



**DISEASE CONTROL DIVISION
MINISTRY OF HEALTH
MALAYSIA**

**MITIGATION PHASE:
INFLUENZA A(H1N1) SURVEILLANCE STRATEGIES**

1. INTRODUCTION

Since 15 May 2009 when the first confirmed case of influenza A(H1N1) was detected in Malaysia, the number of confirmed cases are increasing further, with evidence of nationwide spread. Therefore, event-based surveillance becomes more important to detect clusters of cases and focus public health resources on mitigating the spread (through social distancing) and impact (through provision of antiviral agents) of these outbreaks, particularly in high risk groups. Surveillance activities during this phase aim to provide a comprehensive assessment of the disease including clinical characteristics, risk factor information, and epidemiological and virological features.

Bioclinical surveillance will be enhanced through continuous monitoring of the circulating influenza virus for the emergence of antiviral resistance, antigenic drift, gene sequence changes or reassortment.

Specific triggers for launching investigations may include:

- Clusters of ILI, acute lower respiratory tract infection (ALRTI), suspected pneumonia and SARI. Of particular importance is the occurrence of clusters of illnesses in locations outside of the household where people regularly congregate, such as in schools, long-term care facilities, mines and other enclosed work places.
- Unexplained severe, respiratory illnesses occurring in one or more health care worker(s) who provide care for patients with respiratory disease.
- Unexpected school or work absenteeism.

2. OBJECTIVE

General:

To monitor and detect changes in the geographical spread, trend, intensity and impact of the influenza A(H1N1) infection in the community.

Specific:

- i. To establish a mechanism for timely reporting of influenza A(H1N1) caseload from healthcare facilities.
- ii. To facilitate early detection and response towards cluster cases of influenza A(H1N1) infection.
- iii. To monitor for changes in the antigenicity and antiviral sensitivity of the circulating influenza A(H1N1) virus.

3. CASE DEFINITION OF INFLUENZA A(H1N1) INFECTION

Clinical case description:

Acute febrile respiratory illness (fever ≥ 38 °C) with the spectrum of disease from influenza-like illness to pneumonia. Other possible symptoms includes; headache, dyspnea, myalgia, joint pain, nausea, vomiting and diarrhoea.

- i. **A suspected case** of Influenza A(H1N1) virus infection is defined as an individual after 17th of April 2009, presenting with:
 - high fever $\geq 38^{\circ}\text{C}$, **AND**
 - One or more of the following respiratory symptoms: cough, shortness of breath, body ache, difficulty in breathing, **AND**
 - One or more of the following: close contact* with a person diagnosed as Influenza A(H1N1) **or** recent travel to an area with reported transmission of influenza A(H1N1)**.

**Close contact is defined as: a person who has been within a distance of 1 meter or less from an ill person who is a confirmed or suspected case of influenza A(H1N1) infection).*

***Areas in which there are reported transmission of Influenza A(H1N1) are updated on the WHO website <http://www.who.int/csr/don/en/>*

- ii. **A probable case** of Influenza A(H1N1) virus infection is defined as an individual that fulfill the criteria for a suspected case, with an influenza test that is positive for influenza A, but is unsubtypable by reagents used to detect seasonal influenza virus infection

OR

An individual with a clinically compatible illness or who died of an unexplained acute respiratory illness who is considered to be epidemiologically linked to a probable or confirmed case.

iii. **A confirmed case** of Influenza A(H1N1) virus infection is defined as an individual with laboratory confirmed Influenza A(H1N1) virus infection by one or more of the following tests*:

- real-time RT-PCR
- viral culture
- four-fold rise in Influenza A(H1N1) virus specific neutralizing antibodies

**Note: The test(s) should be performed according to the most currently available guidelines on testing.*

4. NOTIFICATION OF INFLUENZA A(H1N1) CASES

Patients in need of hospital management are to be admitted, as the situation warrants. The patient should then be further managed appropriately according to the clinical management recommended.

All medical practitioners attending to admitted cases of whom highly suspicious of influenza A(H1N1) infection, need to notify the nearest District Health Office (DHO) and the Crisis Preparedness and Response Centre (CPRC), Disease Control Division using the notification format as in **Annex 1**. The flow of notification is as shown in **Annex 2**.

The patient's daily progress (using format as in **Annex 3**) should be sent daily to the Disease Control Division, Ministry of Health (MOH) at/before 10.00 am until the patient is discharged.

5. SURVEILLANCE ACTIVITIES FOR INFLUENZA A(H1N1)

Influenza-like illness (ILI) surveillance during this period will involve **ALL** government health clinics and not limited to the sentinel sites as previously designated. Whereas, severe acute respiratory infection (sARI) surveillance will involve data collection from **ALL** government hospitals. In view of the current global situation, the surveillance of ILI and sARI will be done **DAILY** until further notice from Disease Control Division, Ministry of Health

5.1 INFLUENZA-LIKE ILLNESS (ILI)

Case Definition Of Influenza-Like Illness (ILI):

A person presenting with a sudden onset of fever $\geq 38^{\circ}\text{C}$ and cough or sore throat, in the absence of other diagnosis

**Note: The onset of fever should be within 3 days of presentation and fever should be measured at the time of presentation.*

The flow of data collection is as shown in **Annex 4** and data are collected using the formats contain in the following Annexes (to be made available at <http://www.dph.gov.my/survelans/>):

- **Annex 5:** daily return format from Health Clinics
- **Annex 6:** daily return format from District Health Office
- **Annex 7:** daily return format from State Health Department

Specimen Collection

For good yield of virus isolation, case definition of influenza should be strictly followed on choosing ILI patients for clinical specimen. Influenza virus is best detected in specimens containing infected cells and secretions collected during the first three days after the onset of clinical symptoms.

At least 2 sentinel sites has been identified per state. The specimens collection should be coordinated by the Pathology Department of State Hospitals, to ensure smooth flow of the specimens transportation to the National Public Health Laboratory, Sungai Buloh, Selangor.

At least 5-10 specimens from ILI cases per clinic per week should be collected. Ideally, specimens should be collected throughout the clinic days of the week using a systematic sampling plan e.g. one or two specimens per clinic day in a five clinic days week.

A laboratory form (using format as in **Annex 8**) should be completed for each ILI case from whom a throat swab is collected. The form should be submitted with the specimen to the National Public Health Laboratory, Sungai Buloh, Selangor.

5.2 SEVERE ACUTE RESPIRATORY INFECTION (sARI)

Case Definition Of Severe Acute Respiratory Infections (sARI):

- Meets ILI case definition (sudden onset of fever $\geq 38^{\circ}\text{C}$ and cough or sore throat, in the absence of other diagnosis), **AND**
- Shortness of breath or difficulty breathing, **AND**
- Requiring hospital admission.

The flow of data collection is as shown in **Annex 4** and data are collected using the formats as in **Annex 9** and **Annex 10** (to be made available at <http://www.dph.gov.my/survelans/>).

Specimen collection

A laboratory form (using format as in **Annex 11**) should be completed for each sARI case from whom a throat swab is collected. The form should be submitted with the specimen to the Virology Unit, Institute of Medical Research (IMR), Kuala Lumpur.

6. CLUSTER OF ACUTE RESPIRATORY INFECTION

A cluster is defined as two or more persons presenting with manifestations of unexplained, acute respiratory illness with fever $\geq 38^{\circ}\text{C}$ or who died of an unexplained respiratory illness that are detected with onset of illness within a period of 7 days and in the same geographical area and/or are epidemiologically linked.

Any clustering of acute respiratory illness at any level of health care or community should be reported to CPRC, Disease Control Division using format **Annex 12** and according to flow chart as in **Annex 4**.

7. ACUTE RESPIRATORY SYNDROME

In view of this current situation, all acute respiratory syndrome cases should be notified to Disease Control Division as mentioned in the Syndromic Notification Guidelines. Please refer to Syndromic Notification Guidelines.

Acute Respiratory Syndrome is defined as follows:

- Acute onset of cough or respiratory distress (e.g. tachypnoea, chest recession, dyspnoea, cyanosis)
- **AND** severe illness
- **WITH** an absence of known predisposing factors.

All medical practitioners attending to a patient who satisfies the definition of Acute Respiratory Syndrome, need to notify the State Health Department (SHO) and the Crisis Preparedness and Response Centre (CPRC), Disease Control Division using the Syndromic Notification Form (KKM-syndssurv/2003.2 – **Annex 13**).

The completed forms should be sent by fax or e-mail attachment **within 24 hours** to:

- i. the nearest District Health Office with a copy to
- ii. the Crisis Preparedness and Response Centre (CPRC), Disease Control Division, Ministry of Health Malaysia (fax: 03-8881 0400 or 03-8881 0500 / e-mail: cprc@moh.gov.my).

8. MONITORING OF ABSENTEEISM

Any unusual absenteeism involving a defined institution e.g. school, workplace, PLKN camps, long-term facility etc. should be reported to the nearest District Health Office (DOH) for verification within 24 hours using format as **Annex 14** and according to flow chart as in **Annex 4**.

9. CONTACT

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