Operational Guideline for ILI and SARI Surveillance

First Edition

February 2016

Health Protection Agency
Maldives

ILI and &SARI Surveillance

ISBN-13: 978-1-451-51000-X

Give feedback on the book at:

Email: flu@health.gov.mv

Website: www.hpa.gov.mv

Layout, Formatting and Cover by:
Ibrahim Mifrah, Project Officer
CDC Grant Project / Health Protection Agency

Table of Contents

Executive Summary

Due to the large traffic of tourist arrival, congestion in the capital and the large number of migrant population makes Maldives a potential human mixing bowl for influenza and other respiratory viruses.

The government of Maldives has recognized that in order to establish an effective surveillance for early warning and outbreak response (EWAR), we need to have a more systematic Acute Respiratory Infection and particularly Severe Acute Respiratory Infection surveillance in place, with effective SOPs, adequate facilities for investigation, adequate staff and trainings for clinicians who are expected to report to surveillance staff.

The purpose of this guideline is to establish operational guidelines on influenza surveillance. This guideline assigns and informs respective staff/sentinel sites of their roles and responsibilities in the surveillance process. Additionally, these guidelines set the operational procedures of the entire influenza surveillance system as a whole.

The target audience of these guidelines is the staff and sentinel sites directly involved in the influenza surveillance process. This refers to Clinicians, Sentinel Surveillance Focal Point, Influenza Project Officer, Medical Laboratory Technologist/Technician at peripheral Sentinel Sites, The Public Health Laboratory and the National Surveillance Focal Point.

Objectives of ILI & SARI Surveillance

Major objectives of ILI & SARI surveillance

1. Describe the seasonality of influenza surveillance
2. Establish baseline levels of influenza, Influenza Like Illness and severe respiratory disease, which may be related to influenza and other respiratory pathogens.
3. Monitor unusual and unexpected events such as outbreaks of influenza during and outside the typical season.
4. Monitor which seasonal influenza viruses are circulating and detect novel viruses (eg. H5N1, H7N9).
5. Contribute to WHO vaccine strain selection
6. Identify and monitor groups at high risk of severe disease and mortality, in order to target education and prevention measures .

Sentinel Sites and locations

Table:1 Sentinel Sites for ILI and SARI

Sentinel Sites	SAR	ILI
IGMH Male'	✓	✓
Hulhumale' Hospital	✓	✓
ADK Hospital	✓	
Senahiya		✓
Seenu Regional Hospital	✓	✓
Kulhudhuffushi Regional Hospital	✓	✓

Roles and Responsibilities

Sentinel Sites

Responsibilities of Sentinel Sites

The sentinel sites must have an influenza surveillance team comprising of clinicians, laboratory technicians, nurses and the surveillance focal point (SFP). Each of these members of the team should be assigned a specific role and responsibilities as follows:

Clinicians

Responsibilities of Clinicians

1. Identification of patients that meet the ILI and SARI case definition in the guideline.
2. Daily recording of ILI and SARI cases at their respective sentinel sites.
3. Proper completion of Influenza Surveillance form for patients to be sent with the collected sample. (Annex 1: Influenza Surveillance Form).
4. Collection of respiratory specimens and sending to laboratory along with Influenza Surveillance form.

Sentinel Surveillance Focal Point (SSFP)

Roles and Responsibilities of Sentinel Surveillance Focal Point (SSFP)

Each sentinel site should identify at least two focal points responsible for the routine surveillance operation. SSFP is selected among the hospital staff in consultation with the hospital administration, and the Influenza Project Officer will be the surveillance focal point in Health Protection Agency.

The SSFP should:

1. Collect and collate data on total number of patients who meet the ILI case definition from

OPDs and also count the total number of OPD cases seen every day or on a weekly basis.

Annex 2: Sentinel ILI Surveillance Aggregated Data

2. Collect and collate data on total number of patients who meet the SARI case definition from wards and ICUs.

Annex 3: Sentinel SARI Surveillance Aggregated Data

3. Ensure sample collection of ILI patients from OPD

4. Ensure sample collection of all SARI patients from wards and ICUs.

5. Report all ILI and SARI cases to PHL (IGMH laboratory) on weekly basis by email or by fax if internet facility is not available.

6. Disseminate the reports and feedbacks received from NIC, PHL to the relevant health personnel (Clinicians, laboratory, nurses etc.).

7. Provide feedbacks from sentinel sites to Surveillance Unit and NIC, PHL (IGMH laboratory).

(continued) Roles and Responsibilities of Sentinel Surveillance Focal Point (SSFP)

Influenza Project Officer (IPO)

1. Follow up with SSFP of each sentinel site on the number of samples taken for both SARI and ILI weekly.

2. Follow up with SSFP of each sentinel site on the total number of patients who meet the case definition for both SARI and ILI monthly.

3. Assurance of data quality in the database.

4. Preparing and disseminating the weekly and annual influenza surveillance reports to all stakeholders.

Annex4: Weekly surveillance report format

Annex5: Weekly reporting format for sentinel sites

Annex6: Annual Surveillance report format

5. Monitoring of NIC and sentinel sites.

6. Assess and identify gaps in influenza surveillance system.

7. Assist sentinel site to strengthen surveillance system.

8. Reporting weekly national surveillance data to regional and global influenza surveillance platforms.

Roles and Responsibilities of the Influenza Project Officer

Medical Laboratory Technologist/Technician at peripheral Sentinel Sites

1. Ensure all 'Influenza Surveillance forms' are provided and available at all wards and OPDs for notification and sample collection.

2. Provide all material for collecting respiratory specimens appropriately from patients meeting the case definitions to the OPDs and wards.

3. Ensure that all forms are filled out completely and accurately.

4. Ensure all respiratory specimens for ILI and corresponding forms are assigned with unique ID number.

5. Properly label, pack, store, and transport specimen to PHL (IGMH lab) according to the SOP for influenza surveillance specimen collection, handling and packing

Annex 7a: SOP for influenza surveillance specimen collection, handling and packing

Annex 7b: SOP for sample collection - Laboratory

6. Shipment of specimen along with Influenza Surveillance form to PHL as per the pre-arranged shipment schedule.

7. Ensure test results are received from PHL and reported to the treating clinician on a weekly basis (Annex5: Weekly reporting format for sentinel sites).

Roles and Responsibilities of Medical Laboratory Technologist/ Technician at peripheral Sentinel Sites

Public Health Laboratory

National Influenza Center (NIC) at Indira Gandhi Memorial Hospital (IGMH)

1. Serve as the technical and scientific focal point for sample collection and laboratory activities pertaining to ILI and SARI surveillance.

2. Coordinate all sample collection and transportation with all peripheral Sentinel sites.

Functions of the Public Health Laboratory

3. Ensure all 'influenza surveillance forms' are provided and available at all wards and OPDs for notification and sample collection at IGMH and peripheral sentinel sites.

4. Provide all sentinel sites with protocols for sample collection, labeling, packing, storage, and transport of specimen to PHL according to the (Annex 4a).

5. Testing of samples of specimens for PCR at least one day per week.

6. Perform following activities on specimens received from sentinel sites:

   i. Enter data from SARI & ILI Specimen collection forms received from all sentinel sites.

   ii. Influenza virus typing and subtyping, using molecular methods (Real time RT-PCR / conventional PCR)

   iii. Referral of any unsubtypable specimen to a designated WHO Collaborating Center.

   iv. Receiving, archiving and storing original clinical specimens at -70°C for ILI/SARI for ten years.

   v. Upload results in the web-based data management system.

7. Communicate the results of all individual confirmatory tests for ILI and SARI cases back to the designated SFP weekly (Every Sunday).

8. Share representative clinical specimen or virus isolates of seasonal influenza specimens with a WHO Collaborating Center (WHO-CC) twice a year.

9. Immediate sharing of information on any un-subtypable or suspect novel influenza viruses with a WHO Collaborating Center.

10. Participating in the WHO Global External Quality Assessment Project for the molecular detection of influenza viruses as well as in regional programs.

11. Provide initial and refresher training to sentinel sites on specimen collection, diagnosis, storage and transport.

12. Monitor sentinel sites to maintain quality of data and

(continued) Functions of the Public Health Laboratory

National Surveillance Focal Point (NSFP)

Roles and Responsibilities of the National Surveillance Focal Point (NSFP)

1. Managing computer database of ILI/SARI data.
2. Ensuring the dissemination of weekly and annual influenza surveillance reports to all stakeholders.
3. Establish a National influenza committee and meet on a monthly basis for detecting outbreaks, monitoring and improving influenza surveillance
4. Reporting weekly national surveillance data to regional and global influenza surveillance platforms.
5. Reporting to IHR focal point of any influenza novel strains cases as per the IHR requirements.
6. Provide initial and refresher training to sentinel sites on surveillance guidelines and procedures.
7. Review and update influenza surveillance guideline as needed.
8. Monitoring of NIC and sentinel sites.
9. Assess and strengthen influenza surveillance system.
10. Reporting to National Immunization Program on Influenza trends and burden for planning immunization or influenza.

Table2: Members of the National Influenza Committee

National Influenza Committee
National Surveillance Focal Point
Respiratory Physician
IGMH Lab Director
Laborotory Technologist
Epidemiologist
Immunization Focal Point
Disease Control Focal Point

Role of National Immunization Program

1. Use influenza surveillance data in planning and preparing immunization plans for influenza, including:

•National Influenza Policy
•National Influenza Action Plan
•Pandemic influenza vaccine deployment plan

Role of National Immunization Program

Case Definitions

SARI

-Any person with acute respiratory infection with;

i.Fever > 38◦ c

ii.Cough

iii.Hospitalized

iv.Onset within the past 7-10 days

Case Deinition for SARI (Severe Acute Respiratory Infections)

ILI

-Any person with acute respiratory infection with;

i.Fever > 38◦ c

ii.Cough

iv.Onset within the past 7 days (best select patients with shorter duration or cases of fever within the last 2-4 days)

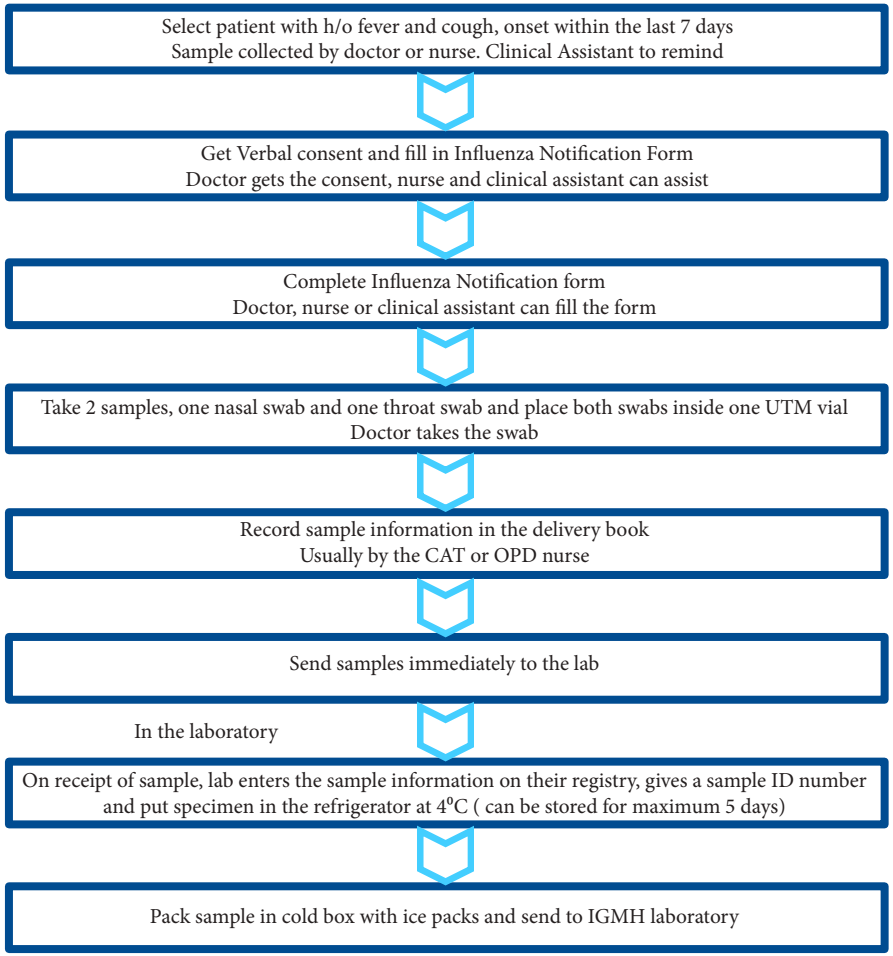
Case Deinition for ILI (Influenza-like Illness)

Specimen Collection and Processing

ILI

From each sentinel site a minimum of 10 samples per week

FLOW CHART – from sample collection to transferring to lab - ILI

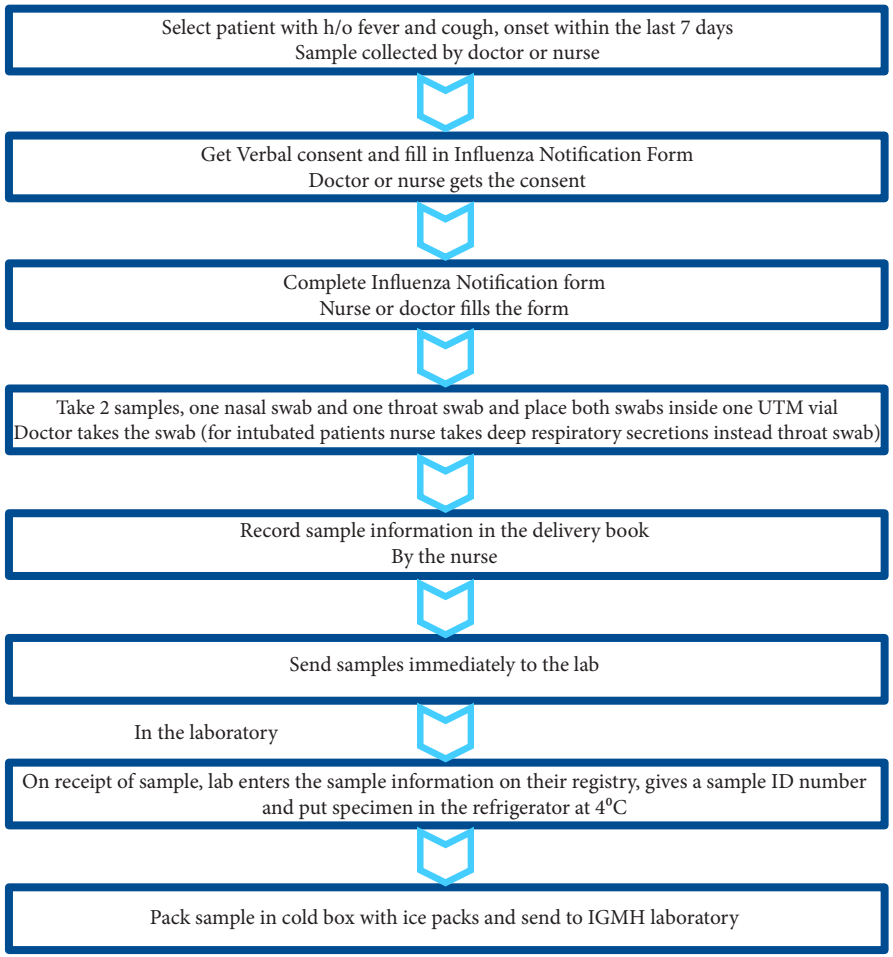


Specimen Collection and Processing

SARI

From each sentinel site a minimum of 10 samples per week

FLOW CHART – from sample collection to transferring to lab - SARI



Patient Consent

Asking for patient Consent

As sample collection is for surveillance purpose and only verbal consent is required, patients may not expect to get results unlike tests done for diagnostic purposes. When taking samples be careful not to make the patient uncomfortable. Stress on the ease of this procedure and the benefits to the patients, but be realistic and do not be dishonest.

"To find what is causing your flu, I am using a swab to take sample from your nose and throat. With the sample a form, the details of your illness will be sent to IGMH laboratory. This test is free of charge. You may not get the result immediately as it is not needed for your treatment right now. But in case you get very sick and is admitted, we can trace the report from laboratory"

Data Collecting and Reporting

Data Collection

Data Collection

All the SARI and ILI sentinel sites should provide clinical detail of the patients using the Influenza Surveillance form. In all the sites (SARI and ILI) the doctors must complete the clinical detail of the patients. Nurses, clinical assistants and ward clerks can help the doctor to fill the form. For SARI sections A and C must be filled. For ILI the sections A and B must be filled. While sending the samples from the sentinel sites the laboratory technician must check the forms for data completeness, if it is not completed it should be sent back for the doctor to complete the form.

The original of the form must be send to the IGMH laboratory with the sample collected and a copy must be kept in the sentinel site. The laboratory information must be completed by the person who is receiving at IGMH and

issues a sample ID number at the time of registering the sample. Medical Laboratory Technologist in IGMH should make note of sentinel sites that are sending forms which are not completed and notify the laboratory technicians at sentinel sites.

(continued) Data Collection

Weekly SARI and ILI data reporting

IPO in IGMH should send result reports to all the sentinel sites each week on Sunday. This report includes test results of the patients from whom both ILI and SARI samples has been taken from in addition to indicating the positive samples with their sub typing.

Annex5: Weekly reporting format for sentinel sites

Weekly SARI and ILI data reporting

Weekly surveillance report for SARI includes aggregated number of patients who fit into SARI case definition for the week, number of deaths due to SARI and pneumonia for the week and total number of IPD patients for the week.

Weekly surveillance report for ILI includes aggregated number of patients whose samples have been collected for the week and total number of ILI cases for the week.

Annex 4: Weekly surveillance report format

Data Management

Data management is done by using MS Access. National Influenza Management System (NIMS) is maintained by NSFP.

Data Management

Data Analysis

Data obtained for both ILI and SARI are analyzed and the following reports are generated:

Data Analysis

1. **Weekly reporting of results to sentinel sites.**
2. **Weekly update for FluID and FluNet application**
3. **Weekly surveillance report**
4. **Annual surveillance report**

Indicators to assess the surveillance system

Indicators to assess the surveillance system

A surveillance system should undergo regular monitoring to routinely assess whether it is functioning efficiently and providing quality data to meet its stated objectives. Additionally, routine assessments should indicate areas in which personnel at the sentinel sites may need training and logistic support. Yearly, at least twice monitoring sentinel sites should be done.

Annex 8: Assessment tool to review sentinel sites

In addition should follow WHO standards for indicators to measure quality of influenza sentinel surveillance

Annex 9: WHO Standards for indicators to measure quality of influenza sentinel surveillance

Training

Training

Clinicians – once a year refresher training for each sentinel site

Annual review meetings with all sentinel sites

Laboratory training – for sentinel sites on sample collection, packaging, storage and transport – once a year

Laboratory training for PHL – PCR, virology

Surveillance and Outbreak response – for central surveillance staff in health and agriculture sector

Annexes

Annex 1: Influenza Surveillance form

Revised: February 2016

Influenza Surveillance

Communicable Disease Surveillance
Health Protection Agency
Ministry of Health and Family –Maldives

SENTINAL SITE:

A-Patient Details (Complete or place ✓appropriately)

*1-**ID-Card #:** | 2-Patient Name:

3-Age:_____ Date of Birth :DD / MM / YYYY | 4-Sex: ☐Male ☐ Female | 5- Pregnant : ☐Yes ☐ No

6-Date of consultation/admission :DD / MM / YYYY

7-*Residential Address: (At the time of contracting illness) | Atoll: | Island: | Telephone no.:

CONSENT (Health professional to explain the following verbally and obtain verbal consent):

- As many flu-like illnesses (roaga) are due to Influenza, some tests are being carried out to identify the type of virus circulating in the community. This includes collecting 2 samples from your nose and throat for testing. Tests are free of charge.
- The test results may not be available to you immediately, but will be provided if the clinician requests it, particularly for admitted patients who are severely ill. These results are not usually required for treating out-patients who are not severely ill.
- We shall do these tests if you consent to it. The information collected will be treated confidentially.

☐Verbal Consent obtained

ILI	✓	**Influenza Like Illness Surveillance - FOR OUTPATIENTS ONLY**
SARI	✓	**Severe Acute Respiratory Illness–GO To B**

1-☐History of fever and ☐ Cough☐Measured temperature ≥ 38 °C; Temperature _____°C

2-☐ Onset of illness with in last 10 days; Onset date DD / MM / YYYY or _____no. of days

3- Samples collected: ☐Throat ☐Nasal ☐Naso-pharyngeal swab,☐other_____, ☐Date&Time_____,

B- SARI ✓ **Severe Acute Respiratory Illness-FOR HOSPITALISED PATIENTS ONLY(place ✓appropriately)**

SARI Cases only

1-Travel outside the country with in the last 2 weeks: ☐Yes ☐ No, Where_____

2-☐Date of Admission: DD / MM / YYYY

a) ☐Medical ward b) ☐Pediatric ward c) ☐ICU d) ☐other _____

3- Antiviral (e.g.: Tamiflu) use for present illness: ☐Yes ☐ No

4- Pre-existing Medical Conditions

a) ☐Chronic respiratory disease b) ☐Asthma c) ☐Diabetes d) ☐Chronic cardiac disease

e) ☐Chronic neurological or neuromuscular disease f) ☐Chronic renal disease

5) ☐ Chronic haematological disorder h) ☐ Immune compromised i) ☐ Liver disease

j) ☐Current smoker k) ☐ Other, Specify: _____

C- FORM COMPLETED BY (for both SARI and ILI)

Name: _____**Designation** _____**Signature:**_____**Date:**_____

D- Sample Sent by Sentinel Site

1-Date of sample sent from sentinel SITE to IGMH Lab: DD / MM / YYYY

2- Name and Signature :_____ _____

E- Completed by IGMH LAB	**Lab Reference#**	**Results (*must be attached with this form*)**	
1-Sample received to IGMH Lab: ☐Yes ☐ No		**Date:**	DD / MM / YYYY
2-Received Date: DD / MM / YYYY		**Type**	
3-Sample condition:_____		**Subtype**	
3- Name: _____		**Remarks**	
4. Signature :_____			

F- DATA ENTRY AND QUALITY CHECKS by HPA Surveillance

Form Received by HPA: DD /MM / YYYY	**Data entry** ☐Yes ☐ No	Case outcome (to be followed up by HPA for
Name and Signature:_____	**Results entry**☐Yes ☐ No	SARI cases): a) ☐Discharged b) ☐Death

Annex 2: Sentinel ILI Surveillance Aggregated Data

Weekly Aggregated data form for Influenza like-illness (ILI)

Sentinel Site Name: _____

Reporting Week No: _____, From (date)_____to (date)_____

	0 to <2	2 to <5	5 to <15	15 to <49	50 to <65	>=65	Total
Patients meeting ILI case definition							
Total outpatient visits							

Completed by

Name:_____ Designation:_____ date:_____

Annex 3: Sentinel SARI Surveillance Aggregated Data

Weekly Aggregated data form for severe acute respiratory infections (SARI)

Sentinel Site Name:_____

Reporting Week No:_____, From(date)_____to (date)_____

	0 to <2	2 to <5	5 to <15	15 to <49	50 to <65	>=65	Total
Patients meeting SARI case definition							
SARI patients Sampled							
All hospital admissions							

Completed by

Name:_____ Designation:_____ date:_____

Annex 4: Weekly surveillance report format

Weekly Influenza Surveillance Report

Week 1: 1 January to 2 January 2016

10 January 2016

GENERAL SUMMARY

SITE and RESULT	ILI	SARI	TOTAL
IGMH			
INF A			
A H1N1 (Pandemic)			
H3			
Pending			
INF B			
Negative			
Hulhumale' Hospital			
INF A			
A H1N1 (Pandemic)			
H3			
Pending			
Negative			
ADK			
INF A			
A H1N1 (Pandemic)			
INF B			
Negative			
Kulhudufushi Regional Hospital			
Negative			
Grand Total			

POSITIVE CASES BASED ON AGE GROUPS

HOSPITALIZED FLU CASES BY AGE GROUP	NO OF POSITIVE
0-4 years	
5-24 years	
25-49 years	
50-64 years	
65+ years	

SARI CO-MORBIDITY (Disease burden) SUMMARY

#	Condition	Number of cases admitted in		
		wards	ICU/HDU	total
1	Pregnant			
2	Chronic Respiratory Disease			
3	Asthma			
4	Diabetes			
5	Chronic Cardiac Disease			
6	Chronic neurological or neuromuscular disease			
7	Chronic renal disease			
8	Chronic haematological disorder			
9	Immune compromised			
10	Current smoker			
11	Liver disease			
12	Others			

DATA QUALITY SUMMARY

SITE	TOTAL SAMPLES	DATA COMPLETENESS %	AGE MISSING	CT Value
A				
B				
C				

NOTE: All data published in the Weekly Influenza Surveillance summary are up-to-date on the day of publication. The data provided do not reflect the total number of individuals who have been infected with the influenza virus in Maldives during the reporting period due to the following factors:

1. Many people ill with influenza-like symptoms do not seek medical care.
2. Many who do seek medical care are not tested for influenza.
3. The IGMH Public Health Laboratory is limited by capacity to processing a maximum of 20 specimens per week.

The Influenza Surveillance Maldives is committed to serving you better by providing the most accurate, up-to-date influenza data available.

1. For general information on influenza, visit flu.delaware.gov or contact +960 300000
2. For questions regarding influenza vaccination, please call +960 30000

Report Preparded by **Report Checked and Approved by**

Annex 5: Weekly reporting format for sentinel sites

Sentinel Site Week: Year: Total Record:

ILI/SARI	NID	Name	Age	Sex	Result	Subtype

Annex 6: WHO guideline for preparation for Annual surveillance report

Example of an Annual influenza surveillance system report

-Brief summary description of the epidemiological, virological, ILI and SARI data.

Description of the surveillance system

- Brieft description of how the data are collected and how the surveillance system is organized.

- Reporting procedures.

Epidemiological Surveillance

- Present the epidemiological data graphically.

- Describe the season in terms of starting date, duration of outbreak, intensity, and criteria for defining the start and end of the season.

- Age groups most affected.

- Differences in regions (if applicable).

- Comparison of this season to previous seasons.

SARI data

- Description and summary of influenza-associated SARI data collected by week admitted, age and gender.

- Co-morbidity among cases.

- Vaccine coverage among the SARI patients

- Fatal cases (if available)

Virological surveillance

- Present the virological data graphically.

- Description of how many influenza detections were done, as well as type and subtypes of influenza viruses.

- Describe differences in the distribution of viruses by age or severity.

- Summarize any notable changes from previous years.

Vaccine data

- Match between circulating viruses and strains covered by the vaccine.

- Vaccination coverage, if possible by age and/or risk groups.

- Antiviral resistance data (if available)

- Number of viruses tested for antiviral resistance.

- Results from testing.

- Number of viruses sent to WHO CC's for further testing.

Performance of the surveillance system

- Brief description of the system and its operations.

- Proportion of sentinel sites reporting to the national level weekly.

- Proportion of sentinel sites regularly submitting specimens for laboratory testing.

- Number of specimens sent from the sentinel sites.

- Timeliness of reporting from sentinel sites (or lag between data collection and reporting).

- Timeliness of reporting of results from laboratories to national level and to clinicallevel.

- Timeliness of data published in the weekly report.

- Proportion of weeks with reporting to FluNet and FluID and/or other reporting systems.

- Aberrations observed trends/data.

Annex 7a: SOP for influenza surveillance specimen collection, handling and packing

1. Purpose and Scope:

Purpose and Scope

This procedure will be used to collect throat swab, nasal swab and nasopharyngeal swab for Influenza testing.

2. Responsible Staff:

Responsible Staff

Clinician, nurse and any other designated person.

3. Materials Required

Materials Required

Reagents and Materials required:

- Powder free gloves
- Mask
- UTM™ Sample collection kit (3ml)), containing collections swabs and collection vial with 3mL of UTM

Note: UTM™ sample collection kit should be stored within 2˚C-25˚C before sample collection.

4. Protocol:

Protocol

Infection Control Measurements

Infection Control Measurements

- Clinical samples should be collected by doctor, nurse or designated person.
- Wash your hands properly with soap or hand scrub before and after sample collection.
- All clinical samples have to be collected wearing appropriate PPE.
- Use Latex or nitrile disposable gloves.
- Wear laboratory coat/disposable apron.
- Use protective eye wear (goggles) face mask or face shields
- After sample has been collected, propoerly cap the vial.
- Remove the goggles,mask,coat/apron and gloves.
- Perform Hand Hygene again

Throat Swab

Throat Swab

- Have the patient lying or sitting on the bed with the head of the bed elevated.
- Hold the tongue away with tongue depressor.
- Locate the posterior pharynx, tonsillar region of throat behind uvula.
- Avoid swabbing soft palate; do not touch tongue.
- Rub the tonsils and posterior pharynx back and forth with tipped plastic swab.
- Place the swab into the UTM vial.
- Label the UTM with the patient's first and last name and the date of collection, specimen type, age and sex.

Nasal Swab

Nasal Swab

- Tilt patient's head back gently and steady the chin.
- Insert the swab into nostril and rotate firmly against the midline nasal septum (to ensure swab contains cells as well as mucus)

the date of collection, specimen type, age and sex.

- After the swab is removed from the patient, place it inside the UTM vial, with the swab tip at the top of the conical portion of the transport tube, rest the swab shaft against the rim of the tube and snap the shaft at the pre-scored break point. Hold the tube opening away from your face.

• Replace the cap on the UTM vial

(continued) Nasal Swab

Nasopharyngeal Swab

•Have the patient lying or sitting on the bed with the head of the bed elevated.

•Gently bend the swab (while inside the sterile package) to give it a slight arc.

•Aseptically remove the sterile swab from package.

•Tilt patient's head gently back (about 70°) and steady the chin

•Insert the swab into one nostril 4-6cm. The rule of the thumb to determine when swab is placed properly.

•Insert swab to one-half the distance from the tip of the nose to the tip of the earlobe.

•Press the swab tip on the mucosal surface of the mid-inferior turbinate.

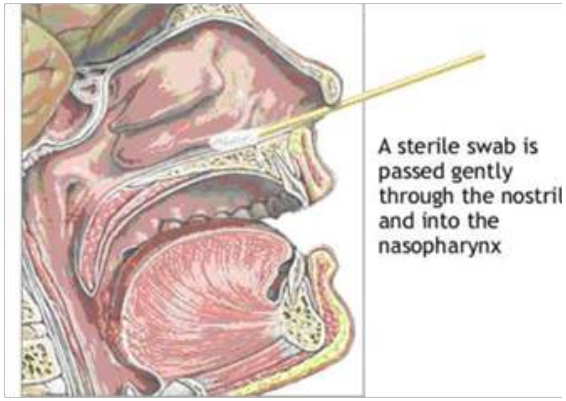
•Rub swab back and forth about 5 times.

•Leave the swab in place for a few seconds to absorb cells.

•Slowly withdraw the swab with a rotating motion.

•Place the tip of the swab into the UTM vial, break the swab at scored line and close the vial tightly.

Nasopharyngeal Swab



Infection Control Measurements

Infection Control Measurements

• Remove your gloves and mask.

• Wash your hands properly with soap or hand scrub.

5. How to Store Specimens

•Store specimens at 4 °C before and during transportation within 72 hours.

•If doing virus culture, if it takes longer than 72 hrs, need to store at -70◦C and transport with dry ice.

•Avoid freeze-thaw cycle

Packaging with Ice packs

How to Store Specimens

• Open outer container

• Remove the secondary container

• Open secondary container

• Put the ice packs inside the secondary container

• Wrap cushioning materials around primary container (e.g. cotton, or gauze enough to absorb the sample volume)

• Place primary container in secondary container

• Close secondary container

• Wrap laboratory test instructions in a zip lock bag around secondary container

• Place secondary container into designated space in outer container

• Make sure that the surveillance forms are packed inside the outer covering before closing the outer covering.

• Close outer container

6. Documentation:

Documentation

•Fill the Influenza surveillance notification form properly.

•Send the sample on schedule to laboratory with the Influenza surveillance notification form.

Annex 7b: Influenza specimen management flowchart

Surveillance for Epidemiology of Influenza
Contact: Ibrahim Nishan Ahmed, 7512240

Collection of VTM

- Shipped from IGMH laboratory
- About 140 VTMs per month (rounded) for 5 concentrated hospitals
- About 35 VTMs/hospoital/month

VTM sent to 4 Sentinel site hospitals (ADK, Senahiya, Addu, Kulhudhufushi) + IGMH

- By Field Assistants
- In cool boxes at 2-8°C
- Stored at hospital refrigerator at 2-8°C

ILI sample collection (all ages, all sites)
(Nasal + Throat Swab)

- Min. 10 samples/hospital/week by clinicians
- Along with completed surveillance form
- From patients attending the OPD from primary hospital catchment areas
- 2 rounds per month, 2-3 days in each round

Severe pneumonia (SARI) sample collection (all ages, IGMH, ADK, Addu, K'fushi)
(Nasal + Throat Swab)

- Around 3-5 samples/hospital/month by clinicians
- Along with completed surveillance form
- All cases from IPD

Temporarily Stored in Sentinel sites

- By laboratory technicians
- In refrigerators at 2-8°C
- Upto 72 hours max.

continued

Transported to Lab

- By field assistants
- On the next working day, within 72 hrs of collection (arrangements made for transport during long holidays)
- In ice containers
- At or below 2-8°C
- Along with completed surveillance form

Stored at IGM H Lab

- By laboratory technicians
- In Freezer at -70 to -86°C
- Along with specimen handover form

Testing in IGMH Lab
Around 550 samples per

4 Aliquot NS+TS

1.PCR
100 µl
→ RNA Extraction

2.Reference lab/CDC
1000 µl
→ Stored at -70°C freezer

3. Tissue Culture
~1000 µl
→ Stored at -70°C freezer

4.Future Reference Upto 8 months, until samples reach reference lab safely ~1000 µl
→ Stored at -70°C freezer

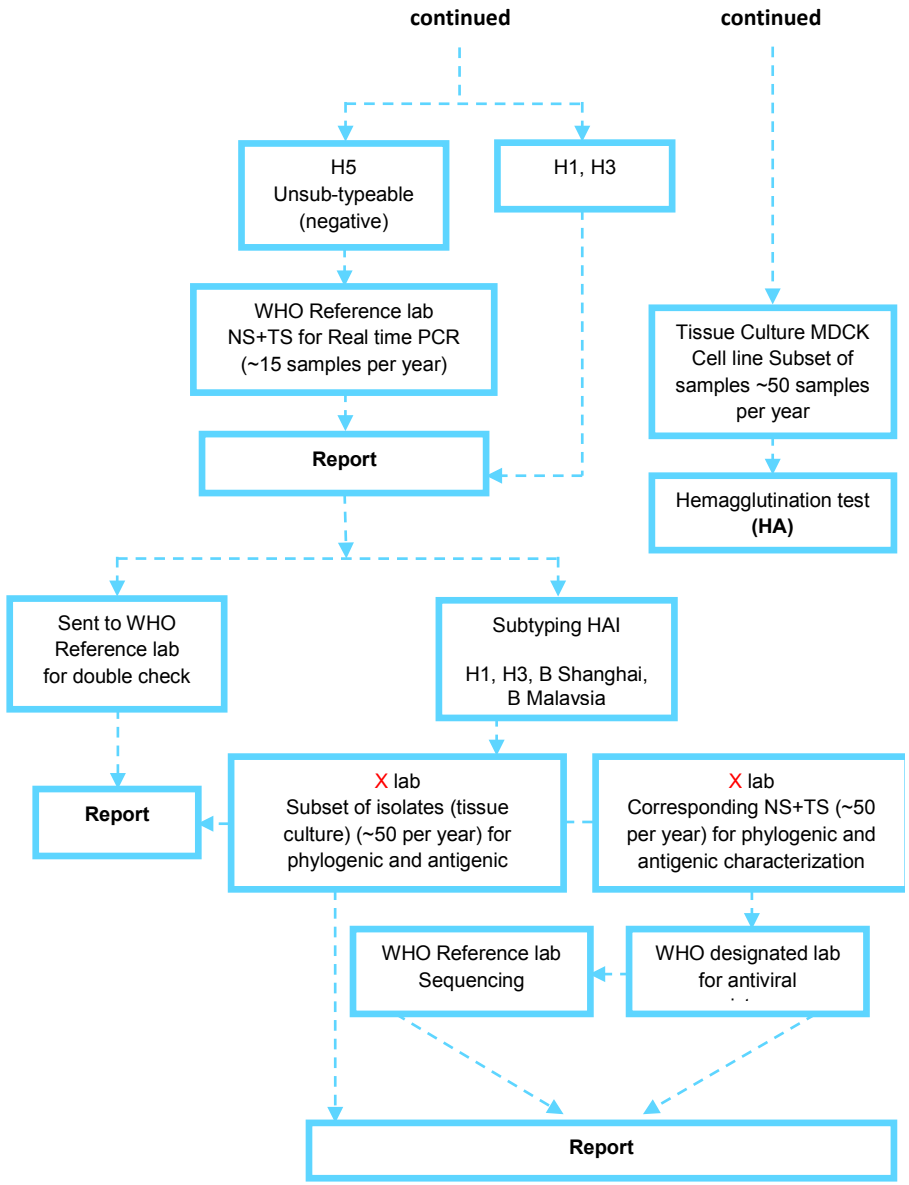
Real Time PCR
FluA/B

WHO Reference lab
5% NS+TS samples
(~50 per year) for QC

Negative → **Report**

Flu A positive → Subtyping
Real time PCR
H1, H3, H5

Flu B positive → **Report**



Contacts

Reports from IGMH lab should be sent to:

Ibrahim Nishan Ahmed	(nishan.ahmed@health.gov.mv
IGMH medical records	
IGMH laboratory	(lab@igmh.gov.mv)
Dr. Milza	(abmilza.m@gmail.com)
WHO reference lab	

Contacts

Annex 8: WHO performance indicators to measure quality of influenza sentinel surveillance

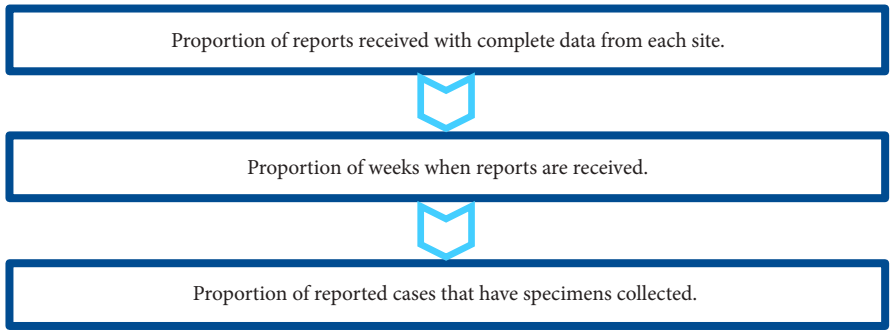
To evaluate the efficiency and success of the system, a number of process indicators and outcome indicators have been established.

Timeliness

Several time intervals are appropriate for routine measurement as quality indicators:

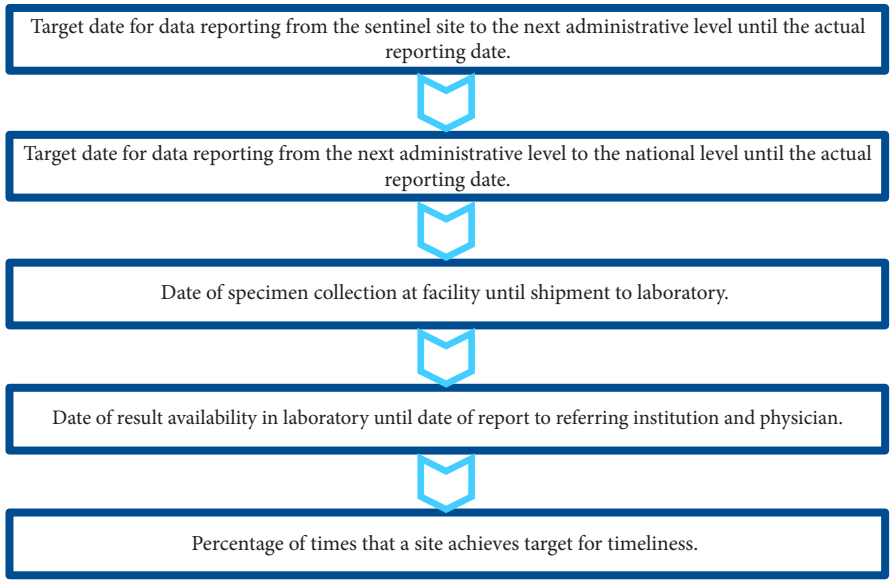
- Target date for data reporting from the sentinel site to the next administrative level until the actual reporting date.
- Target date for data reporting from the next administrative level to the national level until the actual reporting date.
- Date of specimen collection at facility until shipment to laboratory.
- Date of result availability in laboratory until date of report to referring institution and physician.
- Percentage of times that a site achieves target for timeliness.
- Average number of days for each interval over time for each site.

Completeness

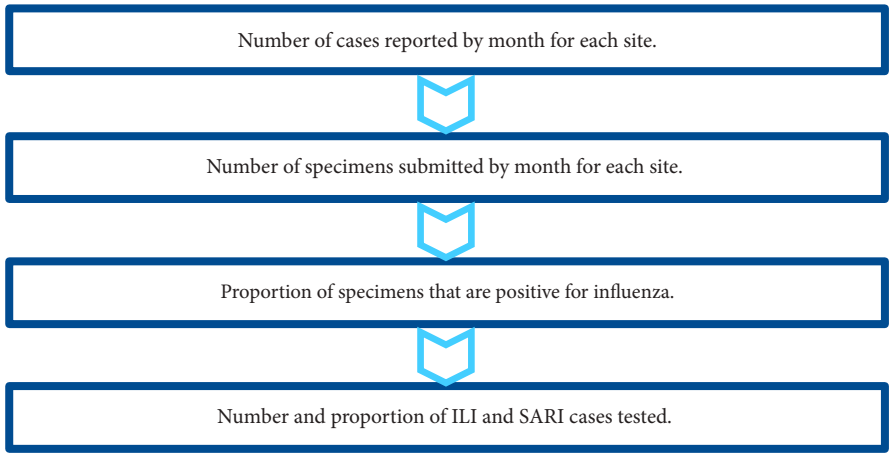


Audit

Regular field evaluations and audits at facility level of a subset of medical records to ensure the following:



Data to be followed and observed for aberrations over time



Annex 9: Data Collection Protocols for Sentinel Sites

1. Indhira Gandhi Memorial Hospital (IGMH)

- Samples taken from all SARI patients
- Samples for ILI:

Department	Collection Days	Number of samples per day	Total samples collected per week
Pediatric OPD	Sunday – Thursday	Two	Ten
Medicine OPD	Tuesday	Five	Five
General OPD	Sunday – Thursday	Two	Ten

2. ADK Hospital

- Samples taken from all SARI patients.
- **No samples collected for ILI**

3. Hulhumale' Hospital

- Samples taken from all SARI patients.
- Samples for ILI:

Department	Collection Days	Number of samples per day	Total samples collected per week
Pediatric OPD	Sunday – Thursday	Two	Ten
Medicine OPD	Sunday – Thursday	Two	Ten
General OPD	Sunday – Thursday	Two	Ten

4. Kulhudhufushi Regional Hospital

- Samples taken from all SARI patients.
- Samples for ILI:

Department	Collection Days	Number of samples per day	Total samples collected per week
Pediatric OPD	Sunday – Thursday	Two	Ten
Medicine OPD	Sunday – Thursday	Two	Ten
General OPD	Sunday – Thursday	Two	Ten

Annex 10: Specimen log form

Health Protection Agency
Ministry of Health
Male', Maldives

ARI Surveillance

No.	Date	ID Number	Age	Fever	Cough	Sample Taken (Y/N)	Type of Sample		
							Nasal	Throat	Nasopharyngeal
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

**Please tick the respective boxes