

GENERAL RECOMMENDATIONS FOR CLINICAL MANAGEMENT OF INFLUENZA H1N1 INFECTION CASES

Due to the emergency caused by the outbreak of cases of H1N1 *Influenza*, which has triggered the response by health care facilities in several countries, it is necessary that the Health Authorities in all countries of the Region of the Americas, and in particular the health care facilities, adopt and disseminate basic guidelines for the management of cases should they present. The following recommendations articulate the procedures for case management, including treatment guidelines. Any specific issues pertinent at country level should be defined and incorporated into this protocol by local clinical groups in close coordination with the local Health Authorities, and in accordance with existing country guidelines.

1. Clinical Criteria for suspicion of *Influenza A (H1N1)*¹: (see Annex No 1: Severe Acute Respiratory Illness (SARI) and *Influenza*-like Illness (ILI))

- fever higher than 38°C
- rhinorrhea
- cough
- sore throat

Other possible symptoms:

- headache, dyspnoea, myalgia, joint pain, nausea, vomiting and diarrhoea.

2. Epidemiologic Criteria

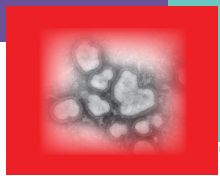
- Any person who resides in or has travelled in the last seven (7) days from a locality where there has been one or more confirmed cases of H1N1 *Influenza*;
- Any person who has been in close contact² in the last seven (7) days with a person who is a confirmed case of H1N1 *Influenza* infection.

3. Laboratory Criteria

- real-time RT-PCR
- viral culture

1 Special recognition to the Mexican Social Security Institute (IMSS), institution that led the preparation of the *Guide of Preliminary Clinical Practice for the Prevention, Diagnosis and Treatment of Influenza type AH1N1*, whose central contents has been incorporated in the present recommendations. For consultations, direct correspondence to: División de Excelencia Clínica, con domicilio en Durango No. 289 Piso 2^a, Col. Roma, México, D.F., C.P. 06700, teléfono 52 86 29 95.

2 **Close contact** is defined as: a person who has been within a distance 6 feet (1.80 m) or less from an ill person who is a confirmed or suspected case of swine Influenza A infection. PAHO, CDC April 2009



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4. Transmission and Evolution

- The H1N1 virus is transmitted easily from person to person when speaking, by sneezing or coughing and can be confused with other severe *Influenza* illnesses caused by different viruses.
- The general incubation period is 1-4 days, with an average of 2 days.
- Adults may be contagious from one day prior to the commencement of symptoms to up to 7 days after becoming sick.
- Children may be contagious for a period of up to 14 days after the appearance of symptoms.
- **Evolution:** Most of the identified persons who have contracted the H1N1 *Influenza* show improvement in one to two weeks. Nevertheless it has been observed that some cases evolve with clinical deterioration, involving lower respiratory tract infections (pneumonias), with severe and occasionally fatal outcomes, which have occurred more frequently in persons who have underlying chronic diseases, are pregnant or immunosuppressed.

5. Defining the case and its management

Each country should define or adjust its definition for a suspected or probable case, starting with the criteria in the previous section. These definitions may be adjusted over time according to the characteristics and evolution of the *Influenza A (H1N1)* virus, based on the conditions and resources of the health systems and services.

Suspected case:

Include the clinical criteria and at least one epidemiologic criterion.

Probable case:

Include the clinical criteria, at least one epidemiologic criterion and a positive test for *Influenza A* that is unsubtypable by real-time PCR

Confirmed case:

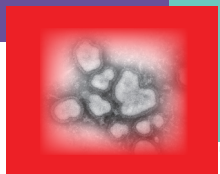
There is a confirmed laboratory test.

6. Triage

Triage is the first step in case management. It is a systematic process that facilitates the classification of a patient based on clinical presentation, and determination of the type of immediate care that is required. All patients subjected to triage become the recipient of some type of care, even if they are deferred.

The objectives of TRIAGE are:

- To reduce the risk of transmission or contagion
- To determine type and severity of the illness (differential diagnosis).
- To prioritise the required care and define the next step for the patient (i.e. home isolation, ambulatory management, hospital management, other).
- To refer patients according to the level of care required, avoiding unnecessary burdening of the facility and inefficient use of human and technical resources.
- To compile information that will facilitate subsequent identification or location of the patient.



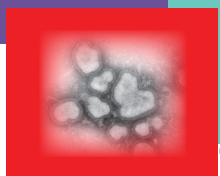
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TRIAGE Organisation:

- Identify and adapt an exclusive physical area in which the classification and ambulatory care of people with respiratory symptoms will be made. It should have restrictions for use and transit, and be contiguous but not incorporated into the health care facility.
- First level of care or ambulatory facilities without beds (smaller health posts, centres, clinics, others), will have to identify and prepare a space or doctor's office for attending to respiratory symptoms, and implement personal protection measures and the procedures to reduce transmission as described in this document.
- Consider using support and/or administrative personnel for directing persons seeking care for respiratory symptoms to the designated triage area. Complement with signage and clear messages that provide orientation and direction to users. Facilities with insufficient human resources should clearly display this information, and have at least one person directing users and distributing surgical masks as needed.
- Designate and prepare a waiting area before the presentation of cases. The room should be amply sized, ventilated and have its own restroom facilities. The cases and their companions (preferably none or maximum of one per case), should be directed to this waiting area.
- Persons who have been triaged and found to not require further care related to *Influenza A (H1N1)* but to be in need of other types of care, should be provided with documentation verifying that they have already been through this triage process. This will prevent duplication of this triage activity and spare these persons additional waiting time for care they need.
- The consultation areas designated for triage should have facilities for anamnesis and physical examination, hand hygiene and handling of waste.
- The area designated for observation of cases should have facilities for providing oxygen, taking samples under bio-security measures, and procedures for stabilisation of patients.
- All personnel designated to the triage area must use basic personal protection equipment, such as: surgical masks for all personnel and patients (and companions) who enter this area; disposable gloves for personnel and any others who will have close contact with the patient (taking of samples, house keeping, patient transport, others).

7. Organisation of Primary Care Teams

- Organize primary care teams, appropriate for the needs and resources of the affected areas.
- Consider setting up call centres to encourage the public to verify if someone needs to be seen at a health care facility. This will provide some amount of triage prior to case presentation at health care facilities and will help prevent overburdening. Calls should be taken by trained health professionals who will be able to appropriately advise callers and determine their health care needs.
- Teams should be deployed quickly to facilitate diagnosis and handling of suspected cases and to guarantee the joint provision of these services by teams from multiple health care facilities in the care network, according to the guidelines that are defined in each area. These guidelines should include isolation measures, guidance for immediate follow-up of each case, complementary examinations, others.
- Provide each team with rigid surgical masks, non-sterile disposable gloves and gowns, protective face shields, alcohol-based hand rub, basic equipment for clinical examination (thermometer, stethoscope, sphygmomanometer, otoscope, laryngoscope, and any other deemed necessary), case registration forms and clearly articulated protocol guidelines to enable quick case classification. These guidelines should facilitate identification of cases who are also in high risk groups; this will enable appropriate decision-making about the care required.

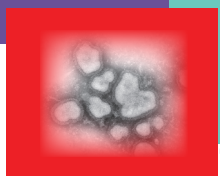


Logistical support for the primary care teams:

- Provide the teams with mobile telephones and/or radios to facilitate direct contact between the teams and health care facilities. This will enable fielding of questions and communication of important information from the field, including special cases or situations, patient transfers, and referrals from call centres.
- Transportation to mobilise the teams.
- Ensure availability of ambulances equipped for the transfer of patients who merit hospitalisation.
- Facilities for taking and transport of samples.
- Stock of antiviral medication for immediate treatment.
- Stock of masks and gloves to leave at visited addresses when implementation of isolation measures is merited.
- Material printed with recommendations for the family (measures of isolation and personal protection, medicine use, risks of self-medication, alert signs and instructions to consult again if necessary).
- Recommendations for taking and handling of samples.
- The primary care team must have the capacity to evaluate special conditions pertaining to the case (disabled or geriatric with poor familiar support, tourists, mental patients, among others) or its contacts, which represent greater risk in their clinical evolution, in the possibility of infecting others and difficulties in follow-up for multiple reasons (bad accessibility, insecurity, lack of communication, etc.)

SUMMARY OF CASE DEFINITION AND MANAGEMENT RECOMMENDATIONS

CASE	DEFINITION			
	Ambulatory Case Management		Hospital Case Management	
Suspected/ Probable	Stable patient, with no pulmonary complications or additional chronic illness, excluding risk groups. ¹	General recommendations, use of surgical mask and home isolation, symptomatic treatment. Clinical follow-up by primary care team. Reconsult if patient presents/displays alert symptoms. ² <i>Consider beginning antiviral treatment according to country situation (evidence of confirmed cases) and available resources.</i>	Patient with compromised pulmonary function and/or acute complication of a chronic disease or belonging to a risk group. With no possibility of clinical follow-up by primary care team.	Isolation measures; control chronic disease and provide treatment for pulmonary complication. <i>Consider beginning antiviral treatment according to country situation (evidence of confirmed cases) and available resources.</i>



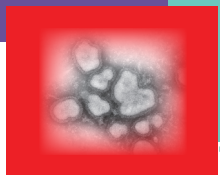
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<p>Confirmed</p>	<p>Stable patient, with no pulmonary complications or additional chronic illness, excluding risk groups.</p>	<p>General recommendations, use of surgical mask and home isolation, symptomatic treatment. Clinical follow-up by professional extramural health team. <i>Consider antiviral treatment according to clinical criterion.</i></p>	<p>Patient with compromised pulmonary function and/or acute complication of a chronic disease or belonging to a risk group. With no possibility of clinical follow-up by primary care team.</p>	<p>Isolation measures; control chronic disease and provide treatment for pulmonary complication. <i>Consider antiviral treatment according to clinical criterion.</i></p>
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- 1 Patients in high risk groups that have increased risk of developing severe and complicated *Influenza*: immunosuppressed, cystic fibrosis, bronchopulmonary dysplasia, complex congenital cardiopathy, chronic pneumopathy, and chronic renal insufficiency.
- 2 Refer to the doctor if there is: dehydration, apparent respiratory difficulty, abdominal pain, purulent sputum, persistent vomiting, neurological deterioration, presence of any of the criteria for hospitalisation.

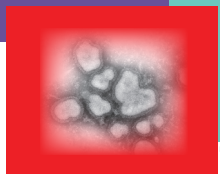
8. Case Management Recommendations

- Recommendations for **ambulatory** management
 - * Analgesic/antipyretics (avoid acetosalicylic acid-Aspirin, especially in children)
 - * Appropriate and abundant liquids (in children rehydration should be staggered)
 - * Rest and home isolation
 - * Infection control measures
 - * Follow-up of clinical evolution by primary care team or via telephone, checking for worsening of symptoms.
- Recommendations for **hospital** management
 - * Analgesic/antipyretics (avoid acetosalicylic acid-Aspirin)
 - * Oxygen therapy
 - * Hydration (oral or intravenous)
 - * Monitoring
 - * Treatment according to care determined for patient
 - * Infection control measures
 - * Follow-up of clinical evolution by primary care team or via telephone, checking alert symptoms.
 - * Discharge from hospital when oral tolerance is adequate, afebrile, absence of dyspnoea, and O₂ saturation greater than 85%.



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- Special recommendations for **home-care**:
 - * Ensure that there are conditions for isolation and bio-security in the home, and verify that they are being maintained. Provide materials as needed to homes.
 - * Ensure that primary care teams are properly enabled and equipped.
 - * Provide permanent and fluid communications between primary care teams and the patient (and family).
 - * Separate the ill person from others in the home, in a separate room if possible, until symptoms resolve. The ill person must use a surgical mask at all times, particularly when in the presence of others. Educate the patient on the need to wash their hands frequently and to follow [respiratory etiquette](#). Drinking glasses and other utensils used for eating by the patient must be thoroughly washed with soap and water before they are subsequently used by someone else.
 - * Prepare and provide informational pamphlets for persons referred to home-care.
- Recommendations during transport of probable or confirmed cases:
 - * Affix rigid surgical mask to the patient
 - * The personnel should use rigid surgical masks and non-sterile disposable gloves during patient transfer.
 - * The personnel should wash hands meticulously with soap and water or disinfect with an alcohol-based hand rub, prior to affixing the mask and gloves to themselves, and when the transfer has been completed.
 - * Recommendations for the interview of a confirmed or probable case:
 - * Maintain a distance of at least 1.8m (6ft) from the ill person, if protection barriers are unavailable.
 - * Use a surgical mask.
 - * Dispose of personal protection equipment (mask) in plastic bags for collecting infectious biological waste.
 - * Wash hands meticulously with soap and water or disinfect with an alcohol-based hand rub.
- Recommendations to the relative or caretaker of a probable or confirmed case (in the home):
 - * Use a surgical mask.
 - * Do not shake hands, kiss or hug.
 - * Ensure that the case does not go to crowded areas and if this is unavoidable, a surgical mask be used.
 - * Cough or sneeze in a disposable tissue, which should be discarded immediately in closed container. If disposable tissues are unavailable, cough or sneeze into the inner forearm.
 - * Use a rigid mask until resolution of the symptoms of the patient with acute respiratory infection.
 - * Discard used personal protection equipment (mask) before deterioration (humidity, breakage, dirt) in a plastic bag or closed container.
 - * Wash hands meticulously with soap and water or disinfect with an alcohol-based hand rub immediately following after each contact.
 - * Wash plates, glasses and places setting of the patient with abundant water and soap whenever they are used by the patient or any other person. It is not necessary to separate the utensils used by the patient if washing is adapted.



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9. Antiviral Management (Oseltamivir, Zanamivir)

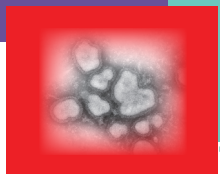
The indications for use of these antivirals are described and accepted for treatment, but their use will be determined by the directives of the local Health Authority in terms of goals and high-priority groups defined according to availability of the medicine.

The indications for use of antivirals include anyone of the following ones, according to medical criteria (see doses below):

Treatment protocol: Indicated for suspected, probable or confirmed cases, when:

- * Patient with rapid progression of illness.
- * Patient with criterion for admission to Intensive Care Unit (ICU)
- * Patient with clinical diagnosis and x-ray of pneumonia, who needs hospitalisation in second or third level of care.
- * Chronic Obstructive Pulmonary Disorder (COPD) or previous pulmonary pathology which requires hospitalisation in second or third level of care.
- * Complex congenital cardiopathy that requires hospitalisation in second or third level of care.
- * Chronic renal insufficiency that requires hospitalisation
- * Health worker with illness similar to *Influenza* and exposure to probable or confirmed cases.
- * Pregnancy in 2nd or 3rd trimester.
- * Heart defect or previous cardiac pathology that requires hospitalisation in second or third level.
- * Immunosuppression therapy, transplant or HIV/AIDS.
- * Patients with other underlying chronic diseases that present progression to deterioration.
- * Patients with social, personal or familial circumstances for whom the illness implies a high risk for the patient or their surroundings (examples: patients in shelters and institutions of well-being, beneficiaries of temporary lodgings, closed communities).

The treatment must begin in the first 48 hours of appearance of the symptoms (ideally before the 36 hrs in children younger than 12 years) and be continued 24 to 48 hours after its resolution (maximum duration of therapy: 5 to 7 days), except in the ICU cases where the individual situations must be analysed.

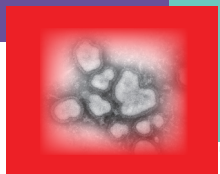


TREATMENT GUIDELINES

AGENT	ADULTS	CHILDREN
Oseltamivir	75mg every twelve hrs for five (5) days	<p>For the treatment in children less than 1 year of age, the CDC has recommended the use of oseltamivir when the benefit is greater than the risk.</p> <p>Less than 1 year of age:</p> <ul style="list-style-type: none"> • 12mg twice daily if age < 3 months • 20mg twice daily if age 3-5 months • 25mg twice daily if age 6-11 months <p>For children less than 13 years of age the doses are as follows, for five days:</p> <p>Less than 13 years of age:</p> <ul style="list-style-type: none"> • 30mg every 12 hrs if weight is < 15 kg • 45mg every 12 hrs if weight is 15-23 kg • 60mg every 12 hrs if weight is 23-40 kg • 75mg every 12 hrs if weight is >40 kg
Zanamivir	Two 5mg inhalations (10mg total) twice per day	Two 5mg inhalations (10mg total) twice per day (age, 7 years or older)

The adverse effects associated with oseltamivir include gastrointestinal symptoms, bronchitis and cough, dyspnoea and fatigue, neurological symptoms such as migraine, insomnia and vertigo. These have been reported as infrequent: exanthema, allergic reactions and hepatobiliary disturbance. Neuropsychiatric convulsions and disorders are mainly seen in children and adolescents.

The associated adverse effects to Zanamivir are infrequent and include broncospasms and allergic phenomena.



Annex N° 1

Influenza-like Illness (ILI) – Severe Acute Respiratory Infection (SARI)

ILI definition: Sudden onset of fever higher than 38°C, **and** cough or sore throat, **and** absence of other causes.

SARI Definition (For individuals ≥ 5 years of age): Sudden onset of fever higher than 38°C **and** cough or sore throat and dyspnoea or difficulty breathing.

SARI Definition (For individuals < 5 years of age): This case definition has been adopted from the Integrated Management of Childhood Illness programme (IMCI):

- Any child younger than 5 years of age in which the clinical **presence of pneumonia or severe or very severe pneumonia is suspected and requires hospitalisation.**

Children suspected of **pneumonia** present:

- Fever (temperature >38°C) **and**,
- Cough or difficulty breathing

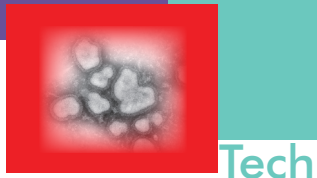
Difficulty breathing is considered to be:

- Before 2 months old,; more than 60 breaths per minute;
- 2 to 11 months old: more than 50 breaths per minute;
- 12 months to 5 years old: more than 40 breaths per minute

Children with **severe pneumonia** present:

- Fever (temperature >38°C) **and**,
- Cough or difficulty breathing **and**,
- Heaving of the chest or stridor at rest **or**
- Any of the following general danger signs (severe illness):
 - inability to drink or nurse
 - constant vomiting
 - convulsions
 - lethargy or unconsciousness
 - Children younger than 2 months can present fever or low body temperature

Suspicion of SARI is based on symptoms and clinical signs; a chest x-ray is not necessary for the determination of a suspect case.



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Annex N° 2

TRIAGE FLOW CHART

