

9.4 Meningococcal Disease, Invasive

Etiology

Meningococcal disease is caused by *Neisseria meningitidis*, a Gram-negative, diplococcus. Meningococcal serogroups are classified according to the immunological reactivity of the capsular polysaccharide. There are 13 different serogroups (A, B, C, D, 29E, H I, K, L W-135, X, Y, Z). Serogroup A, B, C, Y and W-135 are most commonly associated with invasive meningococcal disease (IMD)

Case Definitions

Confirmed Case

Clinical evidence of invasive disease with laboratory confirmation of Infection with:

- Isolation of *Neisseria(N) meningitidis* from a normally sterile site (blood, cerebrospinal fluid (CSF), joint, pleural or pericardial fluid;
- OR**
- Demonstration of *N meningitidis* DNA by appropriately validated nucleic acid test (NAT) from a normally sterile

Probable Case

Clinical evidence of invasive disease with purpura fulminans or petechiae and no other apparent cause with:

- demonstration of *N meningitidis* antigen in the CSF
- OR**
- In the absence of isolation of *N meningitidis* or demonstration of DNA by appropriately validated NAT from a normally sterile

NOTE: All confirmed and probable cases are notifiable at the national level and ***immediately*** at the provincial level.

Primary Meningococcal Conjunctivitis Case*

Isolation of *N. meningitidis* from the eye or the conjunctival sac in association with purulent conjunctivitis

Meningococcal Pneumonia Case *

Clinical or radiological evidence of pneumonia with laboratory confirmation of infection

- Presence of gram-negative diplococci on a Gram stain and a polymorphonuclear cell response from sputum or respiratory aspirate

AND

Isolation with heavy growth of *N. meningitidis* from an appropriate respiratory specimen (e.g. sputum or respiratory aspirate)

* The management of close contacts of cases is the same as for close contacts of other invasive disease. The cases must be reported provincially.

Clinical Presentation

Invasive meningococcal (IMD) disease usually presents as meningococemia (sepsis), meningitis or both. Onset is often abrupt and progression of the disease rapid.

Meningococcal meningitis presents with fever, stiff neck, headache, photophobia, altered level of consciousness, and a rash that initially can be macular, maculopapular or petechial. Clinical findings in infants may be nonspecific such as lethargy, poor appetite, irritability, vomiting and bulging fontanel.

Meningococemia (meningococcal sepsis or bloodstream infection) is typically more severe and presents with sudden onset of fever, hemorrhagic rash (purpura fulminans) and rapid circulatory collapse.

In fulminant cases, purpura, limb ischemia, coagulopathy, pulmonary edema, shock (characterized by tachycardia, tachypnea, oliguria, and poor peripheral perfusion, with confusion and hypotension), coma, and death can ensue within hours despite appropriate therapy.

Less common manifestations of meningococcal infection include conjunctivitis, pneumonia, febrile occult bacteremia, septic arthritis and chronic meningococemia.

Diagnosis

See case definitions.

Investigations

Cultures of blood and cerebrospinal fluid (CSF) are indicated if IMD is suspected. Treatment should not be delayed if these samples cannot be obtained. If cultures are positive a PCR will be done. Typing may be requested.

Epidemiology

From 2005 to 2015, there was an average of 3 cases of invasive meningococcal disease (IMD) each year in Newfoundland and Labrador. Prior to the introduction of the meningococcal conjugate vaccine, IMD type C was the most predominant serotype. In recent years, IMD type B has been the most common serotype; accounting for about 64% of cases since 2005

Occurrence

Although IMD is rare, cases are reported year round with peaks in the winter season

Reservoir

Humans

Transmission

- Transmission is by direct contact with the secretions of the nose and throat of infected or

colonized individuals. Droplet transmission occurs when droplets containing microorganisms generated from an infected person are spread to another person during coughing, sneezing, and during the performance of intubation and bronchoscopy. The droplets are expelled up to one meter (3 feet) through the air and are deposited on the nasal or oral mucosa of the new host.

Incubation Period

The incubation period ranges from two to ten days with three to four days being the most common.

Communicability

The infectious period is considered to be seven days prior to the onset of symptoms until 24 hours after the initiation of appropriate antibiotic therapy. A person who is untreated or a carrier can spread the bacteria until meningococci are no longer present in discharge for the nose and mouth.

Control Measures

Management of a Case

In addition to Routine Practices hospitalized individuals should be managed on Droplet Precautions until 24 hours after the initiation of appropriate antibiotic therapy.

Treatment of a Case

The priority in management of meningococcal disease is treatment of shock in meningococemia and of raise intracranial pressure in severe cases of meningitis.

Treatment with antibiotics and follow up is under the direction of the attending healthcare provider. Empiric therapy should include an extended spectrum cephalosporin such as cefotaxime or ceftriaxone. Penicillin G (IV) is the drug of choice once microbiologic diagnosis is established.

To ensure eradication of *N. meningitidis* nasopharyngeal carriage cases who did not receive treatment using a third generation cephalosporin such as cefotaxime or ceftriaxone should also receive chemoprophylactic antibiotics prior to discharge from hospital.

Management of Contacts

- Identify Close Contacts (See table 1)
- Provide education on the signs and symptoms of IMD (Appendix 6)
- Chemoprophylaxis:
Close contacts should have chemoprophylaxis initiated within 24 hours of identification of the index case. Prophylaxis given after 14 days of exposure has little value.
Chemoprophylaxis is not recommended for casual contacts or persons without direct contact with the case. HCWs without direct exposure to a patient's infectious respiratory droplets/secretion, such as those providing general medical care, do not require prophylaxis. The choice of prophylactic agent will be at the advice of the MOH or an Infectious Disease Specialist (Appendix 6). Rifampin, ceftriaxone, and ciprofloxacin are appropriate drugs for

chemoprophylaxis in adults; rifampin is the drug of choice for most children (Appendix 7 & 8).

Table 1: Chemoprophylaxis for Contacts of People with Meningococcal Disease

Type of Contact		Chemo-prophylaxis
Close Contacts	Household contacts of the case, especially young children	Yes
	Children and staff in child care and nursery school facilities	Yes
	Persons who share sleeping arrangements with the case	Yes
	Direct exposure to index case's nose or mouth with oral or nasal secretions (e.g. kissing or through sharing toothbrushes, cigarettes, eating utensils or water bottles)	Yes
	Health care workers (HCW) who have had intensive unprotected contact (without wearing a mask) with infected patients (e.g. intubating, suctioning resuscitating or closely examining the oropharynx)	Yes
	Airline passengers sitting immediately on either side of the case but not across the aisle) when the total time spent aboard the aircraft was at least 8 hours	Yes
Low Risk	Casual Contact: No history of direct exposure to the index case's oral secretions (egg., school or work)	No
	Indirect contact: Only contact is with a high-risk contact, no direct contact with the index case	No
	Health care worker without direct exposure to the index case's oral/respiratory secretions	No

- Immunoprophylaxis

The Medical Officer of Health will make recommendations for meningococcal vaccination following a case of invasive meningococcal disease. The decision to vaccinate will be determined by the serogroup of the case and whether it is a sporadic case or an outbreak. Conjugate vaccines differ from the purified polysaccharide vaccines in that they can be given to children <2 years of age and provide a longer duration of protection. Vaccine protection against serogroup B is available upon consultation with the MOH. Additional information is provided in the Canadian Immunization Guide (2006).

Notification

When a clinical case is suspected or a case is laboratory confirmed **the attending physician must report the case immediately, by phone, to the MOH**. The MOH will involve the Communicable Disease Control Nurse (CDCN) and the Infection Control Practitioner (ICP). Invasive meningococcal disease is reportable to the regional Medical Officer of Health (MOH), to the Provincial Department of Health and Community Services and to the Public Health Agency of Canada (PHAC). The CDCN is responsible for ensuring

the data is entered into the database and the Provincial Public Health – Disease Control division is responsible for submitting the data to PHAC. The Public Health Laboratory provides a weekly report of any identified cases to the provincial office.

Management of Outbreaks

Regardless of the type of outbreak, contact tracing, identification of close contact and provision of chemoprophylaxis to close contacts are key strategies that must receive immediate attention. When an outbreak of IMD is suspected, an outbreak management team (OMT) should be assembled to determine and coordinate the course of action necessary. The management of an outbreak is a regional responsibility. If an outbreak occurs in **more than one region**, the Communicable Disease Control and the CMOH of HCS will become involved in the coordination of the outbreak. The regional outbreak team(s) will work with the Province to ensure a consistent and coordinated approach.

For further guidance on outbreak management please see the HCS **Outbreak Management Protocol** at

http://www.health.gov.nl.ca/health/publications/diseasecontrol/S10_Outbreak_Protocol.pdf

Education and Preventive Measures

- Immunize as per the Immunization schedule for Newfoundland and Labrador
http://www.health.gov.nl.ca/health/publichealth/cdc/S2_Routine_Imztn_Schedules_060116.pdf
- Immunization may be recommended for travelers as found at
www.phac-aspc.gc.ca/publicat/ccdr-rmtc/09vol35/acs-dcc-4/index-eng.php

Reporting Requirements and Procedures

Invasive meningococcal disease is reportable to the regional Medical Officer of Health (MOH), the Provincial Department of Health and Community Services and the Public Health Agency of Canada (PHAC).

When a clinical case is suspected or a case is laboratory confirmed the attending physician must report the case **immediately**, by phone, to the MOH.

The MOH will involve the Communicable Disease Control Nurse (CDCN) and the Infection Control Practitioner (ICP).

The CDCN is responsible for ensuring the data is entered into the database (Information required for the case report is included in Appendix 1) and the Provincial Public Health – Disease Control division is responsible for submitting the data to PHAC.

The Public Health Laboratory provides a weekly report of any identified cases

Provincial Disease Control

- Coordinates the response if an outbreak across RHAs

References

Public Health Agency of Canada. (2013). Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare. Settings.

Public Health Agency of Canada. (2005). Guidelines for the prevention and control of meningococcal Disease. *CCDR*, 31S2, 1-20.

Centers for disease Control and Prevention, Department of Health and Community Services .Prevention and Control of Meningococcal Disease – Recommendations of the Advisory committee on Immunization Practices (ACIP). *MMWR* 2013/vol62/No 2

American Academy of Pediatrics Red Book 2012

Public Health Agency of Canada Pan-Canadian Public Health Network. The Recommended Use of the Multicomponent Meningococcal (4CMenB) Vaccine in Canada March 26 2104

Alberta Health and Wellness Public Health Notifiable Disease Management Guidelines September 2014 Meningococcal Disease, Invasive (IMD)

<http://www.health.alberta.ca/documents/Guidelines-Meningococcal-Disease-Invasive-2014.pdf>

Infectious Diseases Protocol Appendix A: Disease-Specific Chapters Chapter: Meningococcal disease, invasive Revised January 2014

http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/meningoccal_chapter.pdf

World Health Organization. <http://www.who.int/csr/disease/meningococcal/en/index.html>

APPENDIX 1

Enhanced IMD Surveillance Form (for entry into CDC database)

Date of report: _____/_____/_____ Provincial ID: _____ NML ID# _____ Province _____
 * YYYYY MM DD (*all dates must be in this format)

Patient Name: _____ MCP _____

Parent's Name (if child): _____ DOB: _____

Age at diagnosis: _____ Sex: M F unknown School: _____

Address: _____ Phone #: _____

Episode Type (check first available date hierarchically) Date: _____: Onset date
 Clinical

Diagnosis Date Specimen Collection Date Laboratory test result date Report date

Regional Health Unit: _____ Travel Associated Yes No Unknown

Travel Details: _____

Case Type: Confirmed Case Probable Case

<p>Clinical Diagnosis (Check all that apply)</p> <p><input type="checkbox"/> Meningitis <input type="checkbox"/> Meningococemia</p> <p><input type="checkbox"/> Other IMD _____</p>	<p>Outcome: <input type="checkbox"/> Recovered <input type="checkbox"/> Died <input type="checkbox"/> Unknown</p> <p>If died, date of death: _____/_____/_____ YYYYY MM DD</p>
<p>Meningococcal Immunization Status only:</p> <p><input type="checkbox"/> Complete course <input type="checkbox"/> Course Incomplete</p> <p><input type="checkbox"/> No Immunization <input type="checkbox"/> Unknown</p> <p>Vaccine type: _____ # of doses: _____</p>	<p>Date of last meningococcal immunization: _____/_____/_____ YYYYY MM DD</p>
<p>Laboratory Information</p>	
<div style="border: 1px solid black; padding: 2px; width: fit-content;">† Bacterial culture positive</div>	<div style="border: 1px solid black; padding: 2px; width: fit-content;">† PCR Positive</div>
<div style="border: 1px solid black; padding: 2px; width: fit-content; margin-left: auto;">† Antigen detection positive</div>	
<p><input type="checkbox"/> All laboratory tests negative <input type="checkbox"/> Laboratory testing not done <input type="checkbox"/> Other _____ <input type="checkbox"/> Unknown</p>	
<p>Specimen: <input type="checkbox"/> Blood <input type="checkbox"/> CSF <input type="checkbox"/> Pleural Fluid <input type="checkbox"/> Eye discharge <input type="checkbox"/> Other _____</p>	
<p>Serogroup: <input type="checkbox"/> Group A <input type="checkbox"/> Group B <input type="checkbox"/> Group C <input type="checkbox"/> Group W-135 <input type="checkbox"/> Group Y</p> <p><input type="checkbox"/> Group Z <input type="checkbox"/> Non –Groupable <input type="checkbox"/> Other _____ <input type="checkbox"/> Unknown</p>	
<p>Serotype: _____ <input type="checkbox"/> Unknown</p> <p>Serosubtype: _____ <input type="checkbox"/> Unknown: ET Profile: _____ <input type="checkbox"/> Unknown</p>	

APPENDIX 2

Meningococcal Disease-Health Professional's Fact Sheet

CLINICAL MANIFESTATIONS:

Meningococcal disease usually presents as a sudden-onset, febrile illness with features of meningitis or meningococemia (bloodstream infection) or both.

- The most common symptoms of meningitis are stiff neck, high fever, sensitivity to light, headaches, vomiting and a characteristic rash
- Meningococemia is less common but often more severe form of disease which is characterized by the rash and a rapid circulatory collapse

INFECTIOUS AGENT:

Neisseria meningitidis, a gram-negative diplococcus is the causative organism.

- This bacteria inhabits the mucosal membrane of the nose and throat, where it usually causes no harm
- Up to 5 – 10 % of a population maybe asymptomatic carriers

EPIDEMIOLOGY IN CANADA:

Invasive meningococcal disease is endemic in Canada.

- The overall incidence of disease has remained at 0.58/100,00 per year. The incidence rate has been highest among children ≤ 1 (7.35:100,000) year of age followed by 1-4 year olds (1:89) and 15 - 19 year olds (1:17) group
Serogroups B remains predominant

MODE OF TRANSMISSION:

Transmission occurs from person to person through droplets from the respiratory tract.

- Close and prolonged contact (e.g. kissing, sneezing and coughing on someone, living in close quarters or dormitories, sharing unclean eating or drinking utensils) facilitate the spread of the disease.
- Infection usually causes only a sub clinical mucosal infection; invasion sufficient to cause systemic disease is rare
- The **incubation** period is 1 – 10 days, usually less than 4 days
- The **infectious period** is 7 days before the onset of the symptoms in the case to 24 hours after start of effective treatment.

DIAGNOSIS & TREATMENT:

Invasive meningococcal disease is a true medical emergency requiring care in a hospital.

- Cultures of the blood and cerebrospinal fluid are indicated
- Antibiotics are required

METHODS OF CONTROL:

- Droplet isolation of the hospitalized patient until 24 hours after the initiation of effective treatment
- Identification and chemoprophylaxis of close contacts
- Counseling and public education

APPENDIX 3

INVASIVE MENINGOCOCCAL DISEASE CONTACT LIST

Index Case: _____ Diagnosis: _____ Date: _____ Provincial ID#

Name of Contact s	Address of Contact	Phone #	Age	Relationship to Index Case	Weight/Kg s	Chemoprophylaxis		Dose Required	Given/Refused	Vaccine
						Yes	No			

Send completed form to CDCN/MOH: MOH: _____ Date: _____

APPENDIX 4

INVESTIGATION & REPORTING SPORADIC CASES OF IMD

The attending physician notifies the MOH
of the case by phone

MOH/Designate

- Liaises with CDCN re contact tracing initiatives
- Recommends chemoprophylaxis, if indicated
- Writes prescriptions
- Determines /initiates communication strategy
- Reviews the serogroup
- Recommends vaccination program, if indicated
- Reviews local/provincial epidemiology

CDCN

- Obtains details of case
- Initiates list of close contacts
- Notifies Manager /Provincial PH
- Assigns Community Health Nurse (CHN) for contact tracing
- Liaise with MOH re chemoprophylaxis/immunoprophylaxis
- Provides CHN with resource materials
- Arranges chemoprophylaxis
 - Informs pharmacy
 - Sends contact list
 - Gets prescriptions
 - Faxes prescriptions to pharmacy
- Arranges immunoprophylaxis
- Enters case in database

ICP

- Collaborates with CDCN re case details and identification of close contacts
- Initiates/discontinues Isolation Precautions
- Provides support/information to patient/family members/visitors
- Provides information to staff
- Liases with Occupational Health re staff contacts (if indicated)
- Attends debriefing session

CHN

- Identifies close contacts
 - Interviews family/index case
 - Completes and confirms Contact List
 - Reviews list with CDCN
 - Provides chemoprophylaxis/immunoprophylaxis (if indicated)
 - Obtains consent
 - Provides oral/written information on medications
- Advises medical attention if symptomatic
- Records data on contact list/return to CDCN
 - Attends debriefing sessions

Provides counseling and support
Provides Client Fact Sheet
Gets weights of children

APPENDIX 5

Meningococcal Disease – Parent Information Sheet

Meningococcal disease is caused by a germ (a kind of bacteria) called *Neisseria Meningitidis*.

- It can cause meningitis (an infection of the lining of the brain) and meningococemia (a bloodstream infection)
- These are two serious infections that require immediate medical treatment

WHAT ARE THE SYMPTOMS OF MENINGOCOCCAL DISEASE?

Symptoms of meningococcal disease usually start suddenly and include:

- Severe headache
- Irritability and drowsiness
- Vomiting
- Purplish, bruise-like skin rash
- High fever
- Stiff neck

HOW IS IT SPREAD?

- The bacteria can be carried by 10% of the community at any given time and not cause any problems
- These people can be the source of infection for the few people who become ill
- It is not easy to get the disease. It is spread through direct contact with the oral or nasal secretions of the nose or mouth such as through kissing, coughing or sneezing
- The time from contact to illness can range from 2 – 10 days but is usually four days.

HOW IS IT TREATED?

All cases must be treated in hospital with an antibiotic.

- The Community Health Nurse will identify close contacts.
- Close contacts of the patient are given an antibiotic medicine
- This antibiotic lowers the risk of getting the disease and of spreading it to others
- Any person who has been in close contact with meningococcal disease and who gets sick must be seen by a health professional immediately

WHO ARE CLOSE CONTACTS?

- Household members
- Persons who share sleeping arrangements with the case
- Children and staff in child care and nursery school facilities
- Persons having direct contact with the secretions of the mouth or nose of the case

HOW IS IT PREVENTED?

- Good hygiene practice such as hand washing and routine cleaning
- Cover coughs and sneezes
- Wash hands after coughing or sneezing
- Children in Newfoundland and Labrador routinely receive meningococcal vaccine at 12 months and in Grade 4
- The Community Health Nurse will advise if vaccination is necessary

APPENDIX 6

RECOMMENDED CHEMOPROPHYLAXIS FOR INVASIVE MENINGOCOCCAL DISEASE

The Medical Officer of Health will give guidance on the antibiotic of choice. The Compendium of Pharmaceuticals and Specialties (CPS) must be reviewed for detailed product information.

Drug	Dosage		Comments
Rifampin	<ul style="list-style-type: none"> • Infants < 1 month of age • Children ≥ 1 month of age • Adults 	<ul style="list-style-type: none"> • 5 mg/kg per dose orally • every 12 h X 4 doses • 10 mg/kg (maximum 600 mg) per dose • orally every 12 h x 4 doses • 600 mg orally • every 12 h X 4 doses 	<ul style="list-style-type: none"> • Contraindicated in pregnancy • Urine and tears may be stained red • Advise against wear of soft contact lenses as they can be stained • Can reduce the effectiveness of oral contraceptives, seizure medication and anticoagulant medication • Advise use of alternative contraceptive measures
Ciprofloxacin	<ul style="list-style-type: none"> • Adults ≥ 18 years of age 	<ul style="list-style-type: none"> • 500 mg orally • a single dose 	<ul style="list-style-type: none"> • Contraindicated during pregnancy and lactation • A single dose regimen may improve compliance in some populations
Ceftriaxone	<p>< 15 years:</p> <p>>15 years:</p>	<ul style="list-style-type: none"> • 125 mg IM a single dose 250 mg IM a single dose 	<ul style="list-style-type: none"> • Recommended drug for pregnant women • Alternative for persons who cannot tolerate oral medication

Chemoprophylaxis agents are provided by the Department of Health and Community Services for identified close contacts.

APPENDIX 7 RIFAMPIN INSTRUCTION SHEET

This antibiotic is given to close contacts of patient with meningococcal disease. Although the medication gets rid of the bacteria it does not provide 100% protection. Therefore if you have any signs of infection you should seek medical attention.

- **Take all the medication prescribed for you**
 - Take twice a day, 12 hours apart for 2 days
 - Take on an empty stomach one hour before **or** two hours after a meal
 - Do not give your medication to anyone else
 - Do not take with antacids, dairy products, or iron preparations

- **Side effects** of the medication can include:
 - Loss of appetite, vomiting, gas
 - Headache, fatigue, fever
 - Skin rashes
 - Changes in menstrual period, such as spotting

- Tears, urine, feces and any body fluid may take on a reddish orange appearance due to the medication. This is normal

- Do not wear contact lenses for 3-4 days as the tears may stain them red

- If you are taking the following medications, Rifampin may make them less effective:
 - Medication to thin blood or treat blood clots
 - Medication for convulsions or epilepsy
 - Medication for diabetes and heart conditions.
 - Hormone pills or birth control pills
 - Advise the Community Health Nurse if you are taking the above medication/s

- **Pregnant women** should **not** take Rifampin

- **Women of childbearing age** :If you are taking birth control pills, use another birth control method, such as condoms in addition to your birth control pills

- Contact your Community Health Nurse or your Family Doctor if any problems arise

APPENDIX 8

CIPROFLOXACIN INSTRUCTION SHEET

This antibiotic is given to close contacts of patient with meningococcal disease. Although the medication gets rid of the bacteria it does not provide 100% protection. Therefore if you have any signs of infection you should seek medical attention.

➤ **Take all the Prescribed for you**

- Maybe taken with or without food
- Absorption is faster on an empty stomach
- Take this medication 2 hours before or 6 hours after taking any medications or antacids containing magnesium, aluminum such as antacids, dairy products (milk or yogurt) vitamins, and or minerals
- Drink more fluids

➤ **Side effects** of the medication can include:

- Nausea and diarrhea

➤ **Contraindications**

- **Pregnant women** should **not** take Ciprofloxacin
- **Safety** has not been established in pediatric patients and adolescents under 18 years of age
- Do not take if allergic to quinolones such as gatifloxacin, levofloxacin or moxifloxacin
- Do not take if you are on tizanidine

➤ **Use with caution in the following people with:**

- Central Nervous System disorders
- Pseudomembraneous colitis (*Clostridium difficile*)
- Impaired renal function
- Diabetes
- Clients taking Methadone

➤ Contact your Community Health Nurse or your Family Doctor if any problems arise

APPENDIX 9

MENINGOCOCCAL VACCINES

Overview

There are three different types of meningococcal vaccine available: polysaccharide vaccines, conjugate vaccines and multiple component vaccine.

In Newfoundland and Labrador meningococcal conjugate Vaccines are recommended for the routine immunization of children and are provided through the Childhood Immunization Program.

The Schedule can be found at this link:

<http://www.health.gov.nl.ca/health/publichealth/cdc/immunizations.html>

APPENDIX 10

OUTBREAK MANAGEMENT STRATEGIES

http://www.health.gov.nl.ca/health/publications/diseasecontrol/S10_Outbreak_Protocol.pdf

OVERVIEW

Outbreak Management Team (OMT) members are determined in the region and may include:

- MOH
- CDCN/ICP
- Administrative manager
- CHN
- Communications specialist
- Vaccine supply manager
- Others affected by outbreak; i.e., school principal

Functions

- Review the cases, confirm the diagnosis
- Identify the population at risk
- Determine if a vaccine program is necessary
- Develop a communication strategy
- Establish evaluation criteria
- Assign responsibilities for tasks

The Communication strategy should address:

- Information for public; fact sheets, posters
- Hot line for public
- Media spokesperson/contact numbers should be provide to media
- If vaccine program necessary
 - Information on vaccine
 - Clinic information

Vaccine Program should address:

- Staffing for clinics including: nursing staff, clerical support and volunteers
- Type of vaccine, priority for vaccines, availability of adequate amounts, transportation and cold chain
- Place for vaccination clinics, & supplies
- Registration, screening, consent and after immunization forms

Features of Vaccination Clinic

- Space adequate to accommodate large group
- Flow through traffic with separate entrance/exit
- Areas for:
 - Registration, Screening, & Waiting
 - Immunization
 - Vaccine preparation area, Immunization, & Recovery
 - Staff

Program evaluation

- Report on the overall success and challenges of the outbreak
- Compiled by the CDCN
- Review by the OMT



APPENDIX 11

LETTER TO PARENT REGARDING MENINGOCOCCAL VACCINE

Date:

Dear Parent,

Your child has been immunized with meningococcal vaccine. Adverse reactions to this vaccine are uncommon and not severe. Occasionally, there may be a little swelling or redness around the area where the needle was given. Some people could also develop fever with mild headache. These reactions may last for 1 to 2 days.

If your child develops a more serious reaction, please contact your family doctor or public health nurse.

Public Health Nurse:

_____ Phone Number: _____

Date: _____



LETTER TO PARENTS OF CLOSE CONTACTS

Daycare:

Date:

Dear Parent,

A child in your child's daycare group or school has been clinically diagnosed with meningitis. People who have been in very close contact with the child are at increased risk of becoming sick. Very close contacts are family members staying in the same household, those who have shared food or drinks with the child or who have spent several hours a day in close contact with the child for any of the 7 days before the child became ill on _____.

Your child has been identified as a close contact and will be offered a special antibiotic, Rifampin, which will reduce the risk of becoming ill. The drug does not provide 100% protection, so please read the attached fact sheet and if your child should develop any of these signs take him or her to your doctor immediately.

Should you have further questions please contact your public health nurse at

_____.

Sincerely,

Medical Officer of Health



LETTER TO PARENTS OF CHILDREN- NOT CLOSE CONTACTS

Daycare:

Date:

Dear Parent,

A child in your child's daycare group has been clinically diagnosed with meningitis. People who have been in very close contact with the child are at increased risk of becoming sick. Very close contacts are family members staying in the same household, those who have shared food or drinks with the child or who have spent several hours a day in close contact with the child for any of the 7 days before the child became ill on

_____.

Children who may have attended the same daycare, but not at the same time as the sick child, are not at increased risk. Children who were not in contact with the sick child but were in contact with a child who was a contact of the sick child are not at increased risk.

Close contacts will be offered a special antibiotic, Rifampin, which will reduce the risk of contacts becoming ill. **Your child is not considered to be a close contact.** However, please read the attached fact sheet and if your child should develop any of these signs take him or her to your doctor immediately.

Should you have further questions please contact your public health nurse at

_____.

Sincerely,

Medical Officer of Health



APPENDIX 14

LETTER FOR PARENTS OF SCHOOL CHILDREN

School:

Date:

Dear Parent,

There has been a confirmed case of meningococcal disease at your child's school. Staff from the Department of Health & Community Services, _____Region have identified close contacts and have been in direct consultation with these individuals. Close contacts will be offered a special antibiotic, Rifampin, which will reduce the risk of contacts becoming ill. **Your child is not considered to be a close contact**

Parents are asked to be alert to the signs and symptoms of this disease. We have attached a fact sheet and pamphlet for your information.

If you have any further questions concerning this matter, please contact our Community Health Nurse through the school or through our Health and Community Services office at _____.

Thank you,
