

# College of Emergency Medicine

## Pandemic Flu Bulletin 1 30/4/09

### Introduction

This document has been assembled by Emergency Physicians within the College to try to help guide Emergency Departments' preparations for pandemic flu.

The advice here does not aim to replace advice from the Health Protection Agency or the Department of Health, but rather to complement it, by collating and summarising information that has particular relevance to the practice of Emergency Medicine.

### Background

Prior to the outbreak of human-to-human transmission in Mexico, the expectation was that a pandemic would start in South East Asia, and that H5N1 (bird flu) was the likely candidate strain for a flu pandemic.

The effects of the pandemic are determined by the number and demographics of people worst affected. In most previous pandemics the very old and very young were most affected. Two main factors determine the burden on health services:

- Transmission rate – how many people are infected with the disease
- Case fatality rate – how many of those infected die

The ability of the healthcare system to cope will be significantly impaired if the case fatality rate were high.

The **very good news** is that the case fatality rate for the current variant of Swine Flu (H1N1) seems very low - much lower than had been expected if H5N1 had been transmitted human-to-human. However this can change over time.

### SARS

While SARS was a completely different disease, it was helpful in highlighting some of the factors that will be essential in managing pandemic flu, particularly the human behavioural responses. Significant differences between SARS and flu:

- There were no paediatric deaths from SARS. Flu tends to be worse in the very young and very old.
- Flu is very much more transmissible than SARS.
- SARS had a symptomatic prodromal period when a sufferer could be isolated.

# Role of Emergency Departments in Pandemic Flu

In addition to all the normal functions, Emergency Departments will have two distinct roles in a flu pandemic, according to the prevalence of influenza within the community.

## 1. Surveillance

In the first phase of the pandemic, surveillance is the key goal. During this stage it is critical to collect accurate information to enable the pandemic to be managed. Data from the Emergency Department is vital for disease modellers to predict the rate of spread and allocate appropriate resources across regions and the country. During this stage, the ratio of worried well to true influenza sufferers will be high.

## 2. Gateway to secondary care

When the disease becomes widespread within the community, anyone who presents with the clinical features of the disease probably has it, therefore diagnostic testing is no longer a issue.

Simple assessment measures e.g. CXR, oxygen saturation are likely be used with an algorithm that will determine which patients need to be managed as inpatients. This algorithm will be dictated nationally according to available evidence and resources.

Symptomatic patients will be advised to stay at home and seek guidance from the 'National Flu Line' (part of NHS Direct). Antivirals will be allocated by NHS Direct using standardised algorithms, and sent out by post, or collected from a Primary Care Trust distribution point. This has always been a central part of DoH strategy, and serves to keep the population away from hospitals.

***It is absolutely essential that Emergency Departments are in no way involved in distribution of antivirals or other medication to the general population. People must be discouraged from attending the Emergency Department with flu unless they are likely to need admission.***

The function of other institutions e.g. prisons, schools, nursing homes is likely to be impaired and it is important that Emergency Department, as the interface between primary and secondary care, does not become the default option for these patients. This should be co-ordinated by the Primary Care Trust, and should include liaison with the Ambulance service to ensure that patients are delivered to the most appropriate facility, minimising handling by health staff.

# Emergency Department Preparation

## Practical Measures

There will be centrally provided guidelines about the most effective ways of assessing and treating patients. These will be disseminated on the Health Protection Agency website. This guidance aims to complement that advice with specific points for Emergency Departments.

## Staff Safety

Staff safety, and more importantly the perception of staff safety is critical to maintaining a workforce. Support staff essential to the running of an Emergency Department such as security, cleaning and clerical staff are likely to be very anxious about the flu, due to media coverage. These groups of staff will need extra education and re-assurance compared to front-line clinical staff, who may be better able to understand the risks.

Workforce planning should assume at least 25% sickness rate at any time. If schools close, this may be optimistic.

Many public service organisations have abandoned grills and screens for workers such as reception staff who directly interact with the public. Measures to protect staff from contamination or possible physical threat are essential, and should be done now – e.g. Perspex screens with intercoms. Local infection control teams can advise.

Trying to implement significant cultural and behavioural changes during a pandemic is unlikely to be successful, and therefore wherever possible, normal routines should be maintained, as they are most likely to be followed. Keep messages to staff simple – do not overload them with information.

Measures should be in place to ensure that staff members who need antiviral medication can access them promptly.

## Emergency Department

Points of entry to the Emergency Department should be minimised.

The waiting area must be physically and securely isolated from other areas of the hospital. Many Emergency Departments lack this basic safety measure, which must be improvised as soon as possible. The Emergency Department must not be a thoroughfare for the rest of the hospital, and if this has occurred over time, this is an opportunity to put this right.

Separation of patients minimises cross-infection. A minimum distance of one metre is necessary. A simple way to increase the average interpersonal distance within the waiting room is to remove alternate seats.

Reduce visitors into the ED and introduce posters hand hygiene and respiratory etiquette (“Catch it, Bin it, Kill it”) - into all visitor areas. Facemasks, tissues, pedal bins and hand washing facilities need to be provided in waiting areas.

Signage is important. Do a walkthrough with someone who does not know the Emergency Department, to ensure that a person entering the building understands where they should go and what they should do. Signs explaining that you have no antiviral stocks in the ED and that patients need to contact primary care/ NHS Direct would be a good idea.

Have printed information for patients about where they should go locally to get primary care treatment

Remove all unnecessary items from clinical spaces.

If there is a negative pressure room available, this is the best space for assessing patients. Some rooms can be used as both negative and positive pressure. Now would be a good time to check which way the switch works!

If you do not have a negative pressure room within the Emergency Department, then consult your infection control team for advice about the optimum assessment area. Staff must be given the best facilities in terms of spatial separation of patients, environmental controls (ventilation, lighting, temperature control, ease of cleaning, access to disposal and hand hygiene including hand washing facilities) areas for donning and removing PPE, access to chest radiographs and near patient testing. Influenza needs transmission-based precautions to protect staff and other patients, these precautions are about what we do, how we do it, and are less defined by where we do it.

Patients will present with other conditions, for example falls in the elderly, and there must be adequate facilities to escalate infection control precautions for these patients.

Do not designate any clinical room as an influenza room if it does not have a sink – hand washing appears more effective than alcohol on its own in preventing viral transmission.

## Infection Control

Most influenza transmission is through large droplet (e.g. coughing and sneezing) spread or contact.

Nebulisers, non-invasive ventilation and intubation are spectacularly efficient ways of generating aerosols, virtually guaranteeing the infection of all staff and patients in the vicinity, unless they are all wearing full PPE. Aerosolised virus can also be blown around the Emergency Department unless a negative pressure room is used. Emergency Departments should obtain advice from their local infection control team about the best way to deal with this problem.

The duration of survival of influenza virus (culture of viable virus) on stainless steel, cloth and porcelain is not unlike the SARS Corona virus (e.g. over 24hrs). This is why hand hygiene and cleaning are so important.

Inappropriately alarmist infection control measures such as the widespread wearing of masks are futile, increase anxiety, consume scarce resources, and generate large amounts of waste.

Ensure cleaners are briefed and well protected. Help them by demonstrating how the areas should be decontaminated after use, and reduce exposed equipment and consumables to a minimum. Explain the need for them to use PPE (at least gown and gloves) while cleaning contaminated areas.

Infection control measures are most likely to be breached when faced with a sick child. As with any highly stressful event, rehearsal using scenario-based training may be helpful in maintaining staff safety.

Ensure staff understand the distinction between surgical and High Efficiency Respiratory Protection devices (e.g. FFP3 masks). Conserve the latter for staff doing aerosol-generating procedures. People touch their facemasks – if so they should be treated as contaminated.

Do not allow people to walk out of the patient area with contaminated masks - they are putting themselves and others at risk.

There is a limited role for expensive and complicated full PPE, which is difficult to use properly, but offers the best protection from aerosol-generating procedures.

## Staff Support

### What can I do to ensure staff will come to work?

One question that all staff will ask themselves, but that has tended to be glossed over in official documents, is “should I go to work?” Significant determinants are likely to be:

- a) the perceived risk to staff and their family is too high.
- b) the interventions being provided appear futile.

In SARS, there were major differences between the way that staff responded to the disease in Canada and in South-East Asia. While part of the reason was undoubtedly the lethality of the disease, it is likely that lack of communication about the risks and how these can be controlled was in part responsible.

As the present strain appears to be very much at the benign end of expectations, and treatments seem effective, so now is the time for the clinical leaders to share this good news with **all** our staff.

### Resource limitations and clinical need

Central guidance and protocols will be provided to guide treatment. There are likely to be difficult decisions, and most (non-ED) doctors are used to having effectively unlimited resources for cases that merit treatment e.g. Intensive Care is denied due to futility rather than absence of facilities. In a pandemic the principles of disaster medicine – doing the most good for the most people – may become necessary.

Some countries e.g. Canada have had a public dialogue about the ethical dilemmas that the pandemic will pose. While these discussions are relatively easy to have in abstract terms, it is likely that the Emergency Department will be the setting for these decisions.

While most doctors can rationalise denying care that is ultimately futile, to have to deny care to people who would benefit from it is anathema to most doctors. Preparations should be made to deal with this from a practical and psychological point of view, as societal expectations of what medical care could and should achieve have changed significantly since the last pandemic in 1968.

Decision-making should be shared and if it becomes apparent that resources are significantly below demand, guidance will be given centrally about treatment priorities.

# Key points

1. Staff safety, and the perception of staff safety is paramount. The safety of the rescuer is the basis for the ability to offer healthcare. We have a duty to protect our staff, and it is the duty of the senior clinician to ensure this happens.
2. Talk to your support staff now – they are the most vulnerable to anxiety and least able to rationalise the risks. Without them you have no Emergency Department.
  - reception staff
  - security
  - cleaners
  - radiographers
  - occupational therapy/ physiotherapists
  - porters
  - secretaries
3. The Emergency Department must not be involved in distribution of antivirals or other medication to the general population.

# Appendix

Excerpts from the relevant government publications

## Pandemic flu: A national framework for responding to an influenza pandemic (Nov 2007) p.106

### 9.12 Emergency departments

In a pandemic, all symptomatic patients will be advised to stay at home, seek help by calling the National Flu Line service (i.e. NHS Direct) and not attend surgeries or health facilities unless by prior arrangement, but contingency arrangements should recognise that some self-referral is inevitable. The level of self-referral is likely to be significantly higher if there are breakdowns in primary care provision, loss of confidence or access difficulties in provision for assessment, treatment or antivirals both in and out of hours. The interface between hospital and primary

care arrangements, therefore, needs joint review and appropriate protocols agreed with primary care and PCT representatives at the planning phase. Hospital pandemic plans should also ensure that measures are in place to:

- control entry
- immediately identify, assess and separate symptomatic patients prior to and during assessment and treatment
- protect staff and control contamination of emergency facilities
- provide appropriate treatment and/or self-management advice
- manage patients according to agreed protocols
- monitor and review the effectiveness of these arrangements.

## DoH Pandemic influenza: Guidance on preparing acute hospitals in England (Nov 2007) p28

### 3.3.1 Emergency departments

Trusts are advised to refer to the section on Emergency Departments in the National framework.

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

It is possible that, despite advice to stay at home when symptomatic and seek help by telephone, patients may still self-refer to the Emergency Department. Trusts therefore need to plan for and be capable of responding to a sustained surge in pandemic influenza cases attending Emergency Departments and have systems in place for handling such occurrences.

Trusts should plan how they will provide for large numbers of individuals arriving (self-presenting, referred or by ambulance) and waiting to be seen and assessed. Reception and assessment areas will need to be designed to minimise the exposure of staff to risks from a pandemic influenza virus, e.g. by the use of screens or telephone interaction systems. As far as possible, to minimise infection transmission risk, where a patient with pandemic influenza warrants admission and there is available bed capacity, the patient should be transferred straight to the segregation ward. Where patients self-referring are presenting with uncomplicated influenza, trusts will need to signpost these individuals to the National Flu Line service for accessing their assessment and treatment, in order to enable the hospital to concentrate on providing care to those in greater need of their skills. Access control may be required to encourage patients to access care in the most appropriate way. Trusts will need

# Pandemic influenza: guidance for infection control in hospitals and primary care settings p. 39-41

## 7.4 Emergency departments

During the peak of a pandemic, hospital Emergency Departments and outpatient departments may be overwhelmed with patients seeking care. Alternative approaches to triage and initial assessment will be required to:

- rapidly screen and identify those who have symptoms of influenza
- separate symptomatic patients from others to reduce the risk of transmission
- determine as early as possible the type of care patients will require (i.e. 'see and discharge' or admit for treatment).

### 7.4.1 Screening and triage

Signage should be placed on the route to and at the entrance of the Emergency Department instructing patients with respiratory symptoms to inform the reception immediately on their arrival.

A triage practitioner should be based in the reception for managing patient flow, including deferral of patients who do not require emergency care.

Screening for signs and symptoms of influenza among patients entering the hospital may escalate from passive screening (e.g. signs at the entrance) to active screening (e.g. direct questioning), on the advice of the Department of Health and the HPA.

### 7.4.2 Reception area

Patients with symptoms of influenza should be triaged to a segregated waiting and assessment area immediately. Patients should be instructed to stay in this waiting area and not wander around the department or other parts of the hospital or go to public areas such as the public cafeteria. Signage and physical barriers should be used as appropriate.

If separate areas for patients with symptoms of influenza cannot be established, at a minimum an alternative site should be set up for those at highest risk of complications from influenza infection (e.g. outpatients presenting for dialysis, patients with a history of organ transplantation or chemotherapy, or those are immunocompromised for other reasons).

Patients who do not have symptoms of influenza but require prompt assessment for acute care should be triaged to a specific waiting and examining area that is physically separate from the influenza waiting and assessment area.

Posters should be displayed to reinforce attention to respiratory hygiene. Hand hygiene facilities, supplies of tissues and lined foot-operated waste bins should be made available.

All non-essential soft furnishings and items such as books, magazines and toys should be removed.

### 7.4.3 Infection control measures in waiting rooms

Patients, staff and visitors should be encouraged to minimise potential transmission of influenza through the following good hygiene measures:

- Cover nose and mouth with disposable one-use tissues when sneezing, coughing and wiping or blowing noses.
- Dispose of used tissues in nearest foot-operated waste bin.
- Wash hands after coughing, sneezing or using tissues, or after having contact with respiratory secretions and contaminated objects.
- Keep hands away from the mucous membranes of the eyes, mouth and nose.
- Some patients (e.g. older people and children) may need assistance with containment of respiratory secretions; those who are immobile will need a receptacle (such as a plastic bag) readily at hand for immediate disposal of tissues and a supply of hand wipes and tissues.

As waiting rooms can become crowded, it is preferable that symptomatic patients wear surgical masks. This will help contain respiratory secretions and minimise environmental contamination.

### 7.4.4 Infection control in examination rooms and cubicles

All non-essential equipment in the examination room or cubicle should be removed. Stocks of consumables should be stored near to the examination rooms and not inside them.

Coughing and sneezing patients should wear surgical masks to minimise environmental contamination of the cubicle. Patients should be confined to their room or cubicle and be moved outside only for essential procedures.

Frequently touched surfaces must be cleaned between patients.