

Chapter 1

Present Notification System

History of the notification of communicable diseases in Sri Lanka dates back to late 19th century. The Quarantine and Prevention of Diseases Ordinance had been introduced in 1897 to implement the notification system on communicable diseases in the country.

The Ordinance includes the List of Notifiable Diseases (Annexure 1) and states that all medical practitioners or persons professing to treat diseases and attending to patients suspected of any notifiable disease should notify the case to the relevant public health authorities.

A medical officer notifying a case suspected with a notifiable disease should complete a Notification of a Communicable Disease Form (H 544) (Annexure 2). All such cases notified are entered in the Ward Notification Register. All wards i.e. medical, paediatric, surgical, obstetric/gynaecological and other speciality wards, should have Ward Notification Registers. Correct name and address of the patient, age and sex of the patient, the disease suspected, date of notification, to whom the case is referred to and special remarks are included in these ward notification registers.

These forms H544 are posted daily to respective MOH offices by a designated person in the hospital after entering them in an Institution Notification Register. Institution Notification Register is kept in the office of the Head of the Institution.

Notification of a patient with a notifiable disease initiates a regulated flow of activities in the field. All H544 forms received at MOH offices are entered in the Notification Register of the MOH office and handed over to relevant area Public Health Inspector (PHI) in whose area the notified patients reside in and may have contracted the disease. Receipt of these notification forms are then noted in the

Letter Inward Register of the relevant area PHI and investigated personally by the officer as soon as possible and ideally within 7 days of receipt of the notification form. The house of the patient is visited by the PHI and relevant additional information is obtained from the patient, his/her medical records, his/her family and the environment. The probable diagnosis of the notified cases can be either confirmed or discarded following these investigations. For confirmed cases the PHI is responsible to carry out control and preventive measures related to the disease following the investigation. These include identification of the source of infection and contact tracing as well. Another form, Communicable Diseases Report Part I – H411 (Annexure 3) is completed for each case investigated and this is also noted in the Letter Outward Register of the PHI. Data from all confirmed cases are then entered in the Infectious Disease Register at the PHI office. Completed H 411 and H 544 forms are returned to the MOH office following this series of activities carried out by the PHI.

At the MOH office, details from the above forms on each case notified are used to update the Office Notification Register and if confirmed, entered in the Office Infectious Disease Register (H700). Based on the Form 411 sent by the PHI, a form H411a (Annexure 4) is completed for each case confirmed.

A summary of notified diseases reported for the week from the MOH area is prepared every week at the MOH office. This is the Weekly Return of Communicable Diseases (WRCD) Form H 399 (Annexure 5). Data for completion of this form is collected from the Office Notification Register and the Infectious Disease Register. MOH is expected to verify each completed WRCD against the Office Notification Register, Infectious Disease Register and the previous week's WRCD. This form, signed personally by the Medical Officer of Health (MOH), should be posted to the Epidemiology Unit along with form H 411a by every Saturday with a copy to the Regional Epidemiologist. An office copy should be retained.

Data on communicable diseases received through WRCD from MOH areas in the country are entered daily in a central database at the Epidemiology Unit and consolidated at the end of every week. These consolidated data in the form of a summary report is published in the Weekly Epidemiological Report (WER), which is circulated to all health institutions in the country completing the feedback link in the national disease notification chain. Data on notified communicable diseases are also summarized quarterly in the Quarterly Epidemiological Bulletin published by the Epidemiology Unit.

Both publications WER and the Quarterly Bulletin are available at the official website www.epid.gov.lk.

Also, the Annual Health Bulletin published by the Medical Statistics Unit of the Ministry of Health publishes cumulative data on communicable diseases obtained from WRCD every year.

Present Notification System

- Notification of communicable diseases has been a legal requirement in Sri Lanka since 1897.
- All suspected cases of notifiable diseases are reported from institutions to relevant MOH offices where field investigations are carried out to confirm or discard the case.
- MOH Notification Register and the Infectious Disease Register act as the mainstay of the notification activities in the primary health care system.
- Data collected is entered in a central database at the Epidemiological Unit every week.
- Feedback information on notifiable diseases is communicated through the Weekly Epidemiological Report and the Quarterly Epidemiological Bulletin both of which are available at the official website www.epid.gov.lk. And also through the Annual Health Bulletin.

Chapter 2

Special Investigations on Selected Communicable Diseases

Further to the field investigations during routine surveillance of communicable diseases, special investigations are carried out for certain selected diseases. Special investigations are aimed at obtaining more details than the data available through the routine preliminary field investigations for this group of diseases. Information targeted through special investigations includes patients' clinical presentation, laboratory investigations and clinical conclusions. It also helps to select the confirmed cases out of the notified suspected cases.

Each disease in this group has a significance that warrants this type of detailed investigations.

Diseases that require special investigations are;

1. Poliomyelitis/Acute Flaccid Paralysis (AFP)
2. Diphtheria
3. Pertussis
4. Tetanus/ Neonatal tetanus (NNT)
5. Measles
6. Rubella/ Congenital Rubella Syndrome (CRS)
7. Viral Hepatitis
8. Leptospirosis
9. Dengue
10. Encephalitis (including Japanese encephalitis)
11. Cholera
12. Human Rabies
13. Mumps
14. Meningitis
15. Chicken pox

The latter three diseases have been included in the Notifiable Diseases List from 2007.

Out of these 15 diseases, Poliomyelitis/Acute Flaccid Paralysis (AFP), Diphtheria, Pertussis, Tetanus/NNT, Measles, Rubella/CRS, Japanese encephalitis and Hepatitis B are all vaccine preventable diseases for which protection through immunization is presently offered in the Expanded Programme of Immunization of Sri Lanka (EPI) to the children of the country. Detection and investigation of every single case of vaccine preventable diseases is vital as those cases will indicate a need that necessitates further strengthening of the national immunization programme.

Poliomyelitis is a disease that is earmarked to be eradicated under a global programme and therefore it is mandatory that every single case is picked up.

As for Measles, CRS, Rubella and Tetanus/Neonatal tetanus (NNT) which are selected to be eliminated from the country, discovery of even a single case is crucial for these elimination programmes.

Dengue, identified as an important health issue in the country and Leptospirosis, an occupational hazard for those involved in agriculture are recognized equally for their significant health and environment impacts and therefore they necessitate detailed inquiries into each single case reported.

As for Cholera, every single case detected will signify a setback in the achievements gained in the national diarrheal diseases control programme and consequently the global control programme.

In fatal Human Rabies which is still unfortunately found in some parts of the country each case signifies a demand for urgent action and therefore all cases should be picked up and investigated.

It should be noted that this group of diseases is also primarily investigated in the field by the MOH staff following routine notification from hospitals similar to other notifiable diseases. For each case of the majority of the above listed diseases reported routinely to the Epidemiology Unit through the WRCD, a special investigation form is posted to the relevant MOH/institution depending on the site of investigation, to obtain further epidemiological and clinical details on the case. Depending on the site of special investigations, MOH (in field based special investigations) or the ICN of the institution (in hospital based special investigations) is responsible for investigating these cases as quickly as possible. Completed forms are sent back to the Epidemiological Unit. Special investigations data thus collected are entered into the central database of the Epidemiological Unit and analyzed separately.

Poliomyelitis/Acute Flaccid Paralysis

Case based surveillance in identified 55 sentinel sites for Acute Flaccid Paralysis has been in existence in the country since 1991. This comprehensive surveillance system based on World Health Organization (WHO) guidelines on Global Poliomyelitis Eradication Initiative is aimed at excluding poliomyelitis as a likely diagnosis from each case presenting to the sentinel sites with the relevant clinical presentation. These sentinel sites are hospitals where a consultant paediatrician is in place and consists of Base, General, Provincial and Teaching hospitals. Once a case is notified from a sentinel site, it is investigated at the institution by the hospital staff as well as in the field by the MOH team according to the guidelines of the global programme. Regional Epidemiologist is also involved in these investigations at the district level. Relevant returns (Annexure 6a, 6b, 6c) are received by the Epidemiology Unit from all parties involved in the special investigation process: the institution, MOH office and the Regional Epidemiologist. (Refer *Eradication of Poliomyelitis: A Comprehensive Guide for Medical Officers 2nd Edition 2005*).

Diphtheria, Pertusis and Tetanus

For these vaccine preventable diseases which require special investigations, the follow up scrutiny is carried out by the MOH team. For each case of these diseases notified from an institution to a MOH office and thereafter reported routinely to the Epidemiology Unit through the WRCD, a special investigation form (Annexure 7, 8, 9) is posted to the said MOH to obtain further epidemiological and clinical details on the case through special investigation activities. MOH and his team are responsible for investigating these cases (for the second time) and for sending the completed special investigation forms back to the Epidemiological Unit.

Measles, Congenital Rubella Syndrome and Rubella

Since 2005, these vaccine preventable diseases are being specially reported to the Epidemiology Unit through a weekly return from the same 55 sentinel sites which have been identified for AFP surveillance. This is in addition to the routine reporting via the MOH office. Also, blood samples from reported cases are collected by the reporting site (eg Ward, OPD etc) and sent to Medical Research Institute (MRI) for laboratory diagnosis. However the special investigations for these diseases take place in the field by the MOH staff after receipt of special investigation forms (Annexure 10, 11, 12) from the Epidemiology unit.

Dengue

Any institution that reports dengue cases functions as the special investigation site for that particular case. Special Investigation forms - Form/DF/2004 (Annexure 13) which are kept with the Infection Control Nursing Officers (ICN) in all the hospitals in the country are completed by the ICN of the relevant institution once a case is notified from that institution. (Refer *Guidelines on Clinical management of Dengue Fever/Dengue Haemorrhagic Fever 2005*).

Leptospirosis

For Leptospirosis, selected sentinel institutions have been identified. Although all cases of Leptospirosis from all hospitals are routinely notified to relevant MOH offices for the purpose of primary routine investigations, special investigations are carried out only for cases reported from these selected sentinel institutions by these reporting institutions themselves. These institutions also report on these cases in the specific special investigation forms to the Epidemiology Unit twice a month (on the 15th and 30th/31st) through the relevant Regional Epidemiologist. In addition, the Epidemiology Unit also receives a monthly district return on these cases from the Regional Epidemiologist.

Viral Hepatitis

For Viral Hepatitis endemic MOH areas have been identified and all cases of Viral Hepatitis notified to MOH offices in these identified areas from institutions are investigated routinely as well as specially by those MOH teams. Special investigation forms (Annexure 14) for these cases are sent to the Epidemiology Unit by these MOH offices. In non endemic areas for this disease, special investigations are carried out by the respective MOH teams only if more than 5 cases of Viral Hepatitis per week or 10 cases of Viral Hepatitis per month are reported.

Encephalitis (including Japanese encephalitis)

Reporting of these cases to the Epidemiology Unit occurs through the routine notification system and the routine and special investigations both take place in the field by the MOH staff. The Epidemiology Unit sends the special investigation forms (Annexure 15) for these cases to the reporting MOH office.

Cholera

Cholera is a notifiable disease in the Group A category (Annexure 1). Due to its global health significance every case of suspected Cholera should be promptly notified to the Epidemiology Unit. Each of these cases warrants a special

investigation at the national level (Epidemiology Unit) and also district level (RE) according to the guidelines specified by the Ministry of Health (Annexure 16). If bacteriologically confirmed, every case should be reported to WHO and a special investigation form is completed (Annexure 17).

Human Rabies

For each case of this fatal disease notified from an institution to a MOH office and thereafter reported routinely to the Epidemiology Unit through the WRCD, a special investigation form (Annexure 18) is posted to the said MOH to obtain further epidemiological and clinical details on the case through special investigation activities. MOH and his team are responsible for investigating these cases (for the second time) and for sending the completed special investigation forms back to the Epidemiological Unit. Another special investigation is also carried out by the District Rabies Public Health Inspectors handling control activities for the Anti Rabies Campaign/ Public Health Veterinary Services (PHVS) in the district.

Mumps, Meningitis and Chicken pox

For these newly added notifiable diseases which require special investigations, the follow up scrutiny is carried out by the MOH team. For each case of these diseases notified from an institution to a MOH office and thereafter reported routinely to the Epidemiology Unit through the WRCD, a special investigation form (Annexure 19, 20, 21 respectively) is posted to the said MOH to obtain further epidemiological and clinical details on the case through special investigation activities. MOH and his team are responsible for investigating these cases (for the second time) and for sending the completed special investigation forms back to the Epidemiological Unit.

Influenza Surveillance

As part of the pandemic preparedness activities that have been initiated in the country for Avian Influenza, the National Technical Committee for Avian Influenza

Pandemic Preparedness has decided to improve surveillance on influenza in humans. This special activity is complementary to the influenza surveillance already initiated among animals by the Department of Animal Production and Health (DAPH). Once fully established, human and animal influenza surveillance activities would act as the early warning system for a possible Avian Influenza outbreak in the country.

Human Influenza surveillance has been initiated in 20 hospitals identified as sentinel surveillance sites for Avian Influenza (Annexure 22). These institutions are expected to send at least thirty (30) samples per month from patients suspecting of influenza like illness (ILI) or any other similar respiratory viral infection from OPD and wards to the Medical Research Institute (MRI) or the Molecular Medicine Unit, Faculty of Medicine, University of Kelaniya, Ragama. These have been identified as the diagnostic laboratories in Sri Lanka for human influenza surveillance. Laboratories of Teaching Hospital Karapitiya and Teaching Hospital Kandy have been identified as screening laboratories.

According to the case definition adapted for Influenza like illness, patients with at least 6 of the following criteria are to be included in this special surveillance in a non-epidemic period. Those with at least 4 criteria should be included during an influenza epidemic.

Criteria for selection of patients for ILI (Influenza like Illness)

1. Acute onset (at least within 4 days)
2. Cough
3. Fever
4. Rigors or chills
5. Myalgia
6. Prostration / weakness
7. Redness of throat
8. Similar illness in close contacts

Chapter 3

Advantages of Sentinel Site Surveillance

Sentinel Site surveillance is carried out in specially identified settings and it is designed to minimize the drawbacks present in a routine surveillance system. It has been proved to be an efficient, cost effective method over routine surveillance in many centers worldwide.

In general sentinel site surveillance has many identified advantages over a routine notification system.

Improves timeliness:

Sentinel site surveillance is usually carried out in a setting where a mechanism has been already developed to facilitate the surveillance activity in contrast to the routine system. Therefore substantial delays that may occur in a routine notification system through lags in relaying and receiving information can be avoided in sentinel surveillance. This improves timeliness that is essential in an ideal notification process and therefore favours timely initiation of preventive and control activities.

Improves accuracy of data:

A secondary inquiry into a case usually yields more accurate data specially when the site of data collection is the hospital where data can be obtained directly from the patient's records and the treating clinicians. As a result information gathered through a sentinel site surveillance system based in the hospital is usually more complete and accurate as laboratory data and clinical data related to disease progression can be readily collected during investigations.

Improves usefulness:

When based in the reporting institution, sentinel surveillance system provides an opportunity for the information collected to be analyzed and used within the

institution itself. This opportunity is not routinely available through the present notification system.

Strengthens institutional capacity building:

Sentinel surveillance improves the surveillance capacities of institutions involved by creating new opportunities for its personnel and also by expanding its logistic facilities.

Develops intersectoral relationships:

It helps building healthier relationships between public health and clinical sectors by working together for a common goal and by sharing surveillance information.

Sentinel Site Surveillance

- ❑ Minimizes drawbacks of the routine notification system
- ❑ Improves timeliness and accuracy of the notification system
- ❑ Provides opportunity for data to be used by the institutions involved
- ❑ Helps build better relationships between public health and clinical sectors

CHAPTER 4

Improved Sentinel Site Surveillance System

Sentinel site surveillance which has been in existence in the country for selected diseases will be expanded during the year 2007. This will aim to streamline the presently existing system for special investigation of selected communicable diseases (see Chapter 2). It will not disturb or interfere with the routine notification system but will only enhance and improve the existing surveillance activities. As before it will continue to be an additional or parallel surveillance process for the selected diseases in the selected sentinel sites. All notifiable diseases in the Notifiable List should be notified as customary by ward staff in all hospitals while a designated officer in certain selected institutions will be responsible for investigating diseases selected for special investigations.

Poliomyelitis/AFP

A special investigation and reporting system is already in place for this disease and it will continue unchanged (Refer *Eradication of Poliomyelitis: A Comprehensive Guide for Medical Officers 2nd Edition 2005*).

Diphtheria, Pertusis, Tetanus, Mumps, Meningitis, Chicken pox

Special investigation and reporting on these diseases are carried out secondary to the routine investigations by the relevant MOH staff and will continue to function unchanged.

Measles, CRS, Rubella

Although selected sentinel sites are already designated to send a weekly return on the number of diseases reported to them, to the Epidemiology Unit, follow up special investigation and reporting on these diseases are carried out subsequent to the routine investigations by the relevant MOH staff. This system will continue to

function unchanged (Refer *Intensification of Surveillance of Measles and Rubella/congenital Rubella Syndrome*).

Dengue

The reporting institution is responsible for the initiation of the routine notification process and for the follow up special investigation of the reported cases according to the specified guidelines given in the relevant circular (Annexure 23). This activity will remain unchanged (Refer *Guidelines on Clinical management of Dengue Fever/Dengue Haemorrhagic Fever 2005*).

Leptospirosis

Institutions functioning as sentinel sites are already in existence and these have the responsibility of carrying out the special investigations on cases that they report to the Epidemiology Unit. This activity will continue unchanged. However only the newly introduced EPID SS1 Summary Return Form from Sentinel Hospital (Annexure 21) will be used as a return instead of the Special Investigation Form for Leptospirosis and Monthly Return for Leptospirosis which were earlier used.

Viral Hepatitis

Present system in existence for special investigations of Viral Hepatitis will be suspended. In its place a number of selected hospitals will be identified as sentinel sites for this disease and only cases reported from these institutions will be specially investigated and reported to the Epidemiology Unit by a designated officer of the institution twice a month. Meanwhile the routine notification of Viral Hepatitis should be carried out by all reporting institutions with routine field investigations by the respective MOH teams.

Encephalitis (including Japanese encephalitis)

Special investigations for cases of this disease is presently carried out by the MOH staff but with the introduction of the proposed sentinel site based programme, the responsibility of this activity will be handed over to all the General, Provincial and

Teaching hospitals that will be identified as sentinel sites for this disease. Cases reported from these institutions will be specially investigated and reported to the Epidemiology Unit by a designated officer of the institution. Meanwhile routine notification of Encephalitis including Japanese Encephalitis will be carried out by any reporting institution with routine field investigation by the relevant MOH staff.

Human Rabies

Special investigation and reporting on human rabies is carried out secondary to the routine investigations by the relevant MOH staff and will continue to function unchanged.

Cholera

Standard special investigation procedure specified for this globally significant disease will continue unchanged.

Mumps, Meningitis and Chicken pox

Standard special investigation procedure specified for these newly introduced notifiable diseases will continue through Medical Officers of Health.

In summary, Diphtheria, Pertusis, Tetanus, Measles, Rubella/CRS, Mumps, Meningitis, Chicken pox and Human Rabies will continue to have special investigations carried out by the MOH staff. Cholera will be investigated at national level and district level according to WHO guidelines. While all cases of Dengue are investigated specially by the reporting institutions, Leptospirosis, Viral Hepatitis and Japanese encephalitis will be investigated specially by the identified institutions/sentinel sites.

Selection of sentinel sites for the specific diseases will depend on their burden of disease and the number of sites may be increased depending on needs of the programme, available resources and logistics.

Focal Point for Sentinel Site Surveillance

The hospitals selected for sentinel site surveillance are required to have a designated Infection Control Nursing Officer (ICN) and he/she will be the key person responsible for special surveillance activities in these selected hospitals. In institutions where there is an Infection Control Unit with several officers attached, the most senior officer should take the responsibility for this task. *In the absence of Infection Control Nursing Officers this responsibility will be carried out by a person designated by the Head of the Institution.* If Public Health Medical Officers or Infection Control Medical Officers are available at these institutions they will function as technical advisors of these surveillance activities. However such a decision should be taken by the head of the institution depending on the requirements of the institution.

Ward notification register will serve as the main source of information to identify cases under sentinel surveillance for the institution. Infection Control Nursing Officer should regularly peruse the notification registers in the relevant wards to be able to detect targeted cases timely.

The ICN is also expected to make regular inquiries from staff of the relevant wards on patients admitted with the targeted diseases. This can be done through active ward rounds or via telephone. It is of paramount importance that the Infection Control Nursing Officer maintains regular communication with relevant ward staff to achieve objectives of this surveillance programme. This is vital in detection of any cases missed out from the routine notification process.

Once informed of a patient with a target disease the ICN should visit the relevant ward and complete the relevant special investigation form for the disease by talking to the patient and/or the bystander. Details should also be extracted from the Bed Head Ticket (BHT). It will also be necessary to discuss the case with the medical officer looking after the patient in order to complete this investigation form. However if the patient is discharged from the ward, relevant information to complete the form should be extracted from the BHT. All information extracted

from the BHT should be clarified with the clinicians or medical officers treating the patient if the contents are not specific or clear.

There is no deadline for data collection from these patients. The ICN may not be able to get all the information to complete the surveillance forms during a single visit to a particular case. Therefore the officers may spend adequate time involving several visits to the ward/patient in order to complete data collection from target cases. However it must be borne in mind that data collected promptly and timely is more valuable for prevention and control activities and therefore data collection should be completed as quickly as possible and preferably before a patient is discharged.

The present routine notification system requires information from all cases suspected with a notifiable disease. In contrast, the special investigations carried out in sentinel surveillance system will depend on more specific data and requires the selected cases to favour the specific diagnosis prior to collection of information. On the day of admission (day 1), a majority of patients are usually suspected of having a certain disease. Therefore data collected on day 1 usually provides information on patients suspected of having a target disease. This initial diagnosis may change with the progression of the clinical illness. The officer collecting data for target diseases in institutions selected as sentinel sites, should therefore allow adequate time for the clinicians to work on the diagnosis so that information to support the selection of the case for special investigations is available. This would permit the surveillance programme to obtain valid data from cases showing stronger evidence of having the target disease. Laboratory support of selected institutions will be strengthened in a parallel move to improve diagnosis of the target diseases.

Thus, data collecting officers should ensure that cases selected for sentinel site surveillance do not include cases that have been suspected of a target disease initially and later excluded with a different diagnosis. However it should be

emphasized that the officer must not wait for confirmation of the diagnosis since that would affect the timeliness of the surveillance process. Instead, they should follow up the cases while the patients are in ward and collect adequate data from all possible sources to strongly support the suspected diagnosis.

Completed investigation forms from all patients reported during a two-week period should be sent to the Regional Epidemiologist (RE) of the district. This should be done twice a month by 15th and 30th/31st of the month. A summary return (Form EPID SS1) (Annexure 24) prepared by the ICN on the number of cases reported during the reporting period, should accompany these forms. A copy of this return should be sent to the Epidemiology Unit at the same time.

Copies of individual investigation forms need not be kept. However all cases reported from the institution should be entered in a register, Hospital Based Sentinel Site Surveillance Register (Annexure 25). This register should be kept with the ICN at his/her office. This register will have two parts, Part A and B. Part A should contain information included in Form EPID SS1 and Part B should include individual case details. This register should be updated regularly by the ICN based on the number of investigations completed. Hospital Based Sentinel Site registers will be provided to all institutions involved in sentinel site surveillance by the Epidemiology Unit.

At the end of each month the Regional Epidemiologist should prepare a monthly summary return (Form EPID SS2) (Annexure 26) for the district using the information received during the month. This return should be sent to the Epidemiological Unit along with all the individual investigation forms received from institutions before 10th of the following month.

At the end of each month the Regional Epidemiologist is expected to analyze the surveillance data received through individual investigation forms and the summary returns (Form EPID SS1) from institutions serving as sentinel surveillance sites in his/her district and prepare a brief monthly report for the district containing basic demographic, clinical and laboratory data. The report should be circulated among

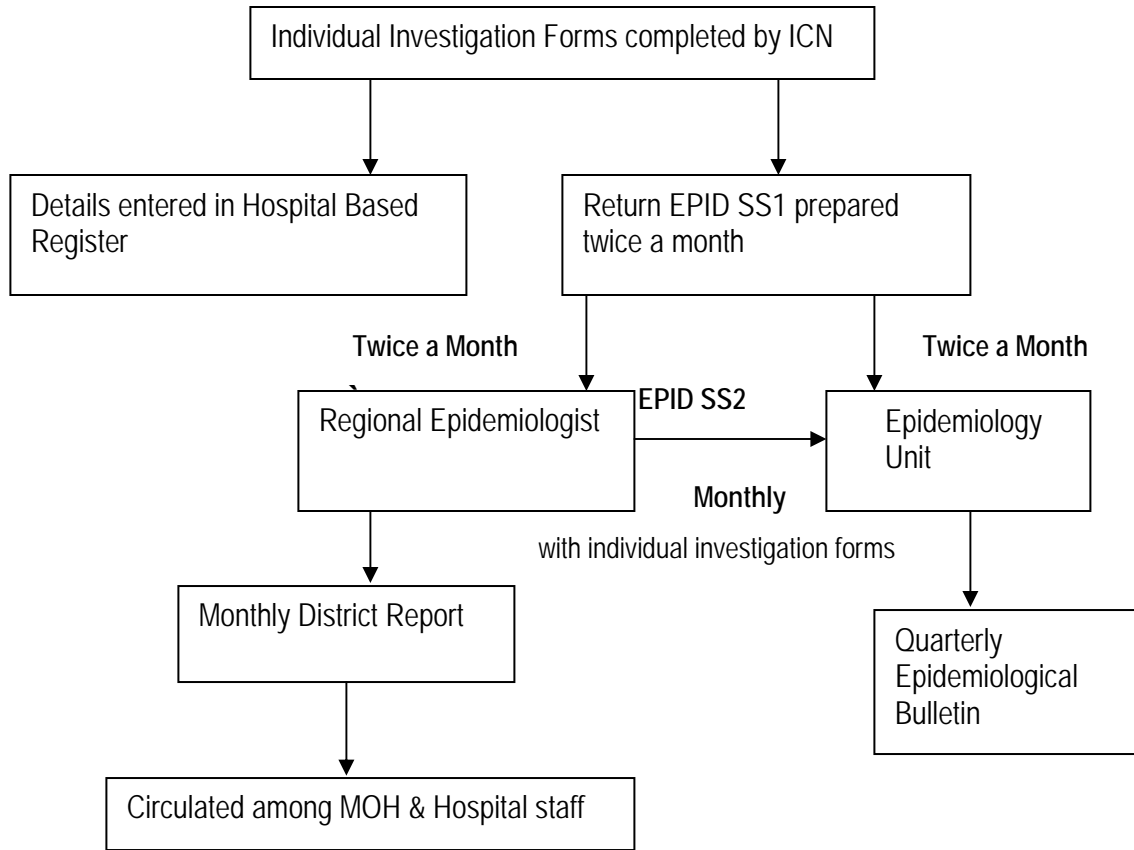
the Medical Officers of Health (MOH) in the district and hospital staff of surveillance sites.

Receipt of the monthly consolidated return Form EPID SS2 at the Epidemiological Unit will be monitored centrally for its timeliness and completeness. Arrangements will be made to enable REE to send this return (EPID/SS2) to the Epidemiological Unit electronically via e-mail.

Also, all returns received from REE at the Epidemiological Unit will be consolidated and disseminated nationally by publishing in the Quarterly Epidemiological Bulletin.

Figure II below describes the activities involved in the proposed sentinel site surveillance.

Figure II: Activities involved in Sentinel Site Surveillance



Sentinel Site Surveillance Programme

- ❑ The existing sentinel site surveillance will be expanded to accommodate the proposed changes to the system.
- ❑ ICN is the key responsible person.
- ❑ In the absence of Infection Control Nursing Officers this responsibility will be carried out by a person designated by the Head of the Institution.
- ❑ If Medical Officers of Public Health or Infection Control are available, they could act as technical advisors of these activities on the request of the head of the institution.
- ❑ Diseases for which special investigations are carried out are Poliomyelitis/AFP, Diphtheria, Pertusis, Tetanus/NNT, Measles, CRS, Rubella, Dengue, Leptospirosis, Viral Hepatitis, Mumps, Meningitis, Chicken pox, Human Rabies, Cholera and encephalitis including Japanese encephalitis.
- ❑ Diseases investigated in specially identified Sentinel Sites are Poliomyelitis/AFP, Leptospirosis, Viral Hepatitis and Encephalitis including Japanese encephalitis.
- ❑ ICN should identify cases from ward notification registers and by communicating with ward staff using active ward rounds and telephone.
- ❑ Cases identified should have strong support for the suspected clinical diagnosis.
- ❑ Patient, bystander, clinical staff and the BHT are the available sources of information for data collection.
- ❑ Information collected in the hospital are entered in a special register and a summary return prepared to be sent to RE and Epidemiology Unit twice a month. A monthly return for the district is prepared by the RE and sent to the Epidemiology Unit every month.
- ❑ Influenza surveillance will also run parallel to this system as part of the Avian Influenza Pandemic Preparedness.

CHAPTER 5

Roles and Responsibilities

Head of the Institution

- ❑ To establish a functioning surveillance system in the institution.
- ❑ To ensure that an Infection Control Nursing Officer (ICN) or any other designated person is available for the task and are given necessary facilities.
- ❑ To inform the institutional staff that the routine notification system and the sentinel site surveillance system should function as two independent parallel processes.
- ❑ To ensure that ICN is responsible for data collection correctly and timely.
- ❑ To ensure that data collected from the institution is disseminated to relevant officers and also used within the institution itself.

Infection Control Nursing Officer

- ❑ To update the institutional notification register and to ensure timely updating of the ward notification registers.
- ❑ To identify cases of relevant diseases by perusing the ward notification registers or by communicating with ward staff and to collect data using all possible sources (patient/ bystander/ ward staff/BHT).
- ❑ To complete and send forms/returns to the Regional Epidemiologist and the Epidemiology Unit timely.
- ❑ To update and maintain the Hospital Based Sentinel Site Register.
- ❑ To analyze basic information out of the data collected from the institution and to disseminate it to be used within the institution.
 - e.g. by age, sex and area
 - by duration of stay
 - by clinical information

- To maintain the OPD based Surveillance Register and to monitor the data collected for unusual trends in order to alert the regional epidemiologist.
- To complete and send the monthly summary return on OPD surveillance data to the regional epidemiologist
- To coordinate and organize a quarterly review meeting in the institution and to present analyzed information. The regional epidemiologist should be invited to this meeting.
- To maintain a good rapport with the clinical staff.
- To sustain a successful sentinel site surveillance system in his/her institution.

Regional Epidemiologist

- To provide assistance to establish sentinel surveillance sites in selected hospitals in the district.
- To monitor receipt of returns and individual case investigation forms from the ICN for their accuracy, timeliness and completeness.
- To send the monthly consolidated report and a brief monthly report on the data from the district to the Epidemiology Unit.
- To analyze, utilize and disseminate information collected from sentinel sites in the district at relevant forums.
- To discuss the monthly district reports with the Medical Officers of Health at district meetings or reviews.
- To participate at the quarterly sentinel surveillance review meetings organized by ICN at hospitals in the district and to present the district surveillance report.
- To monitor and evaluate overall functioning of the programme within the district.

Epidemiology Unit

- To provide guidelines and advice to establish sentinel surveillance sites in selected hospitals.

- To collate and analyze information collected from sentinel surveillance sites in the country and to publish in Quarterly Epidemiological Bulletin as regular feedback.
- To organize and conduct national review meetings on sentinel site surveillance with the district health authorities.

Chapter 6

Disease Surveillance in Out Patients' Departments

Although legislation on notification of communicable diseases indicates that any suspected case of a notifiable disease be notified irrespective of its place of detection, the routine notification system is mostly functional within the hospital wards and minimally takes place in the out patients' departments (OPD). Therefore patients that present to the out patients' departments (OPD) of health institutions with mild symptoms that do not warrant admission are invariably overlooked and missed out from the notification process.

Furthermore, there is always an unavoidable delay in alerting the preventive health authorities of the targeted notifiable diseases, since notification process is mostly initiated in wards following admission of patients. These delays, however insignificant they may be, could be crucial in averting possible outbreaks.

This limitation could be improved and early warning and detection of outbreaks is achievable if patients suspected of notifiable diseases are identified in the out patients' department itself. To achieve this objective and to improve the overall notification system, an out patients' department based surveillance system will be introduced to the health institutions along with the proposed sentinel site surveillance system. **This will be a syndrome-based surveillance initially and will focus only on illnesses presenting with fever and rash, diarrhea and acute respiratory tract infections.** However institutions can expand the number of diseases under surveillance depending on their resources or individual interest. Also, it should be emphasized that as per regulations cited in the Ordinance, all notifiable diseases must be reported by attending medical practitioners irrespective of the place of presentation.

Medical officers treating patients in out patients' departments will have the responsibility to identify clustering of patients with above syndromes. They will be

responsible for collecting details of these patients by using one of three given options or any other preferred methods.

One option is using a special rubber stamp provided to the out patients' departments by the hospital authorities which will include spaces to collect details such as patient's name, age, sex, MOH area/address and the probable diagnosis/syndrome. This rubber seal should be stamped on the top part of the OPD prescription of patients detected with targeted syndromes and the medical officers attending to these patients should complete the required details on them. The stamped prescriptions will be taken to the pharmacist by the patients to obtain the prescribed medicines, as is the usual practice. The Infection Control Nursing Officer (ICN) will be given the responsibility to collect these details on the prescriptions of patients identified. He/she will visit the OPD pharmacist of the hospital daily and will collect the details included in the rubber stamped prescriptions.

The second option is to use registers/books by the medical officers attending to OPD duties. These registers/books will have columns for patient's name, age, sex, MOH area/address and the probable diagnosis/syndrome and will be kept on each table at the OPD manned by the medical officers. The Infection Control Nursing Officer (ICN) will have the responsibility to collect the details from these registers/books on to the OPD Surveillance Register at the end of each day.

The third option proposed is to make available printed forms with the medical officers at the OPD to be filled by them for each patient presenting with a syndrome under surveillance. These forms will only have spaces to obtain the basic details such as the patient's name, age, sex, MOH area/address and the probable diagnosis/syndrome. ICN will collect these forms at the end of each OPD session or at the end of the day.

A new Out Patient Department Patient Registration & Record Sheet has been introduced in some institutions as a part of a pilot project on Health Information System by the Ministry of Health. All institutions would be able to use this form for the above OPD surveillance activities once it is introduced islandwide.

Details obtained by the ICN by any of the above mentioned options should be entered daily in an OPD based Surveillance Register (Annexure 27) which is kept at the office of the Infection Control Nursing Officer. ICN should consistently scrutinize the register and monitor the data collected. If an increase in the number of cases or an unusual trend is noticed in the data the ICN should immediately inform the Regional Epidemiologist (RE) over the telephone. Data collected should also be sent routinely by the ICN as a monthly summary return (Annexure 28) to the Regional Epidemiologist. A quarterly district summary return (Annexure 29) will be sent to the Epidemiology Unit by the RE. Information included in this return should be discussed by the RE at quarterly meetings convened by the ICN at institutions for relevant hospital staff and at the MOH monthly conferences. The Regional Epidemiologist is also expected to visit the out patients' departments of the sentinel sites in the district regularly to monitor to surveillance activities.

Influenza Surveillance at the Out Patient Departments

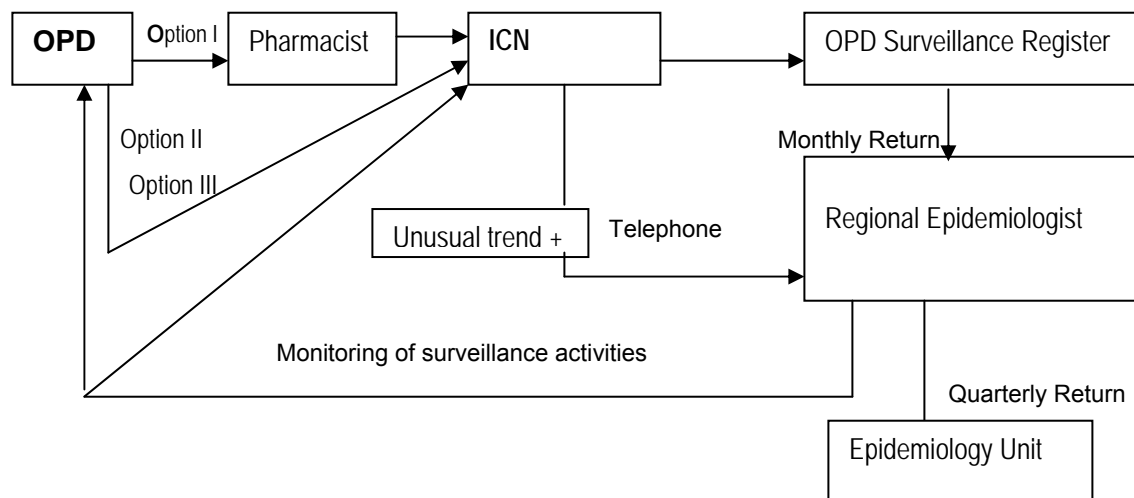
It should be noted that this surveillance will run parallel to the surveillance activities above described. Surveillance of Influenza and Influenza like Illness (ILI) has been established in the OPD of 20 identified sentinel sites (Annexure 22) for Influenza surveillance as part of the Avian Influenza Pandemic Preparedness activities.

Surveillance of Influenza and ILI at OPD also includes a laboratory component and the Specialist in Charge or the Medical Officer in Charge (MOIC) should decide on the cases from which samples are collected. The details of these cases should be obtained from the OPD registers by the ICN at the end of each day.

Out Patients' Departments in any health institution is invariably overcrowded and OPD staff is generally overburdened. Therefore introducing notification process in out patients' departments may not be straightforward and it could always backfire if the demands placed on the staff become more intense. To overcome these issues it is ensured that there would be minimum paper work required for the proposed process. All institutions would be given the autonomy to select any of the above 3 options or even another method that is more suited for the institution and its staff. Care should be taken to minimize the time spent on this additional process by the medical officers to avoid overburdening of the Out Patient Departments.

Figure III below shows the activity flow of the proposed OPD based fever surveillance system.

Figure III: OPD Based Fever Surveillance System



- The syndrome based OPD Surveillance is aimed at initiating surveillance of specified syndromes at OPD level. It is also expected to improve the notification of notifiable diseases within the OPD and to expedite the notification process.
- ICN is responsible for collection and entry of data, monitoring of collected information, sending a monthly return to the RE and to alert immediately on detecting unusual trends.
- The Regional Epidemiologist is responsible for monitoring the surveillance activities and to send a quarterly district return to the Epidemiology Unit.
- This surveillance activity is not expected to overburden the OPD activities.
- Quarterly meetings should be organized at hospitals by the ICN to discuss the surveillance data