Guideline On
Influenza A H1N1 (Swine Influenza)
Preparedness
For
Health Care Workers in Bahrain
(Version 2)

(This guideline will be revised and updated on timely manner according to the situation globally and locally)

Content

Forward

This guideline has been developed to assist you in preparation for and the recognition of severe respiratory diseases that may have been acquired overseas, such as Influenz A/H1N1 (swine influenza), avian influenza, or SARS. This guideline will be valuable when there are suspected or confirmed cases of efficient human to human transmission of these diseases. Because of the current threat, I urge you to consider how you can apply this information in your practice. Doctors, Pharmacists, Emergency Department Staff and international Border staff will be the first point of contact by affected members of the public if such diseases appear in Bahrain. It is important that as a health care worker, you keep up-to – date with current information on the health risks involved with traveling. Your vigilance in recognizing and responding to respiratory diseases in people who have traveled overseas is essential in the prevention of a major outbreak in Bahrain.

Dr. Faisal Bin Yaqoub Al-Hammar
Minster of Health

The Disease

Infectious agent

H1N1 influenza 09 is a novel influenza A virus infecting humans. Influenza viruses are composed of an RNA core surrounded by an envelope containing two surface glycoproteins — haemagglutinin and neuraminidase. These antigens have the ability to rapidly mutate and produce minor or major changes to the antigenic structure, known as antigenic drift and antigenic shift respectively. H1N1 influenza 09 appears to be formed through reassortment of human and swine-origin influenza strains, creating a virus against which humans have little or no immunity.

Mode of transmission

Definitive information regarding the mode of transmission of H1N1 influenza 09 is not yet available, however, it seems likely that it shares the same transmission dynamics as seasonal influenza, i.e. it is most commonly spread from person-to-person by inhalation of infectious droplets produced while talking, coughing and sneezing. Transmission may also occur through direct and indirect (fomite) contact. The virus may persist on hard surfaces for 1–2 days, particularly in cold or low humidity conditions. The virus may remain viable on hands for 5 minutes.

Incubation period

While the maximum incubation period could be 7 days, a shorter median incubation period of 3-4 days seems typical. This may change as more information concerning characteristics of the H1N1 influenza 09 virus becomes available.

Infectious period

The infectious period is assumed to be from 24 hours (one day) prior to the onset of symptoms until either 7 days after the onset of symptoms or until the resolution of fever, whichever is longer.

It is possible that some groups, especially children, might be contagious for longer periods, but for practical purposes of public health control it is recommended that the infectious period should be considered to be the same for all groups.

Clinical presentation

Seasonal influenza typically commences with symptoms of fever, cough, fatigue, sore throat, headache, myalgia, arthralgia and rigors or chills. Studies of confirmed cases of H1N1 influenza 09 infection suggest a similar profile, with diarrhoea and/or vomiting also being reported by around 25% of cases. In one series, 95% of cases of H1N1 influenza 09 reported fever, plus cough and/or sore throat, which is a generally accepted definition for influenza-like illness.

Symptoms of pneumonia may be present if lower respiratory tract infection occurs (breathing difficulty, productive cough, bloody sputum, pain when breathing). Chest X-rays may show pneumonia. Acute respiratory distress syndrome (ARDS) may develop several days after disease.

Influenza A H1N1 Case Definition

Based on WHO case definitions for infections with swine influenza A (H1N1) Virus

Clinical criteria

Any person with ONE of the following:

- Fever [≥38°C] OR a history of fever,
- AND
  - flu-like illness (TWO OR MORE of the following symptoms: cough, sore throat, rhinorrhea, limb / joint pain, headache, vomiting / diarrhoea)
    OR
  - Severe / life-threatening illness suggestive of an infectious process.

Laboratory criteria

At least **ONE** of the following tests:

- Specific PCR for swine influenza
- Viral culture
- Four-fold rise in swine influenza A (H1N1) virus specific antibodies (acute phase sera and convalescent >10-14 days later)

Epidemiological criteria

At least **ONE** of the following:

- Onset of symptoms within seven days of visiting areas where sustained human to human transmission of swine influenza A/H1N1 is occurring. *
- Onset of symptoms within seven days of close contact with a probable or confirmed case swine flu A (H1N1) virus infection.

Case classification:

A. Possible case
Any person meeting the clinical and epidemiological criteria

B. Probable case
Any person meeting the clinical and epidemiological criteria **AND** with a positive influenza A infection which is untypable

C. Confirmed case
Any person with laboratory confirmation

D. Discarded case
Any suspect case not fulfilling the possible case definition, a possible case that tests flu A negative or a probable case that tests swine influenza H1N1 negative.

Definition of cluster

A cluster is defined as two or more persons presenting with manifestations of unexplained, acute respiratory illness with fever >38°C or who died of an unexplained respiratory illness and that are detected with onset of illness within a period of 14 days and in the same geographical area and/or are epidemiologically linked.

Triggers/signals for the investigation of possible cases of swine influenza A (H1N1):

The primary focus of early investigation is to trigger the initial investigation. Specific triggers include:

- Clusters of cases of unexplained Influenza like Illness (ILI) or acute lower respiratory disease
- Severe, unexplained respiratory illness occurring in one or more health care worker(s) who provide care for patients with respiratory disease
- Changes in the epidemiology of mortality associated with the occurrence of ILI or lower respiratory tract illness, an increase in deaths observed from respiratory illness or an increase in the occurrence of severe respiratory disease in previously healthy adults or adolescents
- Persistent changes noted in the treatment response or outcome of severe lower respiratory illness.

Epidemiological risk factors that should raise suspicion of swine influenza A (H1N1) include:

- Close contact** to a confirmed case of swine influenza A (H1N1) virus infection while the case was ill
- Recent travel to an area where there are confirmed cases of swine influenza A (H1N1)

*****List of affected countries is available on www.moh.gov.bh or contact Public Health Directorate on 17279214/17279234 or 396919516.

******Close contact: having cared for, lived with, or had direct contact with respiratory secretions or body fluids of a probable or confirmed case of swine influenza A(H1N1).

What Health Care workers should do in case of a suspected Swine Influenza

If Swine influenza is suspected, the following steps should be taken accordingly:

I. General Precautions:

1. The patient should be placed in a private room.
2. Cohorting of infected persons.
3. A mask, gloves and gown must be worn.
4. Change gloves after contact with respiratory secretions or devices, or surface contaminated with secretions and between patient care. Wash hands after glove removal.
5. Hands must be washed with soap before and after all contact with patient or the patients' environment.
6. All surfaces that have been soiled with secretions should be cleaned and disinfected with sodium hypochlorite solution.
7. The ambulance team should be warned of the case and advised to take similar precautions.

II. Immediate Reporting To Public health:

Any acute illness suspected to be swine influenza should be notified immediately by telephone to Public health consultant on call on **36919516 or** the Disease Control Section, Communicable Diseases Unit Tel 17279214/17279234 Or**.**

OR , contact the senior public health specialists:

a. Ebrahim Yousif, 39615298.
b. Khadija Al-sayed, 39684042.

Or Public health Consultants:

- Dr. Muna Al-Mosawi 39622424
- Dr. Adel Al-Sayyad , 39687214
- Dr. Kubra S.Nasser , 36662055

Public health staff will use the notification form (annex I) to investigate the suspected cases and contacts.
Algorithm 1-A and 1-B will be initiated by public health staff once they receive a notification about a case.

III. Suspected case identified in the boarders (airport, ports, causeway)

- All travelers coming from endemic areas should fill in Health Declaration card (Annex II)

- For suspected case :
  - In the airport Algorithm 2-A should be initiated
  - In the seaport 2-B should be initiated
  - In the causeway 2-C should be initiated
- For contact: algorithm 1-B & !-C should be initiated by public health staff
- If the suspected case should be referred to SMC or isolation ward: algorithm 5 should be followed.

IV. Suspected case identified in primary health care

- For suspected case : Algorithm 3 should be initiated and case definition should be reviewed
- For contact: algorithm 1-B should be initiated by public health staff
- If the suspected case should be referred to SMC or isolation ward: algorithm 5 should be followed.

V. Suspected case in private health institute

- For suspected case : Algorithm 4-A for health facility with isolation room and 4-B for health facility without isolation room should be initiated and case definition should be reviewed.
- For contact: algorithm 2 should be initiated
- If the suspected case should be referred to SMC: algorithm 5 should be followed.

VI. Suspected case identified in secondary care

- For suspected case : Algorithm 6 should be initiated and case definition should be reviewed
- For contact: algorithm 1-B should be initiated by public health staff

VII. Lab testing

- In any suspected case Public Health Staff & the treating physician should inform Public Health Lab (PHL)
- The treating physician should take the required samples from the suspected case
- Algorithm 7 should be initiated

VIII. Case management

- All the suspected cases will be managed in SMC ward 13
- Algorithm 6 should be initiated

IX. Epidemiological Investigation

- Public health staff are responsible for completing and collating the case investigation
- WHO Case investigation form should be used.

Annex I

Influenza A/ (H1N1) CASE INVESTIGATION FORM

WHO "new" Influenza A(H1N1) Case Summary Form for case-based data collection

This form is to be used to obtain important information to determine severity and clinical characteristics of the cases infected with "new" Influenza A(H1N1).

The data received through this form will be treated confidentially in accordance with the International Health Regulations.

1. Reporter Information

Name of reporter:	_____	Date of submission (yyyy/mm/dd)	____/_____/_____
Name of institution	_____	Country:	_____
		Email:	_____
Tel. number:	_____		

2. Case Information

WHO Code	_____	National ID Or equivalent	_____
Date of birth (yyyy/mm/dd)	____/_____/_____	Age (years)	☐_____ unknown
Sex	☐ unknown ☐ Female ☐Male		
Status of the case at submission	☐ confirmed ☐Probable		

3. Geographic information (Location at symptoms onset)

Town/village	_____	1. Administrative level	
Country		2. Administrative level	
Latitude (if available)		Longitude (if available)	

4. Laboratory Test

- Positive test for influenza A unsubtypable Yes☐ No☐ Unknown☐

  Date of first specimen positive influenza A unsubtypable

  (yyyy/mm/dd) ____/_____/_____
- Positive test for "new" Influenza A(H1N1) Yes☐ No☐ Unknown☐

  Date of first specimen positive for Swine Influenza A(H1N1)

  (yyyy/mm/dd) ___/_____/_____

Name of Laboratory: _____

PCR ☐ Culture ☐(virus isolation) Serology ☐(fourfold rise) Type of test ☐Other (specify): _____

Type of specimen

☐Respiratory ☐Serum/plasma (specify): ☐other

- Specimen sent to WHO Reference Laboratory? Yes☐ No☐ Unknown☐

5. Symptoms

- Status at detection alive ☐ dead ☐
- Date of onset of symptoms (yyyy/mm/dd)____/____/____
- Date of first presentation to heath care system (yyyy/mm/dd)____/____/____
- Symptoms at disease onset

	Yes	No	Unk	Comment
Fever ≥ 38°C	☐	☐	☐	
History of fever (temp not measured)	☐	☐	☐	
Sore throat	☐	☐	☐	
Runny nose	☐	☐	☐	
Sneezing	☐	☐	☐	
Dry cough	☐	☐	☐	
Productive cough	☐	☐	☐	
Shortness of breath	☐	☐	☐	
Conjunctivitis	☐	☐	☐	
Diarrhoea	☐	☐	☐	
Nausea	☐	☐	☐	
Vomiting	☐	☐	☐	
Headache	☐	☐	☐	
Seizures	☐	☐	☐	
Altered consciousness	☐	☐	☐	
Muscle pain	☐	☐	☐	
Joint pain	☐	☐	☐	
Nose bleed	☐	☐	☐	
Other (specify)	☐	☐	☐	

6. History and Pre-Existing Conditions

- Did the patient have any of the following vaccines or treatments prior to illness onset?

	Yes	No	Unknown	Comment
Vaccination with seasonal influenza vaccine within the last year?	☐	☐	☐	_____
Vaccination with pneumococcal vaccine?	☐	☐	☐	_____
Use of antivirals as prophylaxis in the 14 days before onset of illness?	☐	☐	☐	_____

If yes, which

	☐
	☐
Oseltamivir	☐
Zanamivir	☐
Amantadine	☐
Rimantadine	
Other (specify)	

- Did the patient have any pre-existing conditions?

	Yes	No	Unknown
Cancer	☐	☐	☐
Diabetes	☐	☐	☐
HIV/other immune deficiency	☐	☐	☐
Heart disease	☐	☐	☐
Seizure disorder	☐	☐	☐
Lung disease	☐	☐	☐
Pregnancy	_____ months☐	☐	☐
Malnutrition	☐	☐	☐
Other _____(specify)	☐	☐	☐

7. Exposure/ Possible Exposure

- In the 7 days prior to onset of symptoms the person was in an area where cases of "new" Influenza A(H1N1) virus had been identified Yes☐ No☐ Unknown

  If yes, name area_____

- Exposure (contact within touching/speaking distance) in the 7 days before onset of illness to confirmed or probable "new" Influenza A(H1N1) case

  Yes☐ No☐ Unknown

If yes,

	Yes	No	Unknown	
Single exposure	☐	☐	☐	Please enter date of likely exposure ____/____/_____

- Patient has an occupation in a health care setting

  Yes ☐ No☐ Unknown ☐

If yes,

	Yes	No	Unknown
Health care worker dealing directly with patients (including doctors, nurses, health care students, health volunteers, allied health professionals, catering staff, cleaners, ambulance staff, and community health workers)	☐	☐	☐

- Exposure to swine in the 7 days prior to onset of symptoms?

  Yes ☐ No ☐ Unknown ☐ if yes specify below

8. Outcome

- Patient fully recovered Yes ☐ No ☐ Unknown ☐

  if yes, Date of resolution of symptoms (yyyy/mm/dd) ____/____/_____

- Patient was hospitalized during the disease course Yes ☐ No ☐ Unknown ☐

  ____/____/_____ *if yes,* Date of initial hospitalisation (yyyy/mm/dd)

  ____/____/_____ Date of discharge (yyyy/mm/dd)

- Patient died Yes ☐ No ☐ Unknown ☐

  ____/____/_____ (yyyy/mm/dd) *if yes,* Date of death

9. Symptoms occurring at any time during the course of the disease

	Yes	No	Unknown	Comment
Fever ≥ 38°C (100°F)	☐	☐	☐	_____
History of fever (temp not measured)	☐	☐	☐	_____
Sore throat	☐	☐	☐	_____
Runny nose	☐	☐	☐	_____
Sneezing	☐	☐	☐	_____
Dry cough	☐	☐	☐	_____
Productive cough	☐	☐	☐	_____
Shortness of breath	☐	☐	☐	_____
Conjunctivitis	☐	☐	☐	_____
Diarrhoea	☐	☐	☐	_____
Nausea	☐	☐	☐	_____
Vomiting	☐	☐	☐	_____
Headache	☐	☐	☐	_____
Seizures	☐	☐	☐	_____
Altered consciousness	☐	☐	☐	_____
Muscle pain	☐	☐	☐	_____
Joint pain	☐	☐	☐	_____
Nose bleed	☐	☐	☐	_____
Other (specify)	☐	☐	☐	_____

10. Developed pneumonia

- Did the patient show signs of clinical pneumonia Yes☐ No☐ Unknown ☐
- Diagnosis of primary influenza pneumonia Yes☐ No☐ Unknown ☐
- Diagnosis of secondary bacterial pneumonia Yes☐ No☐ Unknown ☐
- Was a chest x-ray taken? Yes☐ No☐ Unknown ☐

  If no or unknown go to 11

- Did chest x-ray show signs of pneumonia? Yes☐ No☐ Unknown ☐
- Date of first chest x-ray showing pneumonia yyyy/mm/dd _____/_____/_____

11. Treatments Provided

- Did the case receive antiviral treatment? Yes☐ No☐ Unknown ☐

If yes, which drug:

Treatment	Date started (yyyy/mm/dd)	Duration (days)	Daily Dose
Oseltamivir	____/_____/_____	_____	_____
Zanamivir	____/_____/_____	_____	_____
Amantadine	____/_____/_____	_____	_____
Rimantadine	____/_____/_____	_____	_____

- Were antiviral adverse events noted Yes ☐No ☐

If yes,

☐Moderate ☐Severe ☐Life threatening Specify type of adverse event

- Did the patient require mechanical ventilation Yes☐ No☐ Unknown ☐
- Did the patient receive antibiotics Yes ☐ No☐ Unknown ☐
- Date started (yyyy/mm/dd) ____/_____/_____Duration (days) _____

12. Complications Observed During the Course of Disease Yes☐ No☐ Unknown ☐

If yes, please specify

13. Other Observations/Comments

Name & Signature of reporting person: _____

Designation: _____

Annex II

To be filled out by all incoming passengers and crews in the event of respiratory outbreak

You must provide as much information as possible in section A and B.

A. Contact details in Bahrain during the next 7 days or the name of your hotel and area.

Address: Hotel_____
House _____, Road_____,
Block_____

Phone
Number

Mobile
Phone No.

Email
Address _____

B. Details of a contact person in (Bahrain or overseas) who will know how to contact you in the next 7 days

Address: Hotel_____
House _____, Road_____,
Block_____

Phone
Number

Mobile
Phone No.

Email
Address _____

Ministry of Health
Public Health Directorate
Diseases Control Section

Health Declaration Card

Passenger/crew

Please tear off the passenger/crew Health Information section and present it to a customs officer on arrival to Bahrain

HEALTH ALERT NOTIC for international travelers arriving to Bahrain please keep this brochure for 7 days after arrival.

TO THE TRAVELLER:
After any international travel we urge you to monitor your health. There is a small chance that during your travels you could have been exposed to infectious diseases such as Swine Influenza, Avian influenza, Severe Acute Respiratory Syndrome (SARS), gastroenteritis or malaria. It is very important that if you become unwell in the weeks following your travel that you and your doctor consider your recent destinations as a possible source for your illness.

In particular, if you become ill with fever, chills, cough, shortness of breath, sore throat, headache or muscle aches and pains in the next two weeks, contact a doctor or hospital immediately and tell them about your symptoms and recent travel. Wear a mask when attending the facility and provide this information sheet to the doctor. Wearing a mask will minimize the spread of your infection to others.

If you are a health care worker you need to be especially careful about working if you have any symptoms of illness in the period after travel. If you become unwell in the next two weeks contact your employer or local public health unit for advice before attending work.

TO THE DOCTOR:

The patient presenting this information sheet may have acquired an infection in another country. If, on the basis of clinical signs and symptoms, and travel history, you suspect that this patient has a serious infection acquired overseas, please contact Communicable Disease Unit on 17279214. If required information is available at Ministry of Health website www.health.gov.bh and follow the links.

Passenger/Crew Health Information

Flight number/

Arrival date / /

Seat Number

Alternative seat number if moved

Family name

Given names

Passport number

Q1. Do you have a fever, chills, cough, shortness of breath, sore throat, headache or muscle aches and pains?
(Please × one only) Yes No
If YES, please inform the cabin crew.

Q2. In the last 7 days have you had contact with someone who had respiratory illness?
(Please × one only) Yes No

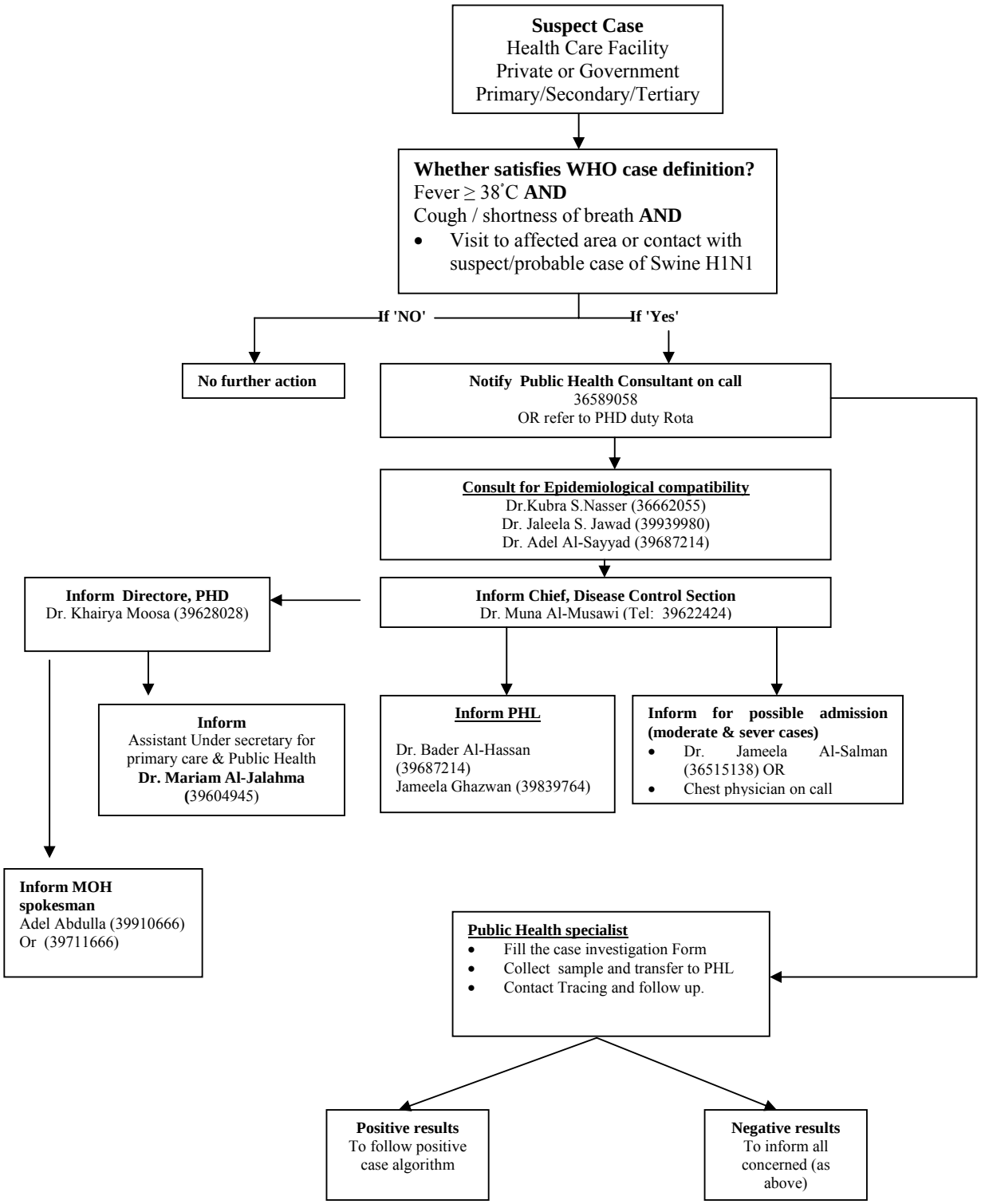
If YES, please inform the cabin crew.

Providing false or misleading information is an offence.

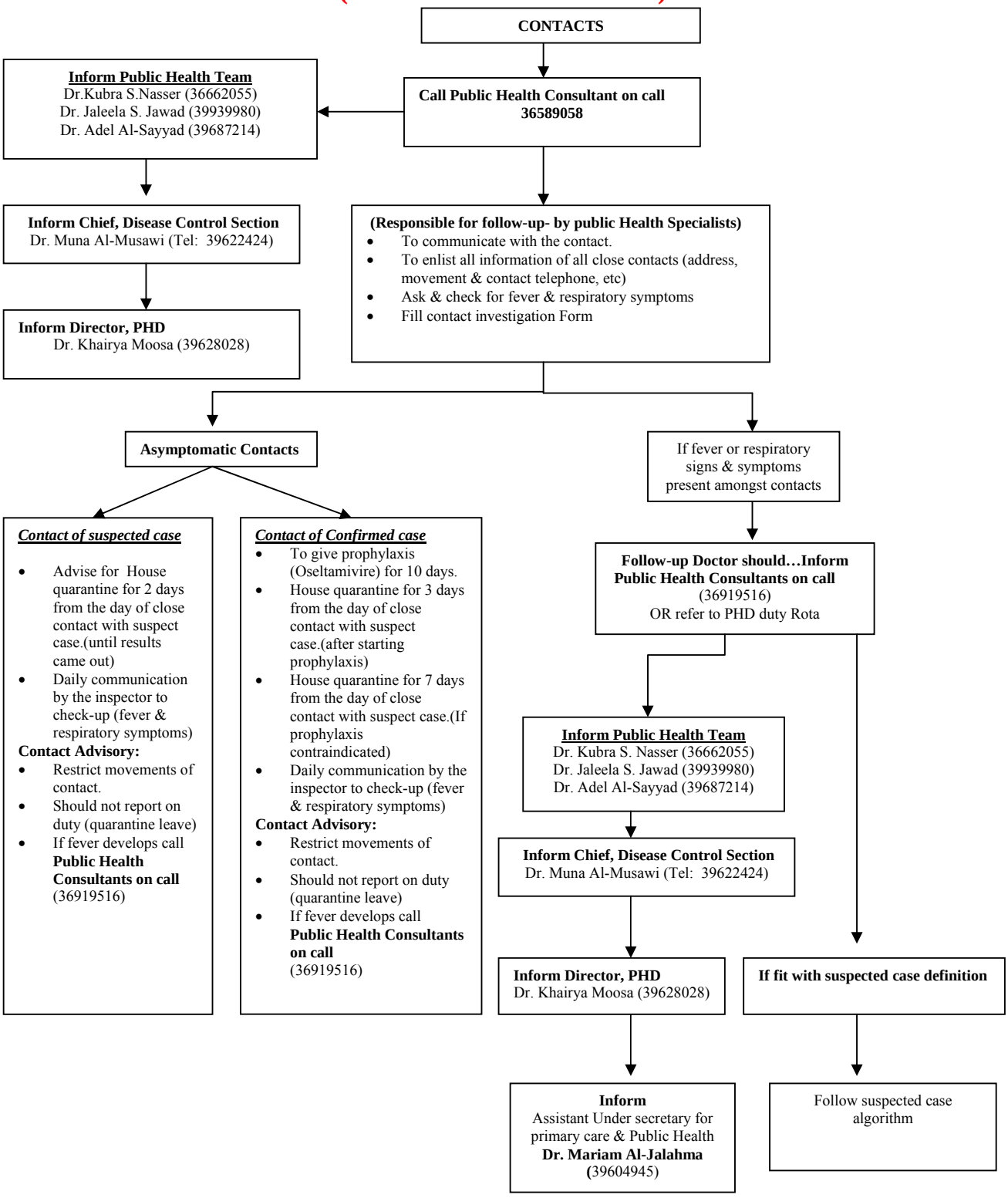
Passenger's signature

Annex III

1. A. Suspected Case Surveillance Algorithm (For Public Health- General)



1. B. Contact Surveillance: Algorithm (For Public Health-General)



PPE: Personal Protective Equipment

1. C. Contact Management Algorithm (Public Health-General)

Prophylaxis for close contacts of confirmed human case(s) of influenza A/H1N1

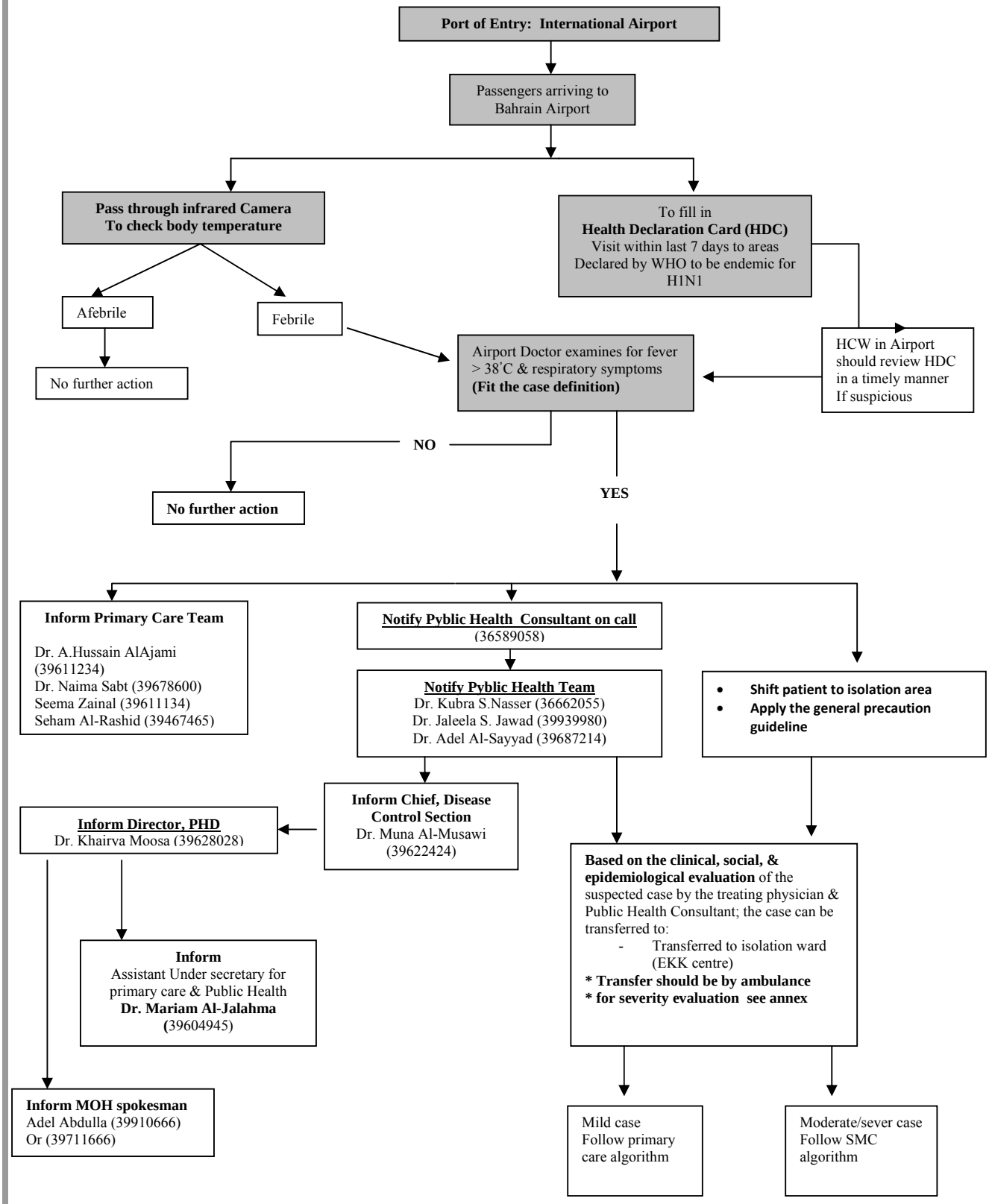
Post exposure prophylaxis for close contacts of confirmed cases is a control measure to be applied before there is widespread sustained transmission within the Kingdom of Bahrain. Therefore this algorithm may be modified as the situation changes.

Post exposure prophylaxis is indicated for close contacts who were exposed to a confirmed case during the period when the case was symptomatic **AND** the contact's last exposure occurred no more than **seven** days previously.

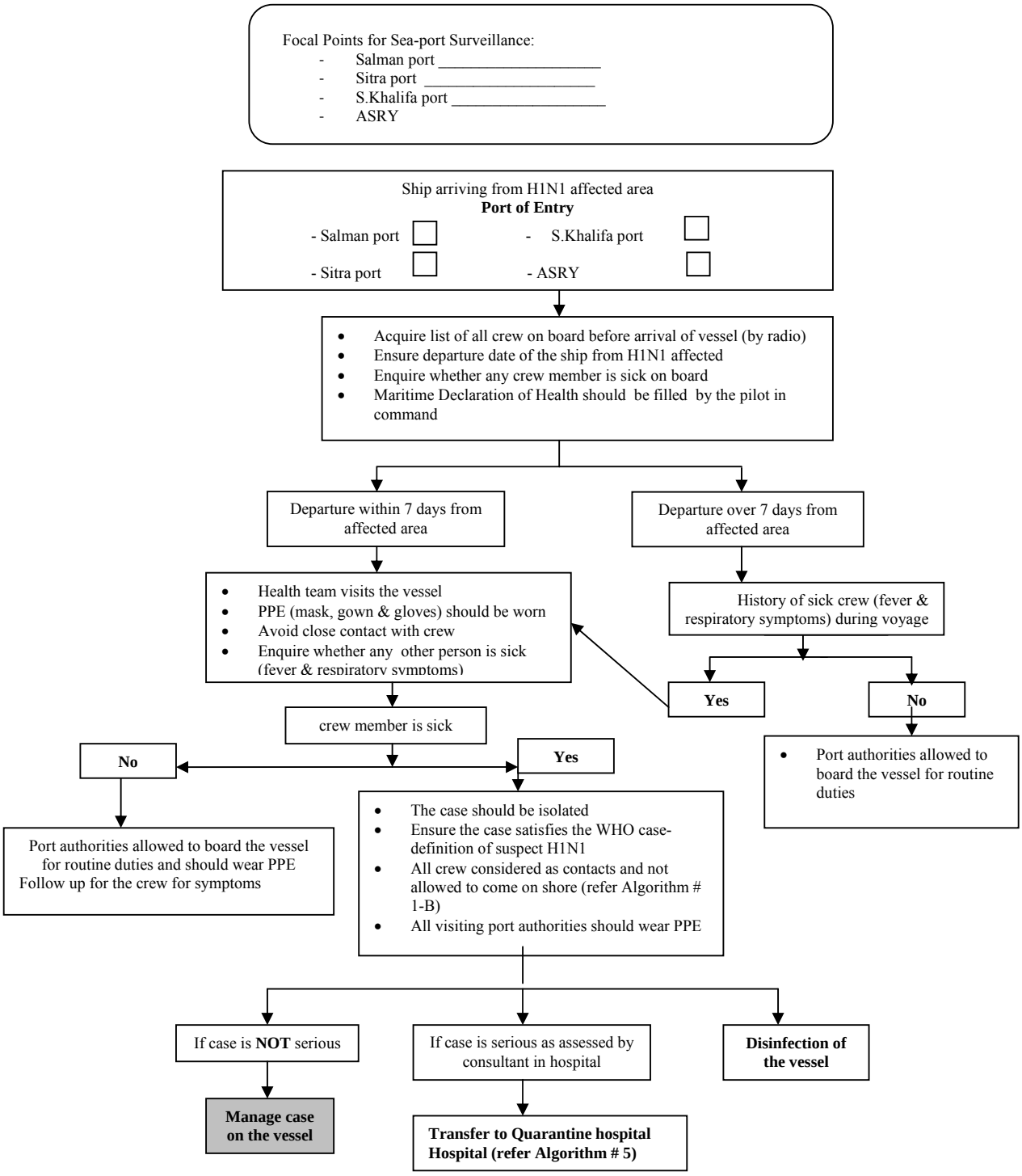
Category of Contact		Actions
Individuals who live in the same household as the case, including those who stayed overnight.	**Yes**	• Start **post exposure prophylaxis** as soon as possible unless more than 7 days •Provide information **leaflets** and coordinate passive follow up for 7 days after last exposure to the case. •Isolation/**exclusion is** required for asymptomatic contacts, for 3 days.
Other individuals exposed to a symptomatic case at a distance of less than one meter with continuous exposure for greater than 1 hour.	**Yes**	
People sharing an office or cubicle area with a confirmed case but not people who share general office space	**Yes**	
Anyone caring for symptomatic case, or sitting in the same row, or two rows in front or two rows behind them on an aircraft for one or more hours and not wearing a facemask	**Yes**	
Health/social care workers who: • provided direct clinical or personal care to symptomatic case without wearing a facemask and/or conducted an aerosol generating procedure without **PPE**.	**Yes**	
Crew travelling on an aircraft for flights >5 hours duration with a confirmed case (unless they did not service the section of the plane in which the case was seated)	**Yes**	

If a contact becomes unwell, follow the algorithm recommended for management of suspected cases of influenza A/H1N1

2. A. Airport Surveillance Algorithm

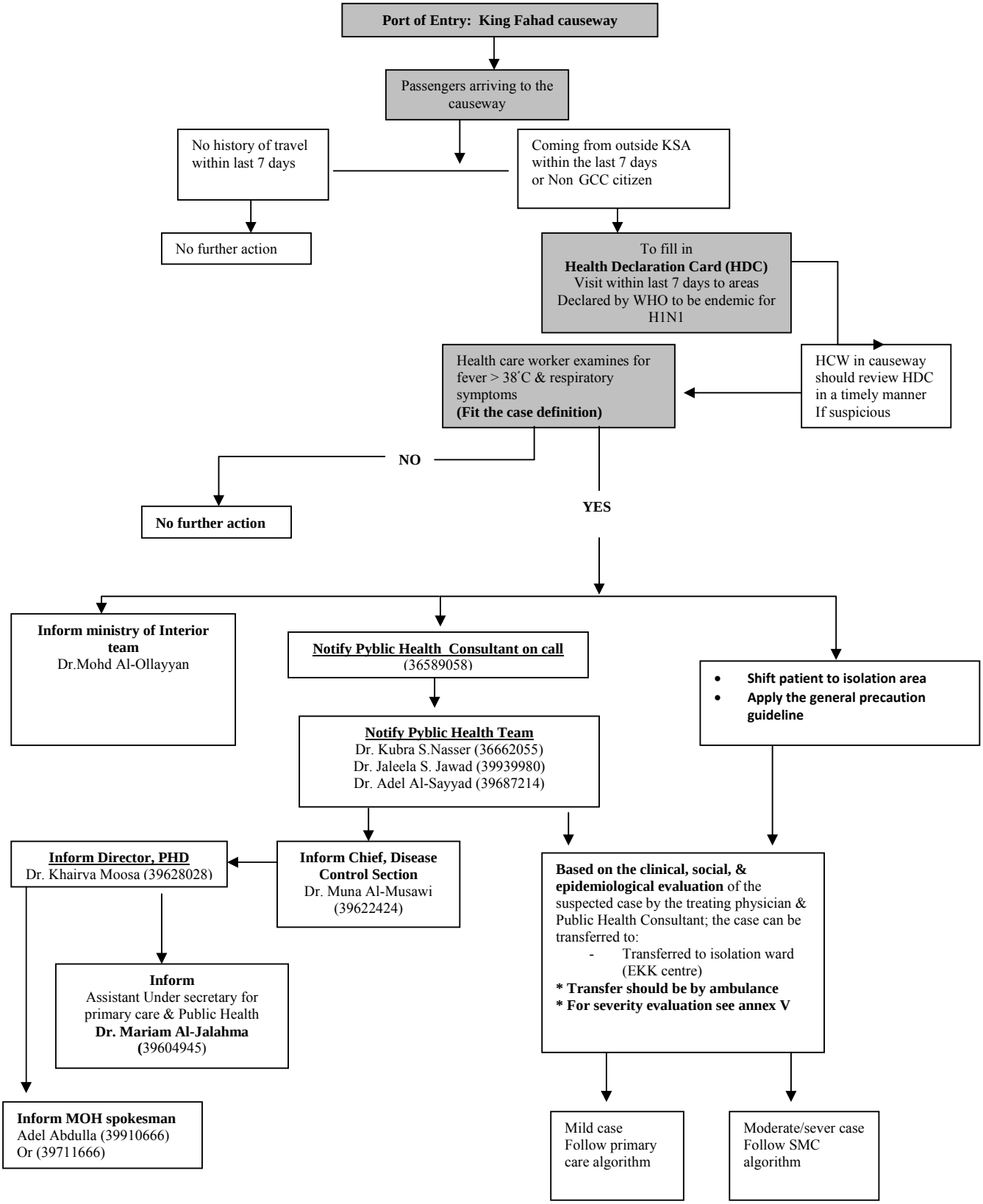


2. B. Sea Port Surveillance: Algorithm



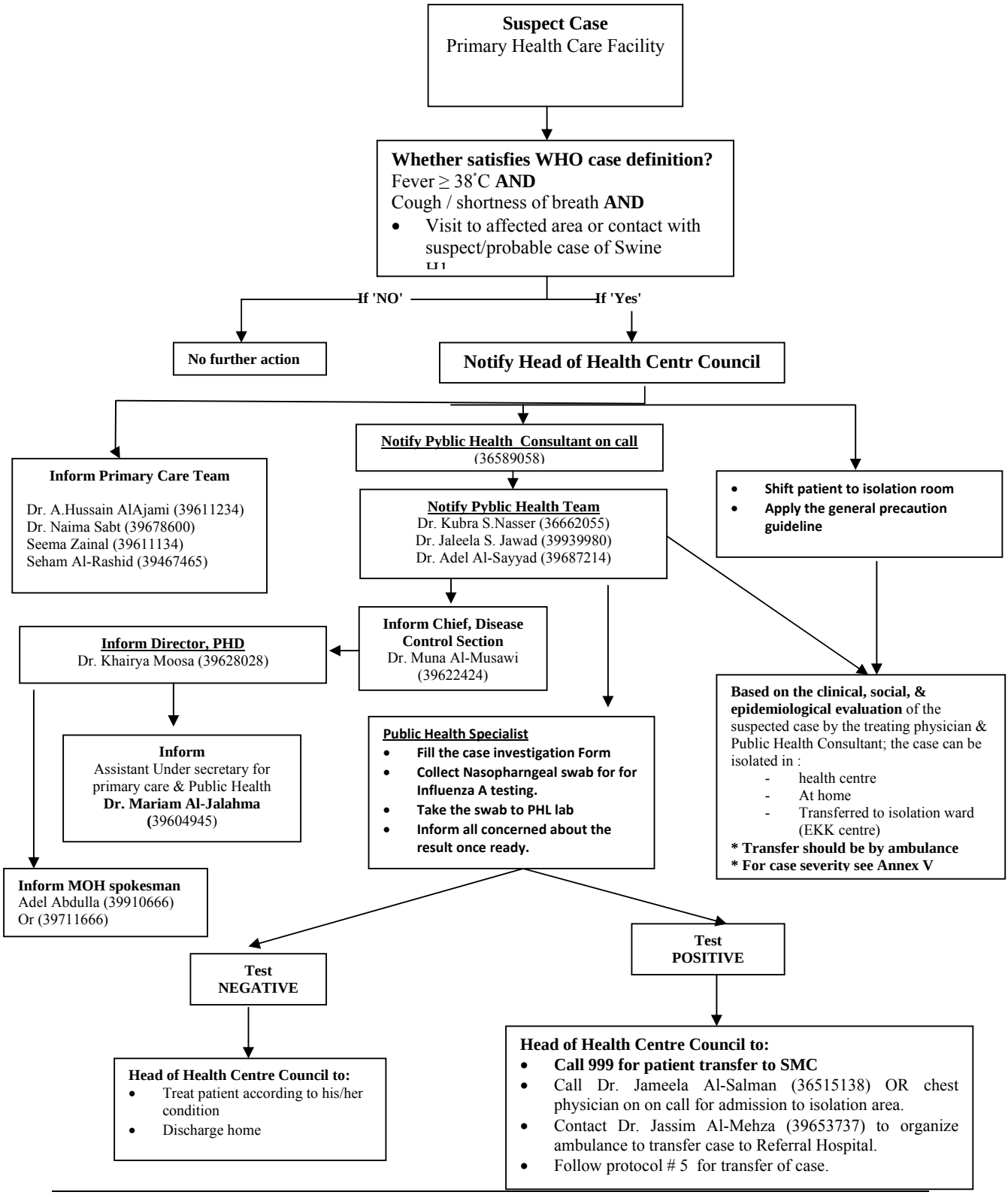
PPE: Personal Protective Equipment

2. C. Causeway Surveillance: Algorithm



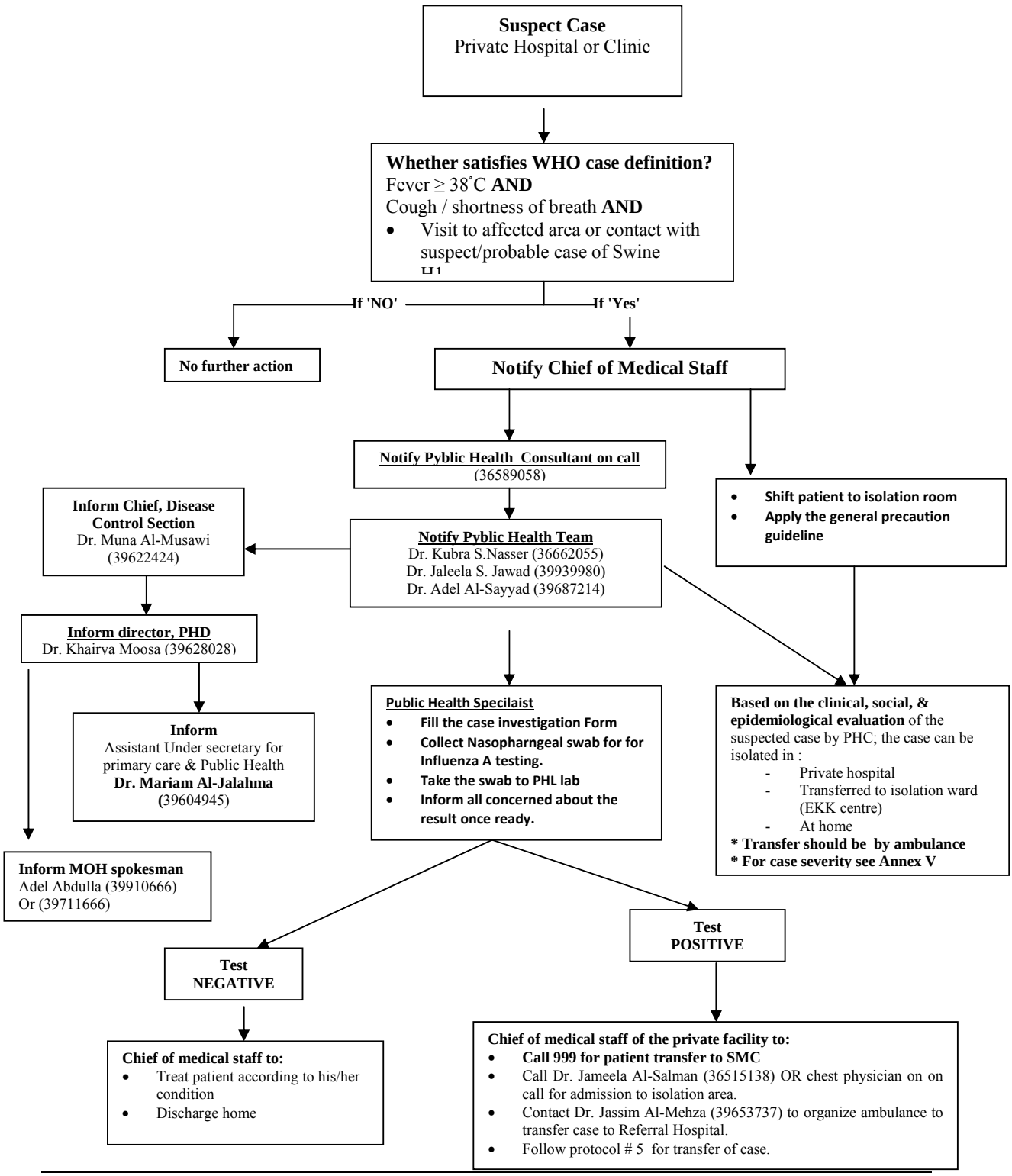
3. Swine influenza (H1N1) suspected case Surveillance Algorithm

(For Primary Health Care)



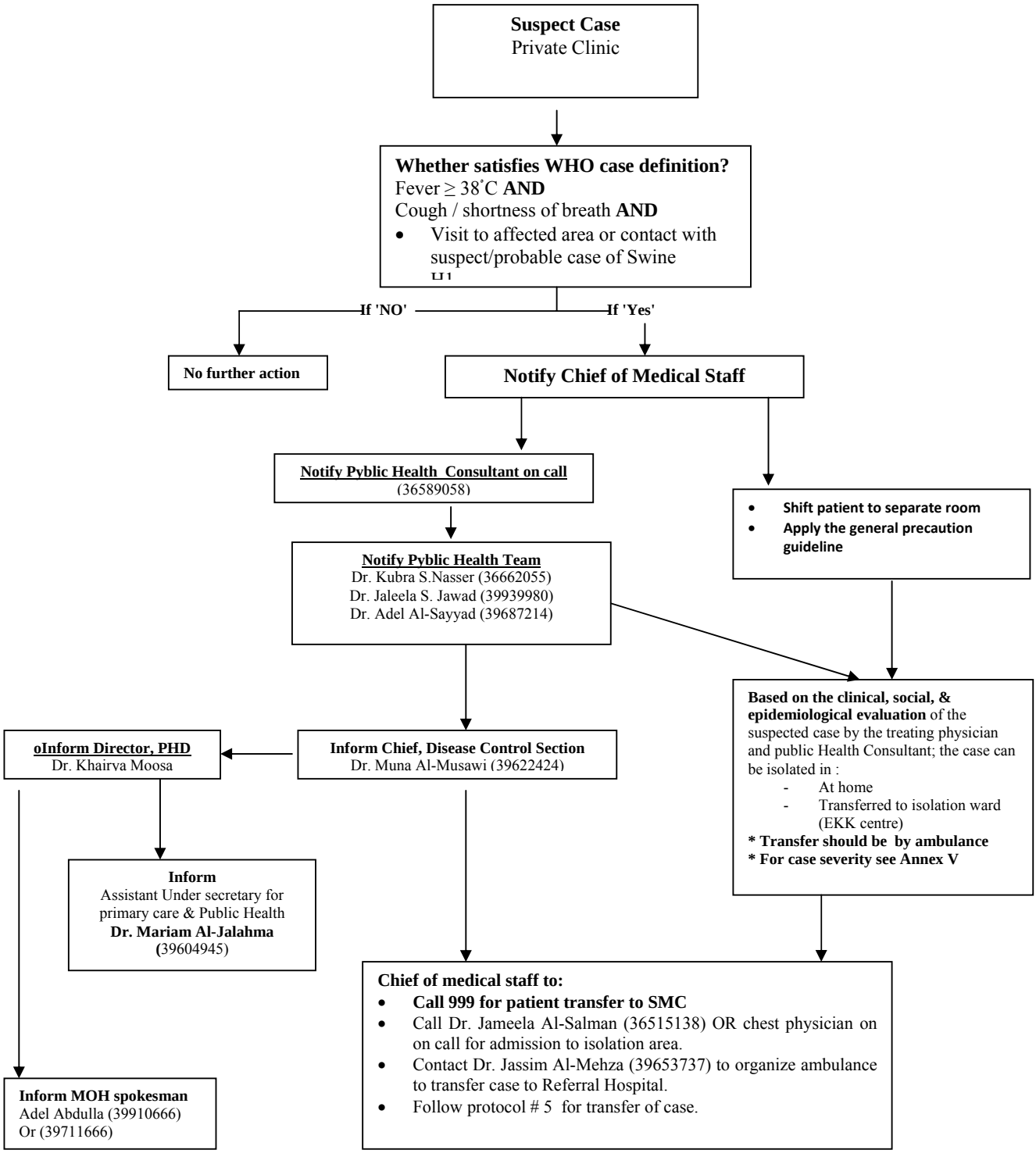
4. A. Swine influenza (H1N1) suspected case Surveillance Algorithm

(For Private Hospital or Clinic- with Isolation Room)

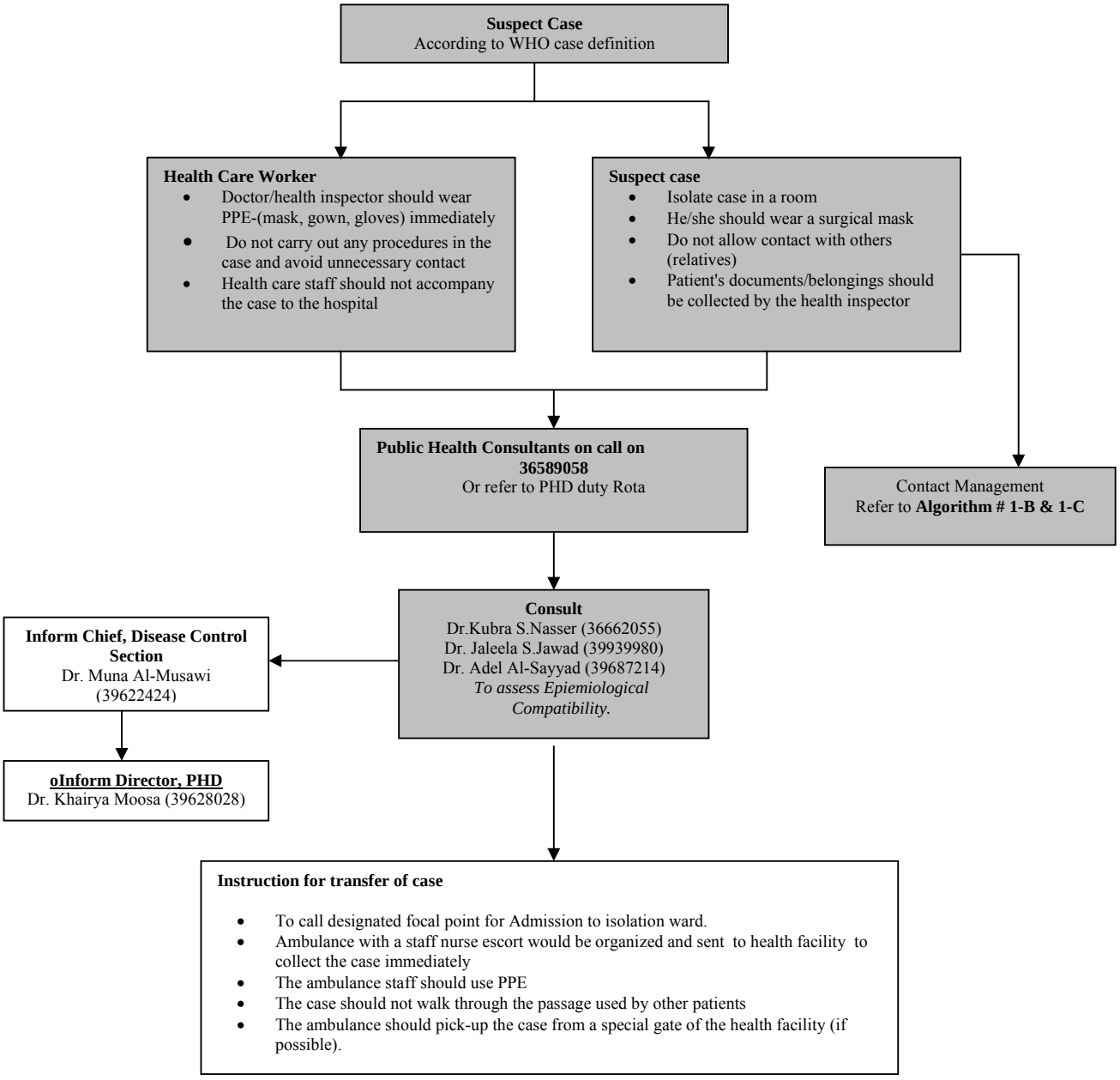


4.B. Swine influenza (H1N1) case Surveillance Algorithm

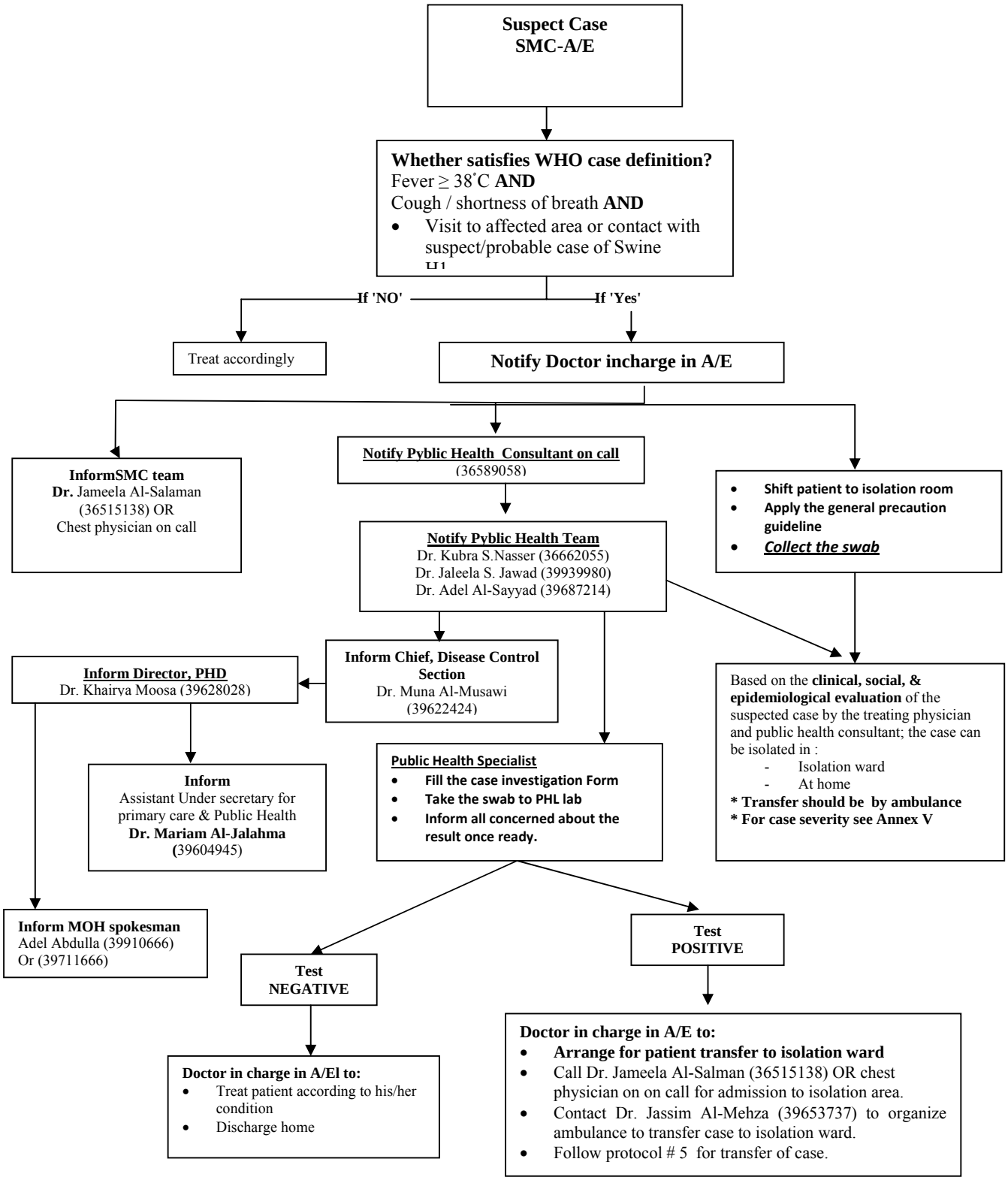
(For Private clinic- With No Isolation Room)



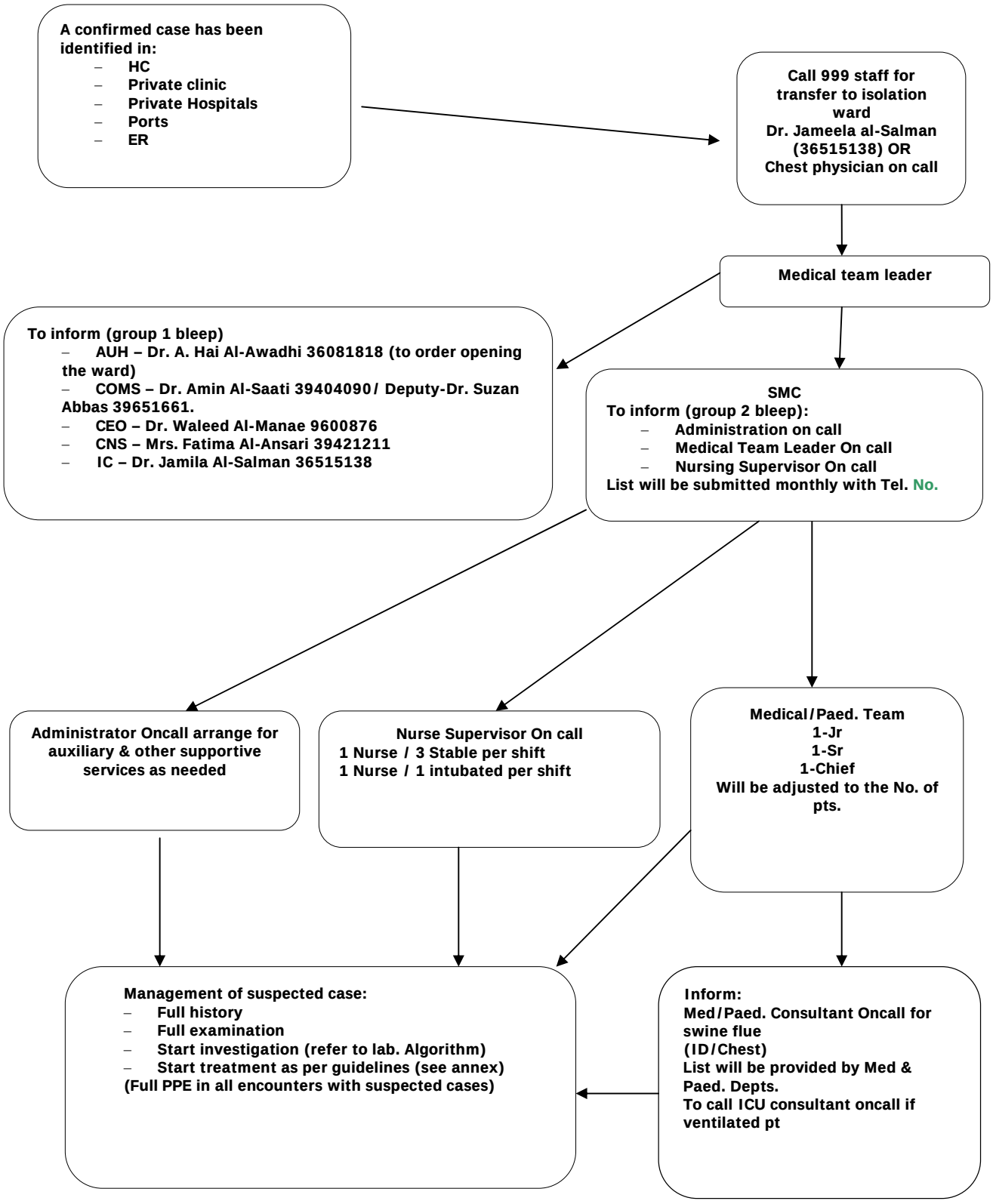
5. Case Transfer Protocol to Referral Hospitals



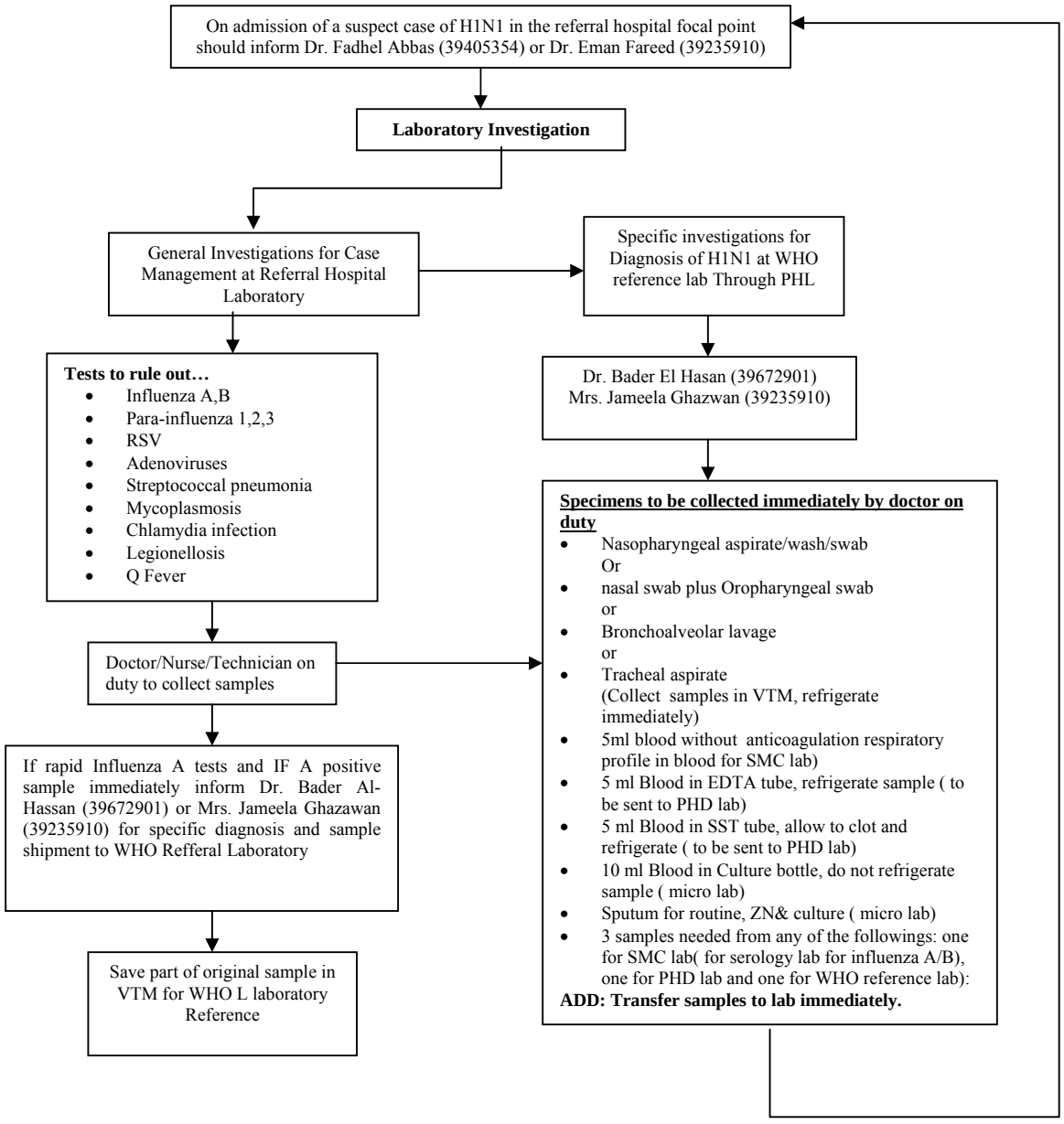
6. A. Influenza A (H1N1) suspected case Surveillance Algorithm (For SMC-A/E)



6. B. Case Arrival at Referral Hospital (SMC): Algorithm



7. Laboratory Investigation of H1N1: Algorithm



Tissue Samples from the Deceased should be preserved in VTM & Formalin

PHL: Public Health Laboratory
RSV: Respiratory Syncitial Virus
VTM: Virus Transport Medium

Annex IV

Using antiviral (Oseltamivir) for H1N1 influenza

1. Definitions:

a. Close contact: is defined as having cared for or lived with a person who is a confirmed, probable or suspected case of novel influenza A (H1N1), or having been in a setting where there was a high likelihood of contact with respiratory droplets and/or body fluids of such a person. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, physical examination, or any other contact between persons likely to result in exposure to respiratory droplets

b. High-risk groups: A person who is at high-risk for complications of novel influenza (H1N1) virus infection is defined as the same for seasonal influenza at this time. As more epidemiologic and clinical data become available, these risk groups might be revised. These includes:

- Children younger than 5 years old. The risk for severe complications from seasonal influenza is highest among children younger than 2 years old.
- Adults 65 years of age and older.
- Persons with the following conditions:
  - Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), neurologic, neuromuscular, or metabolic disorders (including diabetes mellitus);
  - Immunosuppression, including that caused by medications or by HIV;
  - Pregnant women;
  - Persons younger than 19 years of age who are receiving long-term aspirin therapy;
  - Residents of nursing homes and other chronic-care facilities.

2. Antiviral Treatment for Novel (H1N1) Influenza

a. General Rules:

- For antiviral treatment of novel influenza (H1N1) virus infection, oseltamivir (Tamiflu) is recommended ((see Table 1).
- Recommendations for use of antivirals may change as data on antiviral effectiveness, clinical spectrum of illness, adverse events from antiviral use, and antiviral susceptibility data become available.
- Clinical judgment is an important factor in treatment decisions.
- Persons with suspected novel H1N1 influenza who present with an uncomplicated febrile illness typically do not require treatment unless they are at higher risk for influenza complications.

b. Treatment is recommended for:

- All hospitalized patients with confirmed, probable or suspected novel influenza (H1N1).
- Patients who are at higher risk for seasonal influenza complications (see below).

Once the decision to administer antiviral treatment is made, treatment with oseltamivir should be initiated as soon as possible after the onset of symptoms. Evidence for benefits from antiviral treatment in studies of seasonal influenza is strongest when treatment is started within 48 hours of illness onset. Recommended duration of treatment is five days.

3. Antiviral Chemoprophylaxis for Novel (H1N1) Influenza

a. General Rules:

- For antiviral chemoprophylaxis of novel (H1N1) influenza virus infection, oseltamivir is recommended (Table 1).
- Recommendations for use of antiviral may change as data on antiviral effectiveness, clinical spectrum of illness, adverse events from antiviral use, and antiviral susceptibility data become available.
- Clinical and epidemiological judgment is an important factor in chemoprophylaxis decisions.

b. Indication for chemoprophylaxis:

- The indication for **post-exposure** chemoprophylaxis is based upon close contact with a person who is a confirmed, probable or suspected case of novel influenza A (H1N1) virus infection during the infectious period of the case. Post exposure antiviral chemoprophylaxis with oseltamivir can be considered for the following:
  - ✓ Close contacts of cases (confirmed, probable, or suspected) who are at high-risk for complications of influenza
  - ✓ Health care personnel, public health workers, or first responders who haves had a recognized, unprotected close contact exposure to a person with novel (H1N1) influenza virus infection (confirmed, probable, or suspected) during that person's infectious period
- Duration of antiviral chemoprophylaxis post-exposure is **10 days** after the last known exposure to novel (H1N1) influenza.
- **Pre-exposure** antiviral chemoprophylaxis should only be used in limited circumstances, and in consultation with local medical or public health authorities.

Pregnant Women

Oseltamivir is "Pregnancy Category C" medications, indicating that no clinical studies have been conducted to assess the safety of these medications for pregnant women. Pregnancy should not be considered a contraindication to oseltamivir use.

4. Dosing:

Table 1. Antiviral medication dosing recommendations for treatment or chemoprophylaxis of novel influenza A (H1N1) infection. (Table extracted from IDSA guidelines for seasonal influenza.)			
Agent, group		Treatment	Chemoprophylaxis
Oseltamivir			
Adults		75-mg capsule twice per day for 5 days	75-mg capsule once per day
Children ≥ 12 months	15 kg or less	60 mg per day divided into 2 doses	30 mg once per day
	15-23 kg	90 mg per day divided into 2 doses	45 mg once per day
	24-40 kg	120 mg per day divided into 2 doses	60 mg once per day
	>40 kg	150 mg per day divided into 2 doses	75 mg once per day

Children Under 1 Year of Age

Table 2. Dosing recommendations for antiviral treatment of children younger than 1 year using oseltamivir.	
Age	Recommended treatment dose for 5 days
<3 months	12 mg twice daily
3-5 months	20 mg twice daily
6-11 months	25 mg twice daily

Table 3. Dosing recommendations for antiviral chemoprophylaxis of children younger than 1 year using oseltamivir.	
Age	Recommended prophylaxis dose for 10 days
<3 months	Not recommended unless situation judged critical due to limited data on use in this age group
3-5 months	20 mg once daily
6-11 months	25 mg once daily

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Annex V

Assessment of the severity of the cases

Vulnerable for severe disease:
The following groups are considered to be vulnerable for severe disease, and should be a focus of early identification, assessment and treatment:

- Chronic respiratory conditions, including asthma and COPD
- Pregnant women, particularly in second or third trimester
- Morbid obesity
- Indigenous persons of any age
- Other possible predisposing conditions, such as cardiac disease (not simple hypertension), and chronic illnesses including diabetes mellitus, metabolic diseases, renal failure, haemoglobinopathies, immunosuppression (including cancer, HIV/AIDS infection, drugs), and neurological conditions.

There are other groups who, whilst not regarded as vulnerable require active monitoring for deterioration if they have an acute respiratory illness. These include:

- Smokers
- Obstructive sleep apnoea
- Children under the age of 5 years
- Pregnant women in their first trimester

Clinical assessment with early and intensive management (including antiviral medication) of vulnerable cases with influenza is important.

They should be tested for respiratory viruses using nose and throat swabs, with the staff performing the test wearing personal protective equipment (PPE). This should include surgical mask, eye protection, and disposable gloves + disposable gown.

Mild disease
Individuals with mild disease who are not in a vulnerable group should only require symptomatic management. They should be isolated at home until results came out.

Moderate or severe disease
Cases with moderate or severe disease or those who are rapidly deteriorating should also be considered for antiviral medication. Antiviral medication should be started as soon as possible and preferably within 48 hours of onset of symptoms.

Signs of moderate to severe disease or deterioration would include:

1. Respiratory distress – noticeable respiratory effort, rapid breathing or noisy breathing in a person at rest
2. Abnormal oximetry – measurement of a low haemoglobin-oxygen saturation (SpO^2) using pulse oximetry
3. Purulent sputum – in normal people the development of green or yellow sputum correlates reasonably well with bacterial bronchitis or pneumonia.
4. Reduced exercise capacity – some people, both normals and those with chronic medical conditions, have a very good appreciation of their usual exercise capacity. If this is significantly reduced because of worsening breathlessness during an episode of influenza, the possibility of respiratory complications should be considered, although this is a non-specific symptom
5. "Loss of function" – in the elderly severe influenza, including pneumonia, frequently (most commonly) present as loss of function such as confusion, falls and incontinence.

Annex VI

Infection control guidelines for Health Care Workers

Health Care Workers at Increased Risk of Complications from H1N1 Influenza 09 Infections

- Health care workers who are at increased risk of complications from H1N1 Influenza and who are likely to be in direct contact with patients who have H1N1 influenza infections, should be considered for redeployment to lower risk activities.
- If redeployment is not possible, health care workers who are at increased risk of complications from H1N1 Influenza infection should maintain a distance of one metre from H1N1 Influenza patients and not participate in procedures with these patients that may generate small particles or aerosols of respiratory secretions.

Hand Hygiene

- Health care workers and visitors must perform hand hygiene regularly, including when removing gloves.
- Patients with acute respiratory illness (ARI)should be encouraged to perform hand hygiene frequently.

Personal Protective Equipment (PPE) – General Advice

- Anyone with an ARI should wear a surgical mask when not in isolation in a single room and stay at least a meter distant from others.

Personal Protective Equipment (PPE) – Advice for use during Procedures (including Collection of Swabs for Influenza Diagnosis)

- Health care workers should routinely wear a surgical mask, protective eyewear and disposable gloves if they are undertaking an examination of an individual with ARI that may lead to coughing (e.g. collecting nose and/or throat swabs).
- All health care workers in the same room when aerosol-generating procedures are undertaken on ARI patients should use P2 respirators, protective eyewear, a disposable gown and disposable gloves. Aerosol-generating procedures include endotracheal intubation, nebulized medication administration, airway suctioning, bronchoscopy, diagnostic sputum induction, positive pressure ventilation via face mask, and high frequency oscillatory ventilation. These procedures should only be performed in a single room with the door closed.
- Administration of medication via nebulisers is not recommended. Use spacers where possible.

- Health care workers in the vulnerable category should not administer to patients during aerosol generating procedures or collection of nose and throat swabs.

In- Patient Isolation

- Single room accommodation should be used for H1N1 Influenza 09 inpatients and people with ARI presenting in clinical settings, wherever possible.
- If single rooms for H1N1 Influenza 09 inpatients are not available, cohorting of H1N1 Influenza 09 patients should be practised wherever possible.

Management of Visitors

- Limit visitors for patients who are in isolation to those persons who are necessary for the patient's emotional wellbeing and care.

Duration of Precautions

Persons with H1N1 influenza infection should be considered potentially contagious from one day before to 7 days following illness onset. Persons who continue to be ill longer than 7 days after illness onset should be considered potentially contagious until fever has resolved. Children, especially younger children, might be contagious for longer periods.

- Isolation precautions should be continued for 7 days from symptom onset or until the resolution of fever, whichever is longer.
- Isolation precautions may also be discontinued when patient has had 72 hours of influenza antiviral treatment provided they have no fever for 24 hrs in the absence of antipyretics.

Cleaning H1N1 Influenza In-Patient Rooms

Daily and on discharge - clean with a neutral detergent. The room can be used immediately following cleaning

Management of laundry and utensils should be performed in accordance with procedures followed for seasonal influenza.

Waste

- Treat waste as general medical waste.
- Used tissues are disposed of in general waste.

Arrangements that should be made to reduce infection in waiting rooms:

Measures to reduce the risk of infection in practice waiting rooms include the following:

- Social distancing measures – maintain at least 1 metre separation from suspected cases.
- Providing a surgical mask to a suspected case or a patient with flu-like symptoms which will reduce their infectivity.
- Where possible, minimising the time a suspected case is in the waiting room, or placing them in a separate room if available.
- Advising patients, staff and suspected cases to maintain good respiratory etiquette –
- Cover your cough or sneeze with a mask, tissue or cough or sneeze into your sleeve.
- Practice good personal hygiene. Wash and dry your hands frequently and avoid touching your face.
- Promptly dispose of tissues and wash and dry hands afterwards

Surveillance and management of healthcare personnel

- Health care workers should be monitored for illness and those who develop acute respiratory illness (ARI) should be instructed not to report to work, or if at work, should cease patient care activities and notify their supervisor and infection control personnel.
- It is also important to identify health care workers who may be considered vulnerable i.e. in whom H1N1 Influenza may be severe (e.g. pregnant women) and manage as appropriate

Management of Ill Health Care Workers

- Health care workers who came in close contact with a confirmed case and develop ARI should be tested if capacity exists and excluded from work for 7 days or until fever has resolved, whichever is longer (unless on antivirals for 72 hours and fever resolved for 24 hours).

Face Mask Information

- ***Surgical Masks***
  - The term 'surgical mask' refers to a disposable fluid-repellent, paper filter mask. This may include masks labelled as surgical, dental, medical procedure, isolation, or laser masks.
  - It is important to ensure that surgical masks are worn and disposed of correctly. Make sure the mask is correctly fitted by ensuring that it

covers your nose and mouth and that it is secured at the back of your head.
- Avoid touching your face while wearing the mask. Replace the mask whenever it is moist. A mask that has been removed should not be reused.
- Remove the mask by only touching the straps and put the used mask in a bin. Wash your hands well with soap and water straight away and dry with a paper towel.

- ***P2 Respirators (N 95)***
  - P2 respirators (P2 masks) are designed to provide high-level protection to the wearer's respiratory tract from small infectious particles.
  - Fit Checking should be done in accordance with the mask manufacturer's instructions to ensure there is no air leakage around the mask. This is usually done after the mask is compressed over the nose and across the cheeks and face to create a firm seal. The wearer then gently inhales - the mask should draw in slightly towards the face and collapse – and then gently exhales - the mask should fill up with air. A fit check should be done each time a P2 mask is worn.
  - In some areas formal Fit Testing for health care workers is provided and required prior to wearing P2 masks in clinical settings.