the UK).

9) slowing down the spread and reducing the number that will be affected early in the first wave may be achieved by implementation of:

- robust public health advice (e.g. stay at home if ill, or think you may be ill, wash hands frequently (particularly after contact with people who are ill, cover mouth and nose with a tissue while sneezing or coughing); avoid unnecessary travel; avoid crowds where possible.
- treatment of those who are ill (with antiviral drugs within 24 to 48 hours of onset of symptoms).
- the use of face masks by medical staff in contact with infected people (to reduce droplet spread).

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• travel advisories seeking to reduce international travel to or from affected areas.

In addition, the following measures may be considered as public health interventions during a pandemic. Decisions on their implementation would be made once the nature of the pandemic virus and its effects were understood, and on the basis of scientific advice on potential benefits and on potential social and economic disbenefits. Response measures would be proportionate, particularly where social restrictions might be imposed:

• voluntary home isolation of cases
• voluntary quarantine of contacts of known cases (with potential impacts on work teams if all contacts of a case in a work team are asked to remain in voluntary quarantine; staff rostering would be needed to minimise business impacts in these circumstances).
• additional measures at UK ports, such as strengthening current port health arrangements.
• robust additional public health advice to reduce non-essential travel and social/leisure gatherings.
• Advice on school closures (recognising the impact this will have on maintaining the workforce in other sectors).

These measures are being kept under review as public health interventions during a pandemic and clear guidance will be issued by Health Departments, based on the advice of the UK National Influenza Pandemic Committee or guidance from the WHO or real time modelling as the evidence evolves or as need arises.

Some of these measures may be required as a result of staff absence or the general disruption, or may occur by default because of public concern or other consideration, such as concerns about possible exposure to infection when using public transport. Voluntary co-operation with recommended measures would be sought. Mandatory quarantine and curfews are generally not considered necessary and are not currently covered by public health legislation.

General advice to local authorities, educational establishments and businesses

For the purposes of business continuity planning, local authorities, educational establishments and businesses will wish to consider the likely effects of a pandemic on their organisations outlined above and the measures that may be taken to manage these. For example, by:

• considering the likely impact on their organisations and businesses
• considering their needs to maintain continuity of core business activities and putting appropriate plans in place taking into account high levels of staff absences
• providing information to staff and students (this will be available on the Department of Health website and in printed form).

Decisions on additional measures, such as postponing events will normally remain for local determination, based on advice and recommendations issued by Health Departments.

**Particular advice to educational establishments**

The pandemic virus may spread rapidly in schools and in other education establishments (attack rates of up to 90% were reported in some boarding schools in previous pandemics). If this is confirmed as a characteristic of the virus, Health Departments will inform Education Departments to advise local education authorities and the education sector about measures to be taken to slow down spread of the virus. This advice would particularly apply to younger children, childcare settings and education establishments and may include closing down for a short period, and management of pupils/students travelling within, to and from the UK. Education Departments will assist in disseminating the advice to the various education sectors.

The decisions on such closures will normally remain for local determination having regard for the possibility that such establishments may have insufficient staff and/or pupils/students to remain open and for the possible implications for increased work absence because of workers’ child care responsibilities.

This briefing can be downloaded from the CPT Members’ Website - [http://www.cptmembers-uk.org/sitesia.aspx/page/2422/l/en-gb](http://www.cptmembers-uk.org/sitesia.aspx/page/2422/l/en-gb)

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