



Investigating acute respiratory infections in community settings: Principles for investigation of outbreaks/clusters in schools

November 2010

Background/rationale for testing

- To enable early detection of influenza in a community – ‘early warning’.
- To identify the dominant flu subtypes so that issues or problems associated with any change are identified early. The dominant subtype in the current southern hemisphere flu season has varied from county to country and it is not known what will happen in the UK.
- It is known that schools/young children may be ‘early warning’ for wide community spread of infection.

Preparation for investigations

- Need for awareness among clinicians/schools to report outbreaks of illness to health protection units.
Action required: HPUs to make local arrangements for raising awareness among GPs, schools, local education/children’s services departments etc, and to ensure locally appropriate arrangements are in place for reporting and sampling.
- Need for awareness among local laboratories (NHS and HPA) about outbreak investigation and the agreed suite of testing that will be done. Regional HPA laboratories offer an HPA-recommended respiratory virus real-time PCR panel that involves testing combined nose and throat swabs or other respiratory samples for influenza A (including pandemic H1N1 and, where possible, oseltamivir resistance testing), influenza B, respiratory syncytial virus, human metapneumovirus, parainfluenza virus types 1-3, adenoviruses and rhinoviruses. At HPA regional laboratories, all influenza A positives will be H and N typed and all H1N1s will be tested for resistance locally and referred to Colindale.
Action required: HPUs to ensure local laboratories are aware of and signed up to investigation protocol.
Action required: HPUs to ensure all outbreak samples are clearly marked with an outbreak number and identifiable by laboratories.

- In care homes there is often a circulation of flu and norovirus, which can lead to diagnostic confusion. HPUs should bear this in mind when arranging sampling.

Actions to be taken by HPU upon receiving reports of illness from schools

1. Standard dataset to be collected on schools and should include:

- Name and type of school.
- Numbers affected.
- Spread in the school (e.g. one class, one year group or widespread).
- Whether members of staff are affected.
- Symptoms reported.

2. Risk assessment

Outbreaks often present as a sudden or unexpected rise in absenteeism. If there is no information on the symptoms then obtaining this should be a priority.

Flu should be considered if there is a clinical picture consistent with an upper airways infection or a flu-like illness.

The standard case definition for flu is accepted to be: fever $\geq 37.8^{\circ}\text{C}$ and any one of the following: malaise, cough, sore throat, myalgia, runny nose or congestion, wheezing. Diarrhoea and vomiting may be a feature but if these are present in the majority of cases then a gastrointestinal infection should be considered.

3. Samples to be collected

Diagnostic samples (combined nose and throat swabs in virus transport medium) from two or three of the most recently symptomatic children should be collected.

Samples are only required from the first two or three schools reporting illness in a local community. The definition of 'local community' will be left to the discretion of the HPU.

- ##### 4. HPUs should work closely with regional epidemiology units and HPA laboratories to ensure that information from routine influenza-like illness/acute respiratory infection surveillance systems (GP spotter practice, regional microbiology surveillance scheme) is shared to give clear local picture of infections. This information should be used to inform risk assessments and investigation of community clusters.
- Information about the local situation should be shared (by local HPU or by regional epidemiology unit depending on local arrangements) with local GPs and provider services (acute and community trusts) and primary care trusts, together with any updates on the investigation arrangements/local findings of note.

Management and control

- Regardless of the cause, symptomatic children/staff should remain off school and be encouraged to self isolate until they are symptom free. Children/staff who become ill while at school should be isolated and sent home.
- Messages about good personal hygiene should be disseminated to teachers and pupils, such as the use of tissues when sneezing or coughing, wiping and blowing noses, 'Catch it, Bin it, Kill it' and the cleaning of hands afterwards and periodically during the day.
- If flu is confirmed then the use of antivirals for prophylaxis and treatment for at risk people should be in accordance with NICE guidelines. The NICE guidance on the use of antivirals can be accessed at: <http://guidance.nice.org.uk/TA168> for treatment and <http://guidance.nice.org.uk/TA158> for prophylaxis.
- School closure is not usually necessary except for operational reasons, for example significant staff illness.
- As a general point, pupils and staff in the at-risk groups for flu should be encouraged to have the seasonal flu vaccine at the beginning of the autumn school term.

Reporting

- Information on outbreaks of influenza-like illness should be recorded on HPZone (guidance to follow) and details reported on a standard form, which should be sent within a week to the respiratory disease department at HPA Colindale (respcdsc@hpa.org.uk).
- Reports of school outbreaks should also be flagged at the weekly HPA update teleconference (every Tuesday morning) – along with the numbers of schools and any confirmed laboratory diagnoses.