UK Severe Influenza Surveillance System (USISS)
Protocol for all NHS Acute Trusts
2011-12

Health Protection Agency
2011
1. **Background**

Prior to the pandemic there was a recognised gap in surveillance of severe respiratory infection in the UK, in particular with regards to hospitalised cases of influenza. During the pandemic a web-based hospital reporting system was established to meet this need in England by the Health Protection Agency (HPA) and Department of Health (DH). This surveillance system expedited the collection and analysis of data on hospitalised cases of laboratory confirmed influenza. This included number of cases, underlying clinical risk factors, hospital course and outcome. The system provided real time surveillance at a national, regional and Trust level. The information collected was used to inform the development and refinement of policies for influenza prevention and control.

A pilot surveillance scheme for severe influenza, the UK Severe Influenza Surveillance System (USISS), was initiated during the 2010/11 post-pandemic influenza season in order to monitor and estimate the impact of seasonal influenza on the population and to describe the epidemiology of severe disease. Following an end-of-season evaluation of this pilot scheme, it was decided by the DH convened Influenza Surveillance Strategy Group (ISSG) that this data collection should become routine, with collection of weekly aggregate data on influenza cases from all Intensive Care Units (ICUs) in England.

2. **Objectives**

The objectives of the 2011/12 USISS mandatory ICU scheme are:

a. To monitor and estimate the impact of severe influenza (both seasonal and pandemic) on the population.

b. To describe the epidemiology of severe influenza (ICU admissions and deaths) in time, place and person.

c. To be able to identify and describe the epidemiological features of a novel influenza virus.

d. To contribute to policy at a regional and national level.

3. **Case definitions**

A confirmed case of influenza is defined as a person who is admitted to HDU/ICU AND has a laboratory-confirmed influenza A (H1, H3 or novel) or B infection.

A confirmed fatality is defined as a person who dies while in HDU/ICU and has a laboratory-confirmed influenza A (H1, H3 or novel) or B infection.

4. **Proposed data collection**

Aggregate ICU data will be reported from ALL acute NHS Trusts in England. Trusts are to report weekly the number of laboratory confirmed flu cases admitted to HDU/ICU and the number of confirmed influenza deaths the previous week. These will be broken down by age group and flu type/subtype (see appendix 1).
This data collection will be mandatory for all NHS Acute Trusts, and has been approved by the Review of Central Returns (ROCR) (Ref ROCR/OR/2107/FT6/001MAND).

Testing and case reporting guidance has been provided to all NHS Acute Trusts through the Unify2 system (see appendix 2).

5. *Proposed recruitment strategy*

All NHS Trusts in England will be participating in aggregate data submission on ICU cases. The Devolved administrations of Scotland, Wales and Northern Ireland will be running parallel reporting schemes.

6. *Data collection and entry*

Data on laboratory-confirmed influenza cases will be collected from the ICU, microbiology laboratory, or directly through a patient hospital information system.

To submit the data to the USISS system, a designated Trust user will access the Department of Health’s (DH) Unify2 reporting tool. The designated user in each Trust could be an information officer, administrative assistant, nurse, infection control practitioner, or consultant, depending on resources at each Acute Trust. Data should be entered on a weekly basis – including nil returns. We request that data is reported each Wednesday by 11:00 for the previous week (Monday 00:00 to Sunday 23:59).

7. *Data security and confidentiality*

Data will be collected and stored according to The Health Service (Control of Patient Information) Regulations 2002.

8. *Dissemination of results*

Data from USISS, including the weekly number of laboratory-confirmed HDU/ICU admissions across the UK and cumulative number by age-group and flu type, as well as the weekly number of fatal cases reported from UK HDU/ICUs, will be disseminated through the HPA National Influenza Weekly Report. In addition, the cumulative number of laboratory-confirmed influenza-related fatalities will be reported, broken down by age-group and influenza-type/subtype. This data will also be included in the end-of-season HPA Annual Influenza Report.

9. *Approval for USISS data collection*

Both the DH influenza Surveillance Steering Group (ISSG) and the Pandemic Influenza Preparedness (PIP) Programme Board have signed-off on the planned surveillance activities for USISS in 2011/12.
To carry out a mandatory collection from all NHS Acute Trusts, approval has been sought from the ROCR governance body. Both ROCR and Monitor have approved this collection, valid until 31 March 2012 (ref ROCR/OR/2107/FT6/001MAND).

10. Period of operation
USISS is expected to operate annually, initially from October 2011 (week 40) to May 2012 (week 20). In the event of unexpected influenza activity, it will be possible to activate the system out of season.
## Appendix 1: Aggregate data items for ICU surveillance from all acute Trusts

### Number of admissions in Level 2 and Level 3 Care (HDU/ICU)

<table>
<thead>
<tr>
<th>Flu Type, Age Group</th>
<th>Under 1</th>
<th>1 To 4</th>
<th>5 To 14</th>
<th>15 To 44</th>
<th>45 To 64</th>
<th>65+</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza A (H1N1) 2009</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Influenza A (H3N2)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Influenza A, unknown subtype</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Influenza B</td>
<td>0</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>0</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Number of deaths in Level 2 and Level 3 Care (HDU/ICU)

<table>
<thead>
<tr>
<th>Flu Type, Age Group</th>
<th>Under 1</th>
<th>1 To 4</th>
<th>5 To 14</th>
<th>15 To 44</th>
<th>45 To 64</th>
<th>65+</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza A (H1N1) 2009</td>
<td>0</td>
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<td></td>
<td>0</td>
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<tr>
<td>Influenza A (H3N2)</td>
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<td>0</td>
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<tr>
<td>Influenza B</td>
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<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>0</td>
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<td>0</td>
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<td>0</td>
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<td>0</td>
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Appendix 2: Testing and reporting guidance for all NHS Acute Trusts

Testing criteria
In line with normal practice, patients admitted to an Acute Trust should ideally be tested for influenza when presenting with:

a) Fever (≥38° C) or history of fever AND

b) Two or more of the following symptoms: cough; headache; rhinorrhoea, limb of joint pain; vomiting or diarrhoea

Or where there is a clinical suspicion of influenza infection.

Case definitions

c) Cases to be reported on:

All patients admitted to HDU/ICU with a laboratory-confirmed influenza infection (A (H1, H3 or novel) or B) should be reported.

Cases should be included in weekly reporting based on date of admission to ICU, and not by influenza laboratory test date.

Cases who tested positive at another facility prior to admission to ICU should still be included.

d) Deaths to be reported on:

All cases who die in HDU/ICU and have a laboratory-confirmed influenza infection (A (H1, H3 or novel) or B) should be reported.

Cases should be included in weekly reporting based on week of death (i.e. - when the date of death falls within the week for which data is being reported), and not by influenza laboratory test date or by HDU/ICU admission date. Cases should be reported regardless of the time period spent in HDU/ICU.

Cases who were admitted to HDU/ICU and died after release into a general ward or discharge should be excluded from reporting.

Timing

Report by 11:00 Wednesday the data corresponding to admissions in the week up to midnight of the previous Sunday (i.e. 00:00 Monday to 23:59 Sunday)