Guideline for Diseases Surveillance
In Displaces Persons Camps
Thai-Myanmar border
Thailand 2008

Bureau of Epidemiology
Department of Disease Control
Ministry of Public Health
ACKNOWLEDGMENT
The guideline for Diseases Surveillance in Displaced Persons Camps, Thai-
Myanmar border Thailand 2008 has prepared by the Bureau of Epidemiology
in collaboration with WHO Thailand and WHO SEARO - CSR subunit and the
International Non-Governmental Organizations providing medical services in
the camps.

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### Abbreviations

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<th>Full Form</th>
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<tr>
<td>AFP</td>
<td>Acute Flaccid Paralysis</td>
</tr>
<tr>
<td>AMI</td>
<td>Aide Medicale Internationale</td>
</tr>
<tr>
<td>ARC</td>
<td>Arc International</td>
</tr>
<tr>
<td>BOE</td>
<td>Bureau of Epidemiology</td>
</tr>
<tr>
<td>DHO</td>
<td>District Health Office</td>
</tr>
<tr>
<td>IRC</td>
<td>International Rescue Committee</td>
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<tr>
<td>INGO</td>
<td>International Non-Governmental Organization</td>
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<tr>
<td>HAI</td>
<td>Human Avian Influenza</td>
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<tr>
<td>MI</td>
<td>Malteser International</td>
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<tr>
<td>MOPH</td>
<td>Ministry of Public Health</td>
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<tr>
<td>ODPC</td>
<td>Office of Disease Prevention and Control</td>
</tr>
<tr>
<td>PHO</td>
<td>Provincial Health Office</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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In 2001, the Ministry of Public Health and several nongovernmental organizations (NGOs) started a collaboration to strengthen surveillance and control of outbreak prone diseases inside the camps for displaced persons. The system covers nine camps located in four of Thai provinces (Ratchaburi, Kanchanaburi, Tak and Mae Hong Son). Since the project began, both disease patterns and the general population characteristics within these areas have been continually changing. In order to catch up with the situation within these populations, the system required a revision.

The following guideline was developed by the Ministry of Public Health, Bureau of Epidemiology with input and consultation from NGOs, local health authorities and WHO office, and was completed in August, 2008. It aims for early detection and appropriate response to major diseases outbreak in the camps.

The new guidelines include revision and re-prioritized the list of diseases under surveillance and introduces simple thresholds for outbreak detection. It also includes new case definitions and revised instructions for responding to outbreaks. Contact list covering both MOPH and NGO offices and responsible officials and feedback instructions were provided. To allow prompt response, the reporting period has been adjusted from monthly to weekly.

We hope this guideline will help strengthen collaboration among all staff and agencies involved and protect displaced persons from priority infectious diseases. Thank you very much for staff of the ministry and NGOs and WHO office in Thailand who participate in this work.

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Surveillance System of Priority Diseases in the Displaced Persons Camps, Thailand.

I. BACKGROUND:

The Ministry of Public Health, in collaboration with International Non-Governmental Organizations providing health services to displaced populations in four provinces along the Thai Myanmar border, developed a communicable diseases surveillance system. The system, which has been in place since 2001, aims to detect early diseases outbreaks within the population living in the camps. The system includes a list of priority diseases and the respective case definitions for surveillance.

Through the years, the system provided a valuable tool to detect outbreaks in the camps. However, in some cases, late detection still take place. Additional, diseases occurred which were not in the surveillance list so far but become more imminent and therefore, making it difficult for those health workers assigned to do proper recording and reporting. Such occurrences exist especially in environments with large mobile population such as at the Thai Myanmar border.

Thai change in disease patterns/epidemiology and the characteristic of the population made it necessary to review the current surveillance system and to adapt accordingly. The review emphasized on revising/re-prioritizing the list of priority diseases under surveillance, revision of case definitions and developing thresholds for early outbreak detection, among others.

II. Objectives:

1. To ensure timely detection, response and control of outbreak in the displaced persons camps in Thailand

2. To monitor trends of communicable diseases in the displaced persons camps in order to allow appropriate public health response.

III. Targets Population:

All displaced people living in the nine displaced persons camps in the four provinces of Thailand bordering Myanmar namely Ratchaburi, Kanchanaburi, Tak and Mae Hong Song. The following is the list of camps.

1. Ban Tham Hin, Suanphung District, Ratchburi Province
2. Ban Don Yang, Sangklaburi District, Kanchanaburi Province
3. Ban Nu Poh, Umphang District, Tak Province
4. Ban Um Piem, Phopra District, Tak Province
5. Ban Mae La, Tha Song Yang District, Tak Province
6. Ban Mai Nai Soi, Muang District, Mae Hong Son Province
7. Ban Mae Surin, Khun Youm District, Mae Hong Son Province
8. Ban Mae La Oon, Sop Meiy District, Mae Hong Son Province
9. Ban Mae La Ma Laung, Sop Meiy District, Mae Hong Son Province

**IV. Diseases Under Surveillance and Thresholds:**

**Alert based on absolute value:**

The following diseases, one case or one death should be considered a signal to trigger an investigation:

1. Avian Influenza
2. Suspect cholera (Severe acute watery diarrhoea)
3. Suspect measles
4. AFP/suspected poliomyelitis
5. Suspected meningitis/encephalitis
6. Severe case or death of unknown etiology from any suspected cause of infectious disease

**Alert based on statistical cut-off:**

An increase in the number of cases above a given threshold - mean or median cases per week calculated over the last three years of the following diseases indicate a potential outbreak.

7. Acute Jaundice
8. Dengue infection
9. Watery diarrhoea
10. Acute bloody diarrhoea
11. Malaria
V. Case Definitions and Outbreak Response:

1. Human Avian Influenza (HAI)

CASE DEFINITIONS

There are three case classifications of human avian influenza (HAI): suspect, probable and confirmed.

1.1 Suspect HAI

The definition of suspect case is further divided into two depending on the situation of Avian influenza (human and poultry) in the camp or surrounding area.

A. No poultry outbreak or unusual poultry deaths in the camp or surrounding area,* and no human cases

Suspected: an individual admitted to the inpatient department or referred to an outside hospital, who has a history of fever or a current fever of \( \geq 38^\circ C \)

- and at least one of the following symptoms: muscle pain, cough, breathing difficulty, or shortness of breath or physician/medic-diagnosed pneumonia or influenza
- and a history of direct contact with sick or dead poultry in the last 7 days inside or outside the temporary shelter.

Suspected case of AI in situation of no unusual poultry deaths * and no human cases:

- Patient sick enough to be admitted to IPD or referred to an outside hospital
- History of fever or current fever of \( 38^\circ C \) or greater
- Muscle pain OR Cough OR Breathing difficulty OR Shortness of breath OR Physician or medic-diagnosed pneumonia or influenza
- History of direct contact with sick or dead poultry or their feces in the last 7 days inside or outside the temporary shelter

*Assumes an ongoing and adequate poultry surveillance system within the camp, and surrounding area, i.e, district or sub-district.
B. presence of a poultry outbreak or unusual poultry deaths* in the camp or surrounding area; or any human case

**Suspected**: an individual who has a history of fever in past 3 days or a current fever of \(\geq 38^\circ C\)
- and at least one of the following symptoms: muscle pain, cough, breathing difficulty, or shortness of breath or physician/medic-diagnosed pneumonia or influenza
- and a history of direct contact with sick or dead poultry in the last 7 days inside or outside the temporary shelter

Suspected case of AI in situation of unusual poultry deaths * or any human cases

**Definition of Suspected Avian Influenza in animal or Unusual Poultry Death**
Poultry with:
- Acute sudden death
- Respiratory symptom: difficulty breathing, swollen face, lacrimation
- Neurological symptom: convulsion, twisted neck
- Diarrhea, depression, stop eating, drop in egg production etc.
- OR
- Unusual death of poultry: at least 5% mortality of backyard poultry
- OR
- sudden poultry deaths from 5 households in community health workers catchment area within 2 days

*Assumes an ongoing and adequate poultry surveillance system within the camp, and surrounding area, i.e, district or sub-district
1.2 Probable HAI
Probable HAI refers to a suspected case who

- develops signs and symptoms of acute respiratory failure (hypoxemia and/or hypercapnia, which may require mechanical ventilation), or
- dies from acute respiratory failure or
- has preliminary laboratory test positive for influenza A infection

![Probable case of AI diagram](image)

**Suspected case**

**AND**

- Signs and symptoms of *acute respiratory failure*
  - **OR**
    - Death from *acute respiratory failure*
  - **OR**
    - Preliminary laboratory diagnosis of Influenza A

1.3 Confirmed HAI
Confirmed HAI refers to a suspect or probable case who has a final laboratory confirmation of influenza A (H5), through at least one of the following methods:

- Single real-time PCR method using
  - 2 primer/probe sets, or
  - specimens collected from at least 2 different locations (such as throat swab and nasopharyngeal aspirate, etc.), or
  - using at least 2 specimens collected during different periods of illness), or
- Viral culture, or
- Neutralization test (4-fold increase in neutralizing antibody titer between acute and convalescent sera)

![Confirmed HAI diagram](image)

**Suspected or probable case**

**AND**

- Confirmation of Influenza A (H5) by

  - **OR**
    - Single real-time PCR
  - **OR**
    - Positive viral culture
  - **OR**
    - Positive neutralization test (4 fold rise in antibody titer between acute and convalescent sera)
**Outbreak Response**

- All patients admitted to the IPD should be screened for human avian influenza at the time of admission by using HAI screening form. (Annex 3)
- Isolation of patients (and close contacts) while case investigation is ongoing.
- Refer suspected case to district or provincial hospital.
- The hospital sends nasopharyngeal swab samples to the National Institute of Health (NIH), Department of Medical Science, Ministry of Public Health which will report the finding within 2 days after receiving.
- Conduct case investigation and contact case finding by using suspected or probable human avian influenza case investigation form. (Annex 3)
- Contact tracing of family members or intimate closed contacts for 10 days to complete the course of surveillance.
- Check for abnormal poultry death in border camp (≥ 5 % mortality of backyard poultry OR sudden poultry deaths from 5 households in community health workers catchment area in 2 days) and put in place effective culling for infected poultry and their products.
- All dead from pneumonia, specimens should be collected and sent for avian influenza testing.

**2. Cholera**

**Case Definitions**

**Suspected cholera case:** severe acute watery diarrhoea with severe dehydration in a patient older than five years of age.

**Confirmed cholera case:** isolation of *Vibrio cholera* O1 or O139 from diarrhoeal stool sample.

**Outbreak Response**

- Laboratory confirm of the first 10 – 20 cases to ascertain a cholera outbreak, then use clinical case definition to detect case; however it is not necessary to take a sample from every patient with acute diarrhoea.
- Individual case investigation should be done to seek for food and water intake during 5 days before ill and contact cases finding for the first group until finding the source of the outbreak. (See Case Investigation Form in Annex 3)
- If possible, take a few samples randomly during the outbreak to make sure that the antimicrobial sensitivity pattern of the pathogen has not changed, and collect about 20 stool samples to confirm the end of the outbreak.
- Strengthen the living environment and food sanitation.
- Health education activities should stress the importance of specific messages concerning food preparation, storage, and consumption.
3. Measles

**Case Definitions**

**Suspected measles case**: fever **and** maculopapular (i.e. non-vesicular) rash **and** cough, coryza (i.e. runny nose) **or** conjunctivitis (i.e. red eyes).

**Confirmed measles case**: presence of measles-specific IgM antibodies.

**Final classification of measles cases**

- **Adequate blood specimen**: IgM negative → Discard
- **IgM positive**: Laboratory confirmed
- **Epidemiologic link to laboratory confirmed case**: Epidemiologically confirmed

**No epidemiologic link to laboratory confirmed case**: Clinically confirmed

**Suspect Measles cases**

- **No adequate blood specimen**: Adequate blood specimen
- **No adequate blood specimen**

Source: WHO-recommended standards for surveillance of selected vaccine-preventable diseases.

**Outbreak Response**

- Collect blood specimens (3 – 5 ml.) to detect antibody to measles, and send to provincial hospital or the National Institute of Health (NIH), Department of Medical Science, Ministry of Public Health base on condition of cold chain system (4 – 8° C) for serology test. Specimens transported by mail or stored more than four hours should be separated from the clot and placed into a transport tube.

- A second sample may occasional be required:
  - The first sample submit for IgM was collected within 3 days of rash onset and is negative for ELISA
  - The measles IgM capture Elisa gives equivocal result

- The case should be immediately isolated to minimize any possible ongoing transmission.

- Investigates all suspected measles cases to confirm the diagnosis, identify the source of infection, identify other cases, and to identify and protect susceptible contacts in the community. (See Case Investigation Form in Annex 3)

- Protection of susceptible contacts of a measles patient with MMR within 72 hours of first contact if get benefit.

- Prophylaxis for contacts under 12 months of age
  - Infants less than six months of age should not be given MMR and should not be offered immunoglobulin unless the mother is
a case, or the mother has been tested and found to have no measles immunity.

- Infants six to nine months of age should not be given MMR but should be offered immunoglobulin if within seven days from first contact with a case.
- Infants between nine and twelve months of age should be offered early MMR if within 72 hours of first contact with a case, and receive a further dose at 12 months of age or four weeks after the first dose, whichever is later. This second dose does not replace the routine dose of MMR at four years but is given because children under 12 months have a lower likelihood of becoming immune (seroconverting) after measles vaccination.
- If contact with the infectious case occurred between 72 hours and seven days, immunoglobulin should be offered.

4. Acute Flaccid Paralysis (AFP)

AFP is defined as acute onset of flaccid paralysis without obvious cause (such as severe trauma or electrolyte imbalance) in child aged < 15 years, or if there is paralytic illness in which polio is suspected in a person of any age. Surveillance of AFP, including immediate case investigation, and specimen collection are critical for the detection of wild poliovirus circulation with the ultimate objective of polio eradication.

**Case Definitions**

Acute flaccid paralysis including Guillain-Barre Syndrome among children aged less than 15 years and all cases of suspected poliomyelitis among persons of any age.

Confirmed case: laboratory-confirmed wild poliovirus in stool sample.

**Final classification scheme for AFP cases**

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Source: WHO-recommended standards for surveillance of selected vaccine-preventable diseases.
OUTBREAK RESPONSE

- Collect 2 stool samples within 14 days after onset of paralysis (each stool sample should be more than 8 grams, the interval between 1st and 2nd stool samples should more than 24 hours) and send to the National Institute of Health (NIH), Department of Medical Science, Ministry of Public Health (under PHO support) base on condition of cold chain system.
- AFP case must be investigated within 48 hours after preliminary diagnosed. The poliomyelitis case investigation form ((AFP3/40) (in Annex 3) must be send to DHO, PHO and Bureau of Epidemiology within 2 weeks.
- Outbreak response immunization (ORI) must be conducted within 72 hours after a case is described to be AFP:
  - If the age of AFP case ≤ 5 years, OPV must be given to all children age ≤ 5 years in the camp.
  - If the age of AFP case > 5 years, OPV must be given to all children aged equal or less than the AFP case in the camp.
- 60 days follow up of AFP case is necessary, the 60 days follow-up record form (AFP3/FU/40) have to be send to Bureau of Epidemiology.

Process of acute flaccid paralysis surveillance

Source: WHO. Making surveillance work. Module 3: Logistics
5. Meningitis/Encephalitis

**Case Definitions**

**Suspected meningitis/encephalitis case:** sudden onset of fever (>38.0 °C) and one of the following: neck stiffness, altered consciousness, other meningeal sign or petechial/purpural rash.

In children <1 year, meningitis is suspected when fever is accompanied by a bulging fontanelle, altered consciousness or irritability.

**Confirmed meningitis/encephalitis case:** positive cerebrospinal fluid antigen detection or positive cerebrospinal fluid culture or positive blood culture.

**Outbreak Response**

- Collect CSF specimen from the patient and send to community hospital or provincial hospital to confirm diagnosis (isolation of Neisseria meningitidis.)
- Active case finding. (See Case Investigation Form in Annex 3)
- Antimicrobial prophylaxis should be performed in only closed contact (see definition below), drug of choice may be one of the following:
  - Rifampicin administered twice daily for 2 days: children < 1 month old, 5 mg/kg; children > 1 month old, 10 mg/kg; adult 600 mg/dose.
  - Ceftriazone intramuscular single dose: age < 15 years, 125 mg; age > 15 years, 250 mg
  - Ciprofloxacin administered single dose in adult, 500 mg

**Close contact** are defined as: household contacts (i.e. persons sleeping in the same dwelling as the case), person close enough to have share eating utensils e.g., close friends or health care worker who expose with discharges from the nose and throat during 7 days before onset of illness.

- Mass chemoprophylaxis to prevent/control epidemics is not recommended.
- Immunization of the at risk group should be considered if an outbreak occurs in a large community setting in which the cases are due to serogroup A and C.

6. Acute Jaundice

**Case Definitions**

Acute onset of yellow eyes or skin and absence of known predisposing factors.

Suggested diseases: viral hepatitis, leptospirosis
**Outbreak Response**

- Active case finding to enable prompt treatment. (See Case Investigation Form in Annex 3)
- Identify and control the source of infection (e.g. open sewers, contaminated wells).
- Public information to people at risk (including clinicians and health care workers and health authorities).

**7. Dengue Infection**

**Case Definitions**

Acute onset of fever (less than 7 days) with at least two of the following: headache, pain behind the eyes, myalgia & arthralgia (severe body pain), haemorrhagic signs (purpuric rash, vomiting with blood, cough with blood, blood in stool, epistaxis including tourniquet test positive).

**Outbreak Response**

- Finding contact cases and source of infection by determine patient’s place of residence and history of traveling 14 days before onset of illness and search for undiagnosed cases. (See Case Investigation Form in Annex 3)
- Survey community to determine the density of vector mosquitoes.
- Destroy mosquitoes and mosquito breeding grounds by apply larvicide and insecticide spraying in patient’s house and 100 metres in radius at least 2 round in 7 – 10 days interval.

**8. Watery Diarrhoea**

**Case Definitions**

Passage of 3 or more loose or watery stools in the past 24 hours with or without dehydration.

**Outbreak Response**

- Active case finding and immediate specimen collection for laboratory confirmation. (two types of emergencies regarding acute diarrhoea exist are cholera and shigella dysentery). (See Case Investigation Form in Annex 3)
- Find and treat the source of transmission as soon as possible.
- Strengthen the control of chlorination in general water system from catchment to consumer.
- Improve sanitation and sewage disposal
- Health education activities should stress the importance of specific messages concerning food preparation, storage, and consumption.
9. Acute Bloody Diarrhoea

**Case Definitions**

Passage of 3 or more loose or watery stools in the past 24 hours with or without dehydration and with visible blood in the stool.

Confirmed case of epidemic bacillary dysentery: isolation of Shigella dysenteria type 1 through stool culture and serology from a suspected case.

**Outbreak Response**

The same as watery diarrhoea.

10. Malaria

**Case Definitions**

Positive laboratory test for malaria parasites (blood film or rapid diagnostic test)

**Outbreak Response**

- Immediate investigation to determine the cause, effect and the potential magnitude of the epidemic. (See Case Investigation Form in Annex 3)
- Control measures must be implemented immediately (within one week) if a falciparum malaria epidemic is confirmed. (Note: a vivax epidemic may be followed by falciparum epidemic)

11. Severe case or death of unknown etiology from any suspected cause of infectious disease.

**Case Definitions**

Severe case or death of unknown etiology from any suspected cause of infectious disease other than 1-10 and HIV.

**Outbreak Response**

- Individual/serial case investigation to determine bacterial or biological etiology for diagnosis and linkage among case and other suspected cases. (See Case Investigation Form in Annex 3)
- Specimen collection for laboratory confirmation.
- Case isolation
- Closed surveillance by the same clinical manifestation of death case for at least 1 month.
- Proper personal protection of health care personnel.
VI. Reporting Mechanisms

To ensure early detection of an outbreak including early warning mechanism and rapid control, core activities; detection, confirmation, reporting, investigation, analysis and response (control, policy, feedback) are essential.

The following protocol is recommended

1. Designated reporting sites (all camps) should report the diseases to DHO via email and cc to PHO, ODPC, BOE, CCSDPT and WHO on a weekly basis (every Tuesday).

2. The absence of cases should also be reported as “zero reporting” on a weekly basis, to permit public health personnel to distinguish an area that is truly unaffected from one in which the communication system has failed.

3. Using outbreak alert form (OAF) (except human avian influenza screening form for avian influenza) to report all diseases including zero report. (Annex 1)

4. At each reporting site, data should be analyzed and interpreted regularly (on a weekly basis) to permit early identification of an outbreak and rapid response.

5. Individual NGOs should respond to an outbreak or epidemics detected and proceed with laboratory confirmation. Consult respective DHO if further support is need.

6. The criteria of investigation are:
   - One case or one death of the following diseases: suspected avian influenza, suspected cholera, suspected measles, AFP, suspected meningitis/encephalitis, severe case or death of unknown etiology from any suspected cause of infectious disease.
   - Outbreak or cluster of cases above a given threshold of the following diseases: acute jaundice, dengue infection, watery diarrhoea, acute bloody diarrhoea, malaria.

7. Summary of outbreak investigation should be sent to DHO via email and cc to PHO, ODPC, BOE, CCSDPT and WHO after ending of investigation.

8. Regular feedback of data summary from BOE, ODPC and PHO to peripheral levels should be ensured.
VIII. Flow of Surveillance Data and Report

Border camps

Detection

One case/one death  Cluster/above threshold  No case or cluster (zero report)

Outbreak Alert Form  Case Investigation Form

Reporting Via e-mail
Weekly (Tuesday)

DHO

PHO  ODPC  BOE  WHO

Outbreak Summary Report

Report of Outbreak Alert

Feedback via e-mail
REFERENCES:


2. ศูนย์ควบคุมโรคไข้หวัดใหญ่สำนักควบคุม ป้องกันและควบคุมโรคไข้หวัดใหญ่. ผู้จัดการปฏิบัติงานควบคุมโรคไข้หวัดใหญ่. พิมพ์ครั้งที่ 2, กรุงเทพมหานคร: โรงพยาบาลชุมนุมสภากาชาดแห่งประเทศไทย, 2549.


4. สถาบันวิจัยวิทยาศาสตร์สาธารณสุข กรมวิทยาศาสตร์การแพทย์. ผู้มีอำนาจเกี่ยวกับการควบคุมควบคุมโรคไข้หวัดใหญ่. พิมพ์ครั้งที่ 2, กรุงเทพมหานคร: บริษัทเทิร์นไฟนน์ จำกัด; 2546.

5. ศูนย์สุขภาพจิต บก. นิยามโรคและเหตุการณ์. พิมพ์ครั้งที่ 2, กรุงเทพฯ: โรงพยาบาลชุมนุมสภากาชาดแห่งประเทศไทย, 2546.


Annex 1
Outbreak Alert Form
Outbreak Alert Form

Name of Camp ………………… Province ………………… Agency …………………
Week No………… (from Sunday……/……/……to Saturday……/……/……)
Reporter………………………… Date of report (dd/mm/yy)……..…/……...../………….

Alert based on absolute value:

<table>
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<tr>
<th>Diseases</th>
<th>case</th>
<th>death</th>
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<tr>
<td>1.Avian Influenza</td>
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<tr>
<td>2.Suspect cholera</td>
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<tr>
<td>3.Suspect measles</td>
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<tr>
<td>4.AFP/suspect poliomyelitis</td>
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<tr>
<td>5.Suspect meningitis/encephalitis</td>
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<tr>
<td>6. Severe case or death of unknown etiology from any suspected cause of infectious disease</td>
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Alert based on statistical cut-off:

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<tbody>
<tr>
<td>7.Acute jaundice</td>
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<tr>
<td>8.Dengue infection</td>
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<tr>
<td>9.Watery diarrhoea</td>
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<tr>
<td>10.Acute bloody diarrhoea</td>
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<tr>
<td>11.Malaria</td>
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</table>

Zero report  [  ] No case (No.1-12) during this week

Response to the outbreak or epidemic detected

...............................................................................................................................................................
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Note: - Notify diseases or zero report before next Tuesday.
- Send this form via email to DHO, PHO and cc to ODPC, BoE (outbreak@health.moph.go.th), CCSDPT (ram@ccsdpt.org) and WHO (aree@searo.who.int)
Annex 2
Outbreak Summary Report
Outbreak Summary Report

Name of Camp …………………. Province………………. Agency ……………………..
Reporter………………………… Date of report (dd/mm/yy)…………/……../………….

1. Introduction or Background
   • Disease ……………………………………………………………………………………………
   • Index case: Age……… Sex……… Date of onset ……./……../………….
   • Investigation: Start ………/……../……../…….. Finish ………/……../………
   • Objective of investigation……………………………………………………………………
                                                                                     ………………………………………………………………………………………………………
                                                                                     ………………………………………………………………………………………………………

2. Results
   • Number of cases………………… Number of dead…………………………….
   • Age: from…………..to………….. Median age…………………………….
   • Sex: Male………………….…cases  Female…………………cases
   • Source of infection…………………………………………………………………………..
                                                                                     ………………………………………………………………………………………………………
   • Cause of outbreak…………………………………………………………………………..
                                                                                     ………………………………………………………………………………………………………
   • Risk factor……………………………………………………………………………………
                                                                                     ………………………………………………………………………………………………………
   • Laboratory finding…………………………………………………………………………..
                                                                                     ………………………………………………………………………………………………………
   • Number of contact…………………………………………………………………………..
   • Duration of outbreak: from ………/……../…….. to ………/……../………

3. Prevention and control measure
   • Control measure done……………………………………………………………………
                                                                                     ………………………………………………………………………………………………………
   • Outcome……………………………………………………………………………………
                                                                                     ………………………………………………………………………………………………………
4. **Prediction of outbreak**
- [ ] End of outbreak
- [ ] Subside
- [ ] Ongoing
- [ ] Others

5. **Summary of public health important**
- Burden of disease (Attack rate)
- Impact inside and outside camp

6. **Recommendation**
- Continuing control measure
- Additional control measure

---

Note: Send this form to PHO by FAX, and via email at outbreak@health.moph.go.th, (ram@ccsdpt.org) and (aree@searo.who.int) after ending of investigation.
Annex 3
Case Investigation Form
Human Avian Influenza Screening Form

Patients name ___________________ Age ______ Sex ______
Address (section/zone/house #) __________________
Date of admission ____________

1. Temperature >38°C or history of fever
   ☐ Yes  ☐ No

2. History of cough
   ☐ Yes  ☐ No

3. History of breathing difficulty or shortness of breath
   ☐ Yes  ☐ No

4. Risk assessment
   4.1 History of contact with sick or dead poultry (chicken, duck, etc.) or their feces in the past 7 days inside or outside the temporary shelter
   ☐ Yes  ☐ No

Note:
Any patient /individual who has fever and if the answer for question # 2 or 3 is YES plus one of risk assessment question YES, inform the medics or camp doctors immediately
Avian Human Influenza Case Investigation Form

Name of reporter______________________________________________  
Name of CHW responsible for the area _____________________________  
Date of report ____ /____ / 20___   Time of report _____  q a.m.  q p.m.

1. Demographic data
Name and surname ______________ Sex  q Male  q Female  q Unknown  
Age ______ years (if less than 1 year enter number of months)  
Ethnicity q Karen  q Karenni  q Shan  q Mon  
q Burmese  q Other (specify) __________________
Camp ___________Section ________ Zone ______ House number________
Number of people in the patient’s household, including patient ___  
Number of people <15 years of age in patient’s household, including patient ___  
Patient’s most recent arrival in camp ____ /____ /______ (dd/mm/yyyy)
If patient arrived in camp less than 2 weeks ago, or if the patient left camp during the 2 weeks before getting sick, where did patient stay during the week before arriving? __________________________________________

2. Signs and Symptoms:
Date of onset of illness ____ /____ /______ (dd/mm/yyyy)  
Date of inpatient or hospital admission ____ /____ /______ (dd/mm/yyyy)  
Admitted to:  q camp IPD  q outside hospital (specify name, location)  

Please indicate which of the following symptoms are reported:
Muscle pain  q Yes  q No  q Unknown  
Cough  q Yes  q No  q Unknown  
Difficulty breathing  q Yes  q No  q Unknown  
Shortness of breath  q Yes  q No  q Unknown  
History of fever  q Yes  q No  q Unknown  
Record the patient’s body temperature _____ºC  q rectal  q oral  
q axillary  q tympanic

3. Risk factors   To be filled by CHW after home visit
Does patient or patient’s family keep:  
Chicken  q Y  q N  
Geese  q Y  q N  
Ducks  q Y  q N  
Birds  q Y  q N  
Others specify __________
If yes, indicate which, if any, of patient’s or family’s animals has been sick or died unexpectedly during the past 14 days?

- Chicken  Y  N  Geese  Y  N  Ducks  Y  N  Birds  Y  N  Others  specify __________

Have any chickens, ducks, geese, or wild birds died unexpectedly in the camp or village where the patient lived during the past 14 days?

- Y  N  Unknown

If answer is yes for the above two questions, ask for clinical signs in the sick or died animal

- Acute sudden death  Y  N  Unknown
- Difficulty of breathing  Y  N  Unknown
- Swollen face  Y  N  Unknown
- Lacrimation/excess eye discharge  Y  N  Unknown
- Convulsion or twisted neck  Y  N  Unknown
- Diarrhea  Y  N  Unknown

During the past 7 days, has the patient touched any animal (or the feces of any animal) listed below that was sick, or died unexpectedly?

- Chicken  Y  N  Geese  Y  N  Ducks  Y  N  Birds  Y  N  Others  specify __________

4. Contact cases finding:

During the 7 days prior to the onset of illness, has the patient been in contact (within touching or speaking distance) with:

- A confirmed human case of influenza A/H5 infection?  Y  N  Unknown
- A person with an unexplained acute respiratory illness that later resulted/results in death?  Y  N  Unknown
- Any other person for whom a diagnosis of influenza A/H5 is being considered?  Y  N  Unknown

5. Feedback from referral hospital to be reported by hospital doctors/nurses

Name of reporter________________ Telephone number _____________
Date of report ____ / _____ / 20___

- Did patient develop respiratory failure?  Y  N  Unknown
- Was patient mechanically ventilated?  Y  N  Unknown
- Was patient admitted to ICU?  Y  N  Unknown
- Recovered (includes persons discharged from hospital)  Y  N  Unknown
- Died  Y  N  Unknown
- Lost to follow-up  Y  N  Unknown
# Poliomyelitis Case Investigation Form

Name of Camp ........................... Province ......................... Agency ..............................
Reporter .............................. Date of report (dd/mm/yy) .....................

**Case identification:**
Name - Surname ........................... Age .............................. year/month
Sex  □ male  □ female
Parent’s name ........................... Relationship with case ..............................
How long that the patient move to the camp .............................. year .............................. month
Date of onset of illness .............................. / .................... / .............. (dd/mm/yyyy)
Date of inpatient or hospital admission .............................. / .................... / .............. (dd/mm/yyyy)
Admitted to:  □ camp IPD  □ outside hospital (specify name, location)

**Outcome**
□ Recovered (includes persons discharged from hospital)
□ Died
□ Lost to follow-up

**Signs & Symptom:**
Date of onset of symptoms ..............................

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<thead>
<tr>
<th>S &amp; S</th>
<th>yes</th>
<th>no</th>
<th>unk</th>
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</thead>
<tbody>
<tr>
<td>fever</td>
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</tr>
<tr>
<td>coryza</td>
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<tr>
<td>nausea</td>
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<td></td>
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<tr>
<td>irritability</td>
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<td></td>
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<tr>
<td>muscle pains</td>
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<td></td>
<td></td>
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<tr>
<td>weakness</td>
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<td></td>
<td></td>
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<tr>
<td>diarrhea</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>S &amp; S</th>
<th>yes</th>
<th>no</th>
<th>unk</th>
</tr>
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<tbody>
<tr>
<td>headache</td>
<td></td>
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<tr>
<td>sore throat</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>vomiting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stiff neck</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rigidness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>constipation</td>
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</tbody>
</table>

Date of onset of paralysis/paresthesias .............................. / .................... / .............. (dd/mm/yyyy)
with fever  □ Y  □ N  □ Unknown temp ..............................

<table>
<thead>
<tr>
<th>paralysis</th>
<th>yes</th>
<th>no</th>
<th>unk</th>
</tr>
</thead>
<tbody>
<tr>
<td>flaccid</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>asymmetrical</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>sudden onset</td>
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<tr>
<td>sensation loss</td>
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<tr>
<td>Kernig or brudinzki sign</td>
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</tr>
<tr>
<td>Babinski</td>
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</tbody>
</table>
### SITE OF PARALYSIS

<p>| | | |</p>
<table>
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<tbody>
<tr>
<td>left leg</td>
<td>respiratory muscles</td>
<td></td>
</tr>
<tr>
<td>left arm</td>
<td>face</td>
<td></td>
</tr>
<tr>
<td>right leg</td>
<td>other cranial nerves</td>
<td></td>
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<tr>
<td>right arm</td>
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</table>

### SITE OF PARESTHESIA

<p>| | |</p>
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<tbody>
<tr>
<td>left leg</td>
<td>right leg</td>
</tr>
<tr>
<td>left arm</td>
<td>right arm</td>
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</table>

#### Immunization history:

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<th>OPV</th>
<th>yes</th>
<th>no</th>
<th>unk</th>
<th>imm.card</th>
<th>date of immunization</th>
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<tbody>
<tr>
<td>zero</td>
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</table>

#### Preliminary clinical classification:

- Discarded Case
- Probable Case

If not polio, give final diagnosis and comments below.

- Final diagnosis
- Date (dd/mm/yyyy)
- Comments

#### Travel and contact history:

Indicate all places outside present village/city (including other countries) visited by the patient 28 days prior to onset of paralysis/paresthesia.

- Location
- Person(s) visited
- Date visited

Did the case come in direct contact with another household or close contact who was immunized within 75 days before paralysis/paresthesia?

- Y
- N
- Unk

- Name
- Address
- Date immunized
**Laboratory data:**
Name of laboratory: .................................................................
Address: ................................................................. Country: .................................

**Virus isolation studies:**
<table>
<thead>
<tr>
<th></th>
<th>Faeces/Swab 1</th>
<th>Faeces/Swab 2</th>
<th>Other ..........</th>
</tr>
</thead>
<tbody>
<tr>
<td>date collected</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>date sent to lab</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>date of lab result</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>polio virus isolated</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Type 1</td>
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<td>Type 2</td>
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<tr>
<td>Type 3</td>
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<tr>
<td>Other (specify)</td>
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**Serologic studies:**
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<th>Blood sample 1</th>
<th>Blood sample 2</th>
<th>Blood sample 3</th>
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<td>date collected</td>
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<td>Neutralization titer</td>
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<tr>
<td>Type 1</td>
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<td>Type 2</td>
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<td>Type 3</td>
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<td>Other (specify)</td>
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**Interpretation:** .................................................................................................................................
.................................................................................................................................

**CSF (Cerebrospinal Fluid):**
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<thead>
<tr>
<th>date</th>
<th>red cells</th>
<th>white cells</th>
<th>lymphocytes</th>
<th>glucose</th>
<th>protein</th>
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</table>
Poliovirus strain characterization results:

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<tr>
<th>Poliovirus type</th>
<th>Strain characterization method</th>
<th>Results</th>
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Other results and/or comments:

Autopsy: ☐ Yes ☐ No

Pathology laboratory:

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<tr>
<th>material</th>
<th>date collected</th>
<th>date sent</th>
<th>date of result</th>
<th>histopathology result (attach report)</th>
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Case follow up:

Was case seen 60 days after onset of paralysis?
☐ Yes, at date................. ☐ No, why.................. ....................................

Paralysis:

Paralysis present of 60 days or later ☐ No ☐ Yes, check site of paralysis
☐ left leg ☐ respiratory muscles
☐ left arm ☐ face
☐ right leg ☐ other cranial nerves
☐ right arm

Disability:

☐ cannot walk ☐ walks with assistance
☐ limps ☐ walks normally ☐ other

Did case die? ☐ No ☐ Yes, at date................. details........................

Report of neurologist: (attach if available, including electrodiagnostic results)

Summary of neurologist's report, including final diagnosis.................................

.................................................................

Date ......../......../........ Name of reporting physician ............................

Neurologist? ☐ Yes ☐ No
**Control measure:** (Include the date started, number of households searched, number of OPV doses given in children less than 5 years of age, date completed)

……………………………………………………………………………………………………………………………………………………………………………..

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……………………………………………………………………………………………………………………………………………………………………………..

**Final diagnosis:**

Specify diagnosis:  ✔️ Discarded  ✔️ Confirmed

Check all which apply:

- ✔️ Lab confirmed-virus
- ✔️ Lab confirmed-serology
- ✔️ Lab confirmed-virus and serology
- ✔️ Residual paralysis after 60 days
- ✔️ Wild virus indigenous
- ✔️ Death after compatible illness
- ✔️ Epidemiologic linkage
- ✔️ No follow-up
- ✔️ Vaccine associated
- ✔️ Imported

Observations: ………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………………………………………………………..

**************

Investigator:………………………………………… Position:……………………………………

Agency:…………………… Date of investigation:………………….Tel:……………………


# Case Investigation Form

Name of Camp .......................... Province......................... Agency ........................
Reporter................................ Date of report (dd/mm/yy)........../........../.......... 

1. **Patient identification**
   
   Name - Surname............................................. Age.............. year/month
   Sex  ☐ male  ☐ female
   
   Parent’s name...........................................(for children aged less than 15 years)
   Location (Zone/Section)..........................................................
   How long that the patient move to the camp ..........year  ..........month

2. **Clinical data**
   
   Date of onset (dd/mm/yy)...../...../...... Date of detection ....../....../........
   
   Signs and symptoms (select signs and symptoms detected from the patient)

| ☐ Abdominal pain | ☐ Headache | ☐ Shock |
| ☐ Bloody stool   | ☐ Loose stool | ☐ Skin rash |
| ☐ Chest discomfort | ☐ Mucous stool | ☐ Skin ulcer |
| ☐ Chill Cramp    | ☐ Myalgia   | ☐ Sore throat |
| ☐ Confusion      | ☐ Nausea    | ☐ Stiff neck |
| ☐ Conjunctivitis | ☐ Neck swelling | ☐ Stupor |
| ☐ Corysa         | ☐ Palpitation | ☐ Sweating |
| ☐ Cough          | ☐ Petechiae | ☐ Vomiting |
| ☐ Epistaxis      | ☐ Purpura | ☐ Watery stool |
| ☐ Erythema       | ☐ Retroorbital pain | ☐ White patch |
| ☐ Fever          | ☐ Seizures |
| ☐ Others specify |
3. **Laboratory finding:**

Sample……………………… Date taken ....../....../......  Lab received ....../....../......
Name of laboratory…………………………… Type of test……………………………
Date of result ....../....../......  Result  □ positive  □ negative

4. **Diagnosis**

Final diagnosis ……………………………………………………………………………………

Outcome  □ Admitted in the camp  □ Refer to hospital………
□ Recovered  □ Died  □ Other (specify)……………………

5. **Risk factor** (select factor related disease investigated)

□ Travel  Place……………………………… Located………………………………………
□ Malnutrition  weight………………kg.  grade………………………………………
□ Mosquito larva in water containers in patient’ s house
□ Crowed household environment
□ History of raw food consumption
□ History of animal contact
□ Others  specify………………………………………………………………………………

6. **Source of infection** (select answer that may be source of infection of disease investigated)

□ Food  name/source…………………………………………………………………………
□ Water  type/source………………………………………………………………………
□ Case  name…………………age………………sex………. date of onset…………
□ Pig  from……………………………………………………………………………………
□ Bat  from……………………………………………………………………………………
□ Pigeon from…………………………………………………………………………………
□ Others  specify……………………………………………………………………………….
### 7. Contact case finding

<table>
<thead>
<tr>
<th>Name-Surname</th>
<th>Section /Zone</th>
<th>Age</th>
<th>Sex</th>
<th>Lab specimen</th>
<th>Lab result</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
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Lab specimens:  
- B = Blood  
- S = Stool  
- C = CSF  
- U = Urine  
- O = Other  

Outcome:  
- A = Admitted in the camp  
- Rh = Refer to hospital  
- R = Recovered  
- D = Died  

### 8. Field investigator

Name........................................Position.............................................  
Date of investigation (dd/mm/yy)................../............./..............

Note: One form per case investigated  
Summarized result in outbreak summary report  
Send outbreak summary report to DHO by FAX, and via email at  
outbreak@health.moph.go.th, aree@searo.who.int,  
ram@ccsdpt.org
Annex 4
Contact Persons
<table>
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<tr>
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<th>Position</th>
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<tr>
<td>AMI</td>
<td>Mae La, Umpiem,</td>
<td>Epidemiologist</td>
<td>Dr Sein Hlaing</td>
<td><a href="mailto:th.medepidemio@amifrance.org">th.medepidemio@amifrance.org</a></td>
<td>055-543231</td>
</tr>
<tr>
<td></td>
<td>and Nu Po</td>
<td></td>
<td><a href="mailto:th.medepidemio@amifrance.org">th.medepidemio@amifrance.org</a></td>
<td></td>
<td>055-542949</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:drseinhlaing@gmail.com">drseinhlaing@gmail.com</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>055-543231</td>
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<tr>
<td>ARC</td>
<td>Don Yang</td>
<td>Medical Coordinator</td>
<td>Dr Saiful Quyyum</td>
<td><a href="mailto:arcsang@loxinfo.co.th">arcsang@loxinfo.co.th</a></td>
<td>034-595560</td>
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<tr>
<td></td>
<td>Umpiem, Nu Po</td>
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<td>Medical Officer</td>
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<tr>
<td>Mae Ra Ma Luang</td>
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<td>Ladda Phumrungroj</td>
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<td>08-1166-5663</td>
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<tr>
<td>CCSDPT</td>
<td>HIS Coordinator</td>
<td>Ram Sedhain</td>
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<td>053-278945</td>
<td>08-0685-1635</td>
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**WHO Thailand and SEARO CSR Sub-unit Bangkok Contact list**

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<tr>
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<th>Office</th>
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<tr>
<td>Dr Augusto Pinto</td>
<td>Epidemiologist</td>
<td><a href="mailto:pinto@searo.who.int">pinto@searo.who.int</a></td>
<td>02 591 5719</td>
<td>081 9215479</td>
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<td>Training Coordinator</td>
<td><a href="mailto:Bayugo@searo.who.int">Bayugo@searo.who.int</a></td>
<td>02 5915719</td>
<td>089 2014269</td>
</tr>
<tr>
<td>Mr Chawalit Tantinimitkul</td>
<td>National Communicable Disease Surveillance Officer</td>
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<td>02 5911506</td>
<td>081 9023482</td>
</tr>
<tr>
<td>Ms Aree Moungsookjareoun</td>
<td>Migrant HIS officer</td>
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<td>02 5915719</td>
<td>081- 8106816</td>
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# Ministry of Public Health Contact List

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<th>Name</th>
<th>Position</th>
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<th>Office</th>
<th>Mobile Phone</th>
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<tr>
<td><strong>Bureau of Epidemiology</strong>, Tel: 0-2590-1779, Fax: 0-2591-8579, <a href="mailto:outbreak@health.moph.go.th">outbreak@health.moph.go.th</a></td>
<td></td>
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<tr>
<td>Dr. Kumnuan Ungchusak</td>
<td>Director</td>
<td><a href="mailto:kum@health.moph.go.th">kum@health.moph.go.th</a></td>
<td>BOE</td>
<td>08-1932-1610</td>
</tr>
<tr>
<td>Dr. Wanna Hanchaoworakul</td>
<td>Doctor</td>
<td><a href="mailto:wanna@health.moph.go.th">wanna@health.moph.go.th</a></td>
<td>BOE</td>
<td>08-1442-7959</td>
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<tr>
<td>Mrs Ladarat Phatinawin</td>
<td>Health technical Officer</td>
<td><a href="mailto:ladarat@health.moph.go.th">ladarat@health.moph.go.th</a></td>
<td>BOE</td>
<td>08-9678-4618</td>
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<tr>
<td><strong>ODPC4 Ratchburi</strong>, Tel: 032-326268-71, Fax: 032-325225, <a href="mailto:crec_rbp@yahoo.com">crec_rbp@yahoo.com</a></td>
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<tr>
<td>Dr. Jarat Ariyarit</td>
<td>Director</td>
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<tr>
<td>Mr. Nikom Kasivitumnouy</td>
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<tr>
<td><strong>ODPC9 Pitsanulok</strong>, Tel: 055-214615-7 ext 124, Fax: 055-230673, <a href="mailto:rabadcdc9@yahoo.com">rabadcdc9@yahoo.com</a></td>
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<td>Miss Patchara Sridurongthum</td>
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<td>Mr. Phataradate Worasrihirun</td>
<td>Health technical Officer</td>
<td><a href="mailto:Phataradate@yahoo.com">Phataradate@yahoo.com</a></td>
<td>ODPC 9</td>
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<tr>
<td><strong>ODPC10 Chiang Mai</strong>, Tel: 053-281551, Fax: 053-281387, <a href="mailto:epinorth@yahoo.com">epinorth@yahoo.com</a></td>
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<tr>
<td>Dr. Boonnum Chaivisuth</td>
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<td><a href="mailto:boonnumchai@yahoo.com">boonnumchai@yahoo.com</a></td>
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<td>Mr. Phrutti Cheurwong</td>
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<td><a href="mailto:Phrutti25@hotmail.com">Phrutti25@hotmail.com</a></td>
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<td>Mr. Suphakorn Suprasit</td>
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<td><a href="mailto:Jeukojung@hotmail.com">Jeukojung@hotmail.com</a></td>
<td>Sangkhlaburi DHO</td>
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<td>Mr. Aukawut Supauksorn</td>
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<td>Suanphung DHO</td>
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<tr>
<td>Mr. Rungreung Denduongchai</td>
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<td><a href="mailto:dRUNGREUNG@hotmail.com">dRUNGREUNG@hotmail.com</a></td>
<td>Umphang DHO</td>
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<td>Tak, Tel: 055-518119, Fax: 055-512609, <a href="mailto:Chettha_63@yahoo.com">Chettha_63@yahoo.com</a></td>
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<tr>
<td>Dr. Patjubun Hemhongsra</td>
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