

Notification Timeline:

From Lab/Practitioner to Public Health: Immediate.

From Public Health to Ministry of Health: Within 72 hours.

Public Health Follow-up Timeline: Initiate within 48 hrs.

Public Health Purpose for Notification of *Haemophilus Influenzae* Disease

(adapted from British Columbia Center for Disease Control [2017])

- To minimize mortality and serious morbidity from *Haemophilus Influenzae* B;
- To rapidly identify close contacts of the case and to provide recommendations for appropriate preventive measures for close contacts so as to prevent further spread of infection and disease;
- To provide information about the disease, its transmission, and methods of prevention;
- To identify clusters or outbreaks of infection and to initiate appropriate prevention and control measures;
- To track epidemiology trends of meningococcal disease in Saskatchewan including risk factors and distribution;
- To monitor the effectiveness of prevention and control measures;
- To plan expansion or introduction of future immunization programs;
- To provide timely clinical care including diagnosis and treatment using current, evidence-based guidelines;
- To make timely and evidence informed actions on outbreaks; and
- To inform the public and medical community about *Haemophilus Influenza* disease.

Information

Table 1. Differences between *Haemophilus Influenzae* Invasive B (Hib) and Non-Hib Typeable Strains

	Hib	Non-Hib Typeable Strains a,c,d,e,f
Reportable	Yes	Yes
Public Health Follow-Up	Yes	No
Invasive Disease	More common	Less common

Communicability	Not considered communicable after 24-48 hours of effective antimicrobial therapy	Unknown
Hospitalized Patients	Routine and droplet precautions until 24 hours after initiation of antimicrobial therapy	Not defined
Treatment	Third generation cephalosporin or chloramphenicol in combination with ampicillin	No defined regimen. Ceftriaxone and cefotaxime have been used successfully
Management of Contacts	Recommended	Not recommended
Prevention	Vaccine	No vaccine

Source: Manitoba Health Communicable Disease Management Protocol, 2007.

Surveillance Case Definitions¹ (Public Health Agency of Canada, May 2008)

Table 2. *Haemophilus Influenzae* B Invasive Disease

Confirmed Case	Clinical evidence¹ of invasive disease with laboratory confirmation of infection: - isolation of <i>H. influenzae</i> (serotype b) (Hib) from a normally sterile site[^] OR - isolation of <i>H. influenzae</i> (serotype b) from the epiglottitis in a person with epiglottitis.
Probable Case	Clinical evidence of invasive disease with laboratory evidence of infection: - demonstration of <i>H. influenzae</i> type b antigen in cerebrospinal fluid OR - demonstration of <i>H. influenzae</i> DNA in a normally sterile site OR - buccal cellulitis or epiglottitis in a child < 5 years of age with no other causative organisms isolated.

¹Clinical illness associated with invasive disease due to *H. influenzae* includes meningitis, bacteraemia, epiglottitis, pneumonia, pericarditis, septic arthritis and empyema.

[^]Includes: blood, cerebrospinal, joint, pleural, pericardial, or peritoneal fluid.

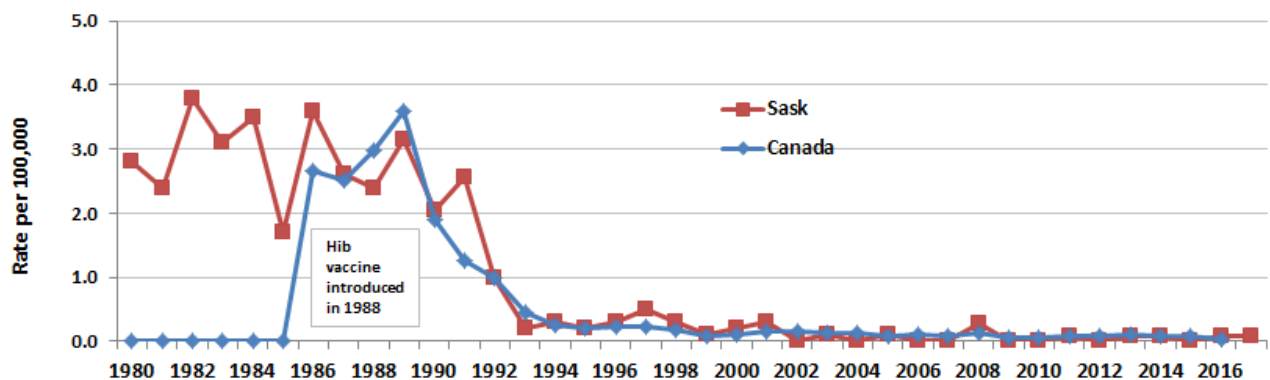
¹ Surveillance case definitions ensure uniform reporting to allow comparability of surveillance data. The definition is not intended to be used for clinical or laboratory diagnosis or management of cases.

Table 3. *Haemophilus Influenzae* Non-B Invasive Disease

Confirmed Case	Clinical evidence¹ of invasive disease with laboratory confirmation of infection: - isolation of <i>H. influenzae</i> (serotype a,c,d,e,f, undifferentiated and non-typeable isolates) from a normally sterile site OR - isolation of <i>H. influenzae</i> (serotype a,c,d,e,f, undifferentiated and non-typeable isolates) from the epiglottis in a person with epiglottitis.
¹Clinical illness associated with invasive disease due to <i>H. influenzae</i> includes meningitis, bacteraemia, epiglottitis, pneumonia, pericarditis, septic arthritis and empyema.	

Epidemiology and Occurrence

Saskatchewan introduced Hib vaccine in 1988 resulting in a dramatic decline in reported cases. The highest number of cases were reported in 1984 and 1986 (36 cases), mainly infants. The average number of reported cases in the pre-vaccine era was 21 cases per year; the yearly average over the decades 1998 - 2017 was about one case per year (19 cases). These are largely unimmunized children. Between 1979 and 1993 there were 96 deaths and there have been no reported deaths caused by invasive Hib since then.

Figure 1. *H. Influenza* Rates Saskatchewan and Canada before and after Immunization Program

Additional Background Information

Causative Agent

Haemophilus influenzae, a gram-negative coccobacilli. Encapsulated strains are classified into sub-types. Serotype b (Hib) is the most pathogenic.

Symptoms

Illnesses often caused by *H. influenzae* type b include meningitis, epiglottitis, pneumonia, and bacteremia.

Symptoms include fever, lethargy, drowsiness, rapid or difficult breathing, sore throat, stiff neck and bulging fontanelles in infants. Most cases are in children 2 months to 4 years of age (Heymann, 2015; American Academy of Pediatrics, 2015).

Reservoir/Source

Upper respiratory tract of humans.

Incubation Period

Unknown, probably variable, and possibly as short as 2-4 days.²

Period of Communicability

As long as organisms are present, asymptomatic carriage may occur indefinitely in up to 2-5% of children. Communicability ends within 24-48 hours after the beginning of antibiotic therapy.

Mode of Transmission

Person-to-person from direct contact or droplet contact of oral or nasal secretions, e.g., saliva, nasal mucus, or respiratory secretions.

Specimen Collection and Transport

If invasive disease, blood cultures and CSF specimens should be submitted as per local lab specimen collection and transport guidelines.

² Most "secondary" cases in families usually occur within 2 weeks and in childcare settings within 60 days. However, this may be transmission from an asymptomatic carrier rather than the index case.

Public Health Investigation

I. Case

Refer to [Attachment – *Haemophilus Influenzae* Type B \(invasive\) Data Collection Worksheet](#) to assist.

History

- Onset of illness, presentation and treatment (with what and when) – to determine incubation period and period of communicability which helps to identify the possible source and contacts to be followed.
- Review immunization history of the case.
- Determine case status including a review of the immunization history. Do not wait for specific typing results before initiating public health follow-up.
- Identify contacts (refer to contact definition).
- Determine if case has underlying medical conditions or falls into a risk category.

Public Health Interventions

Assessment

- Assess for contacts - Aggressive contact tracing, identification, and appropriate management, is the foundation to the prevention of secondary cases. Refer to Contact Definition.
- Obtain names, addresses, and phone numbers of all possible contacts. This information may need to be obtained from someone close to the case.

Communication

- Letters can be sent to classrooms and other group settings where individual contact tracing is not required to inform them of the exposure, symptom monitoring and when to seek medical attention (see Sample letter)

Education

- All cases should be provided disease information as well as information on prevention and control measures including period of communicability and avoiding contact with vulnerable individuals.

Immunization

- Ensure the client's entire immunization status is up-to-date once they have recovered.³

³ Life-long immunity is expected following natural infection with Hib in individuals who were older than 24 months at the time of the disease. Take the opportunity to update any other immunizations that the client is eligible for.

- Grabenstein (2011) indicates that children with invasive Hib disease, when younger than 24 months, may not develop adequate anticapsular antibodies and remain at risk for a subsequent episode of the disease. After recovery from this illness episode, these children should be re-vaccinated with Hib vaccine according to age at presentation as if they have not been previously immunized. Children who were older than 24 months of age at time of disease do not need to be immunized as they should develop a protective immune response.
- Refer to Saskatchewan Immunization Manual – Chapter 5⁴

Isolation

- Respiratory isolation for 24 hours following initiation of appropriate antibiotic treatment

Referrals

- When clients are hospitalized, communication with hospital staff and or infection control staff is important.
- Inform clients that supportive services (physiotherapy, occupational therapy, Home Care) are available if necessary. Refer client to primary caregiver for referrals.

Treatment/Supportive Therapy

The public health practitioner should direct any questions regarding the current treatment protocols to the physician or Medical Health Officer (MHO). The following serves as a reference for the public health investigator:

- *Antibiotic treatment is require. For patient management the client's physician should consult an infectious disease specialist.*
- *In addition to therapeutic antibiotics, the case should receive chemoprophylaxis with rifampin before hospital discharge unless the infection was treated with an antibiotic that is effective in eliminating Hib colonization (American Academy of Pediatric, 2009 and Heymann, 2008). Refer to [Attachment – Rifampin Chemoprophylaxis Dosage Guide for Haemophilus influenzae Type b](#) for information on dosing.*

⁴<https://www.ehealthsask.ca/services/Manuals/Documents/Ch.%205%20Immunization%20Schedules%20Aug%202018.pdf>

II. Contacts/Contact Investigation

Contact Definition (American Academy of Pediatrics, 2009)

- Contacts are defined as:
 - a person residing with the case of invasive Hib disease
 - OR
 - non-residents who have spent 4 or more hours per day with the index case for at least 5 of the 7 days preceding the day of hospital admission of the case.
- Complete the [Attachment – Contact Follow-up Form](#) in the [Respiratory and Direct Contact Introduction and General Considerations](#) for all identified contacts.
- Consult with the MHO immediately to determine whether rifampin chemoprophylaxis and/or Hib immunization is necessary.

Public Health Interventions

Assessment

- Assess for symptoms.

Chemoprophylaxis

When indicated, prophylaxis should be initiated as soon as possible given that most secondary cases in households occur during the first week after hospitalization of the index case. As some secondary cases occur later, initiation of prophylaxis seven days or more after hospitalization of the index case may still be of some benefit (American Academy of Pediatrics, 2009). Discuss with the MHO.

Recommended for:

1. **All household contacts**, regardless of age, in the following circumstances:
 - household with at least 1 contact younger than 4 years of age who is unimmunized or incompletely immunized⁵ for age;
 - household with a child younger than 12 months of age if the child has not received the primary series of three doses;
 - household with an immunocompromised child, regardless of that child's Hib immunization status (i.e., even if fully immunized).

⁵ Complete immunization is determined by the age at when they received their first dose, their current age and the number of doses received to date. Please refer to the Saskatchewan Immunization Manual for further details: <https://publications.saskatchewan.ca/#/products/129354>

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2. **Preschool/daycare contacts (including staff)**, regardless of age, when 2 or more cases of invasive Hib disease have occurred within 60 days among attendees.
 - If the index case attends preschool or day care, and the decision is to provide rifampin to all contacts, inform all parents of the situation. Together with the facility operator, plan and provide parent education about invasive Hib disease. It is especially important to discuss contraindications and side effects of rifampin.
 3. **The case**, if younger than 2 years of age or is a member of a household with a susceptible contact, and who had been treated with a regimen other than cefotaxime sodium or ceftriaxone sodium; chemoprophylaxis usually is provided just before discharge from hospital (American Academy of Pediatrics, 2009).

Chemoprophylaxis MAY be considered in the following situations at the discretion of the Medical Health Officer:

- Health care workers who have administered mouth-to-mouth resuscitation to the case (British Columbia Centre for Disease Control, 2005).

Testing

- Contacts of an index case should **not** be swabbed for culture of Hib prior to initiating rifampin chemoprophylaxis since the result has no bearing on the decision to administer rifampin.

Immunization

- Post-exposure Hib immunization is not known to decrease the risk of transmission. Rather, the situation presents an opportunity for completion of Hib immunization of contacts.
- Offer immunization to contacts less than 60 months of age who are unimmunized or not completely immunized⁶ for age and to individuals older than 5 years of age who have chronic conditions associated with increased risk of invasive Hib disease. Refer to Saskatchewan Immunization Manual⁵ – Chapter 5: Immunization Schedules and Chapter 7: Immunization of Special Populations).

Exclusion

- Any individual who is eligible to receive prophylaxis should be isolated at home until 24 hours after prophylaxis has been initiated.

⁶ Complete immunization is determined by the age at when they received their first dose, their current age and the number of doses received to date. Please refer to the Saskatchewan Immunization Manual for further details: <https://publications.saskatchewan.ca/#/products/129354>

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- New attendees to a daycare should not be permitted until rifampin prophylaxis has been completed.
 - Persons entering a setting (new staff and attendees) where rifampin is being given should also receive it and be excluded as above.

III. Environment

Child Care Centre/Schools Control Measures

Ensure each parent receives information about Hib disease. See [Attachment – Sample Fact Sheet on *Haemophilus Influenzae* Type B Disease](#).

Management of the centre. Three situations may occur:

1. If **one case** of invasive Hib disease occurs in a centre with one child under 24 months attending:
 - Notify and educate staff and parents of contacts of the case to be alert for anyone with fever, sore throat, headache, stiff neck, drowsiness, rapid or difficult breathing, excessive irritability, or symptoms at the site of infection. Seek prompt evaluation by a physician for any ill child.
 - The centre director must notify public health if any additional children become ill.
 - The advisability of rifampin prophylaxis in exposed childcare groups with unimmunized or incompletely immunized children is controversial. Discuss this with the MHO.
 - Notify parents of other childcare centre attendees of the occurrence of a case of Hib disease (see the appropriate [Attachment – Sample Letter about *Haemophilus Influenzae* Type B Invasive Disease – Prophylaxis Recommended](#) or [Sample Letter about *Haemophilus Influenzae* Type B Invasive Disease – Prophylaxis NOT Recommended](#)).
 - Assess immunization status of children.
 - Recommend age-appropriate Hib immunization for all incompletely immunized or unimmunized children.
2. If **one case** of invasive Hib disease occurs in a centre and all children in the centre are at least 24 months of age, regardless of immunization status:
 - Educate parents and staff to be alert for anyone with fever, sore throat, headache, stiff neck, drowsiness, rapid or difficult breathing, excessive irritability, or symptoms at the site of infection. Seek prompt evaluation by a physician for any ill child.

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- Notify all parents of the occurrence of a case of Hib disease (see [Attachment – Sample Letter about *Haemophilus Influenzae* Type B Invasive Disease – Prophylaxis NOT Recommended](#)).
 - The centre director must notify public health if any additional children become ill.
 - Do not recommend prophylaxis or vaccine.
- 3. If two or more cases** of invasive Hib disease occur within 60 days and incompletely immunized children attend the centre, carry out the same procedures as for one case but prophylaxis for all attendees and staff is recommended.
- Notify all parents of the occurrence of a case of Hib disease (see [Attachment – Sample Letter about *Haemophilus Influenzae* Type B Invasive Disease – Prophylaxis Recommended](#)).
 - Absent attendees should be contacted to determine if they are contacts/cases.
 - All new attendees entering a setting where rifampin has been used within two months must be age-appropriately immunized (Government of Manitoba, 2007).
 - See [Chemoprophylaxis](#) section.

IV. Epidemic Measures

Not applicable

Prevention and Education

Refer to the [Respiratory and Direct Contact Introduction and General Considerations](#) section of the manual that highlights topics for client education that should be considered as well as provides information on high-risk groups and activities.

Immunization

- Immunize infants, children and adults according to the recommended schedule. Refer to Saskatchewan Immunization Manual⁷
- Complete immunization is determined by the age at when they received their first dose, their current age and the number of doses received to date. Please refer to the Saskatchewan Immunization Manual² for further details.

⁷ <https://publications.saskatchewan.ca/#/products/129354>.

Education

- Educate the public about the disease and the need for active immunization.
- Immunization information fact sheets can be used to guide discussion.
- Education should be provided regarding respiratory etiquette and measures to prevent transmission.

Revisions

Date	Change
September 2018	• Updated to align with Panorama configuration; • Clarified the purpose for notification of cases to public health; • Incorporated an Epidemiology and Occurrence section into the chapter; • Incorporated <i>Haemophilus Influenzae</i> Infection (invasive) Data Collection Worksheet; • Rearranged and updated the style into the new format of the Manual. • Implemented boxes to draw attention to treatment and chemoprophylaxis information.

References:

- Alberta Health and Wellness. (2005). *Public health notifiable disease management guidelines: Haemophilus influenzae*. Retrieved September, 2018 from <http://www.health.alberta.ca/professionals/notifiable-diseases-guide.html>.
- American Academy of Pediatrics. (2009). *Red book: 2009 Report of the Committee on Infectious Diseases* (28th ed.). Elk Grove Village, IL: Author.
- British Columbia Centre for Disease Control. (2005). *BCCDC Communicable disease control manual: Haemophilus influenzae type b*. Retrieved June, 2012 from http://www.bccdc.ca/NR/rdonlyres/7AE56F39-C179-434C-80E7-C0304D91AAA7/0/Epid_GF_Hib_Sept_2005.pdf.
- Canadian Pharmacists Association. (2006). *Compendium of pharmaceuticals and specialties (CPS): The Canadian drug reference for health professionals*. Ottawa, Canada: Author.
- Grabenstein, J. D. (2010) *Immunofacts: Vaccines and immunologic drugs 2011* (36th revision). St. Louis, MO: Wolters Kluwar Health.
- Health Canada. (1999). Infection control guidelines – Routine practices and additional precautions for preventing the transmission of infection in health care. *Canada Communicable Disease Report (CCDR)*, 25S4, July 1999. Retrieved November, 2011 from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/99pdf/cdr25s4e.pdf>.
- Heymann, D. L. (Ed.). (2008). *Control of communicable diseases manual* (19th ed.). Washington, DC: American Public Health Association.
- Mandell, G. L., Bennett, J. E., Dolin, R. (2000). *Mandell, Douglas, and Bennett's principles and practice of infectious diseases* (5th ed.). Philadelphia, PA: Churchill Livingstone.
- Manitoba Health. (2007). *Communicable disease management protocols: Invasive Haemophilus influenza disease*. Retrieved September, 2018 from <http://www.gov.mb.ca/health/publichealth/cdc/protocol/ihd.pdf>.

Public Health Agency of Canada. (2006). *Canadian immunization guide* (7th ed.).
Ottawa, Canada: Public Works and Government Services Canada.

Public Health Agency of Canada. (2008). Case definitions for communicable diseases under national surveillance. *Canada Communicable Disease Report (CCDR)*, 35S2, November 2009. Retrieved November, 2011 from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/09vol35/35s2/index-eng.php>.

Haemophilus influenzae infection (invasive) Data Collection Worksheet

Please complete all sections.

Panorama QA complete: ☐ Yes ☐ No

Initials: _____

Panorama Client ID: _____

Panorama Investigation ID: _____

A) CLIENT INFORMATION

LHN -> SUBJECT -> CLIENT DETAILS -> PERSONAL INFORMATION

Last Name:		First Name: and Middle Name:		Alternate Name (Goes by):	
DOB: YYYY / MM / DD Age: _____		Health Card Province: _____		Preferred Communication Method: (specify - i.e. home phone, text):	
Phone #: ☐ Primary Home: ☐ Mobile contact: ☐ Workplace:		Health Card Number (PHN): _____		Email Address: ☐ Work ☐ Personal	
Place of Employment/School:		Gender: ☐ Male ☐ Female ☐ Other ☐ Unknown			
Alternate Contact: _____ Relationship: _____ Alt. Contact phone: _____		Address Type: ☐ No fixed ☐ Postal Address ☐ Primary Home ☐ Temporary ☐ Legal Land Description Mailing (Postal address): Street Address or FN Community (Primary Home): Address at time of investigation if not the same:			

B) INVESTIGATION INFORMATION

LHN-> SUBJECT SUMMARY-> RESPIRATORY & DIRECT CONTACT ENCOUNTER GROUP-> CREATE INVESTIGATION

Disease Summary Classification:		Classification:		LAB TEST INFORMATION: Date specimen collected: YYYY / MM / DD Specimen type: ☐ Blood ☐ Urine ☐ Stool
CASE	Date	CONTACT	Date	
☐ Confirmed	YYYY / MM / DD	☐ Contact	YYYY / MM / DD	
☐ Does Not Meet Case	YYYY / MM / DD	☐ Not a Contact	YYYY / MM / DD	
☐ Person Under Investigation	YYYY / MM / DD	☐ Person Under Investigation	YYYY / MM / DD	
☐ Probable	YYYY / MM / DD			

Disposition:
FOLLOW UP:
☐ In progress YYYY / MM / DD ☐ Complete YYYY / MM / DD
☐ Incomplete - Declined YYYY / MM / DD ☐ Not required YYYY / MM / DD
☐ Incomplete - Lost contact YYYY / MM / DD ☐ Referred - Out of province YYYY / MM / DD
☐ Incomplete - Unable to locate YYYY / MM / DD (specify where)

REPORTING NOTIFICATION		Location:
Name of Attending Physician or Nurse:		
Physician/Nurse Phone number:		Date Received (Public Health): YYYY / MM / DD

Type of Reporting Source: ☐ Health Care Facility ☐ Lab Report ☐ Nurse Practitioner ☐ Physician ☐ Other _____

Haemophilus influenzae infection (invasive) Data Collection Worksheet

Please complete all sections.

Panorama Client ID: _____
Panorama Investigation ID: _____

C) SIGNS & SYMPTOMS (Bold text = part of case definition)

LHN-> INVESTIGATION->SIGNS & SYMPTOMS

Description	No	Yes – Date of onset	Description	No	Yes - Date of onset
Arthritis - septic		YYYY / MM / DD	Lethargy (fatigue, drowsiness, weakness, etc)		YYYY / MM / DD
Bulging fontanelle		YYYY / MM / DD	Meningitis		
Cardiac - pericarditis		YYYY / MM / DD	Neck stiffness (nuchal rigidity)		YYYY / MM / DD
Cellulitis		YYYY / MM / DD	Confusion		YYYY / MM / DD
Dyspnea (shortness of breath)		YYYY / MM / DD	Pneumonia		YYYY / MM / DD
Epiglottitis		YYYY / MM / DD	Respiratory compromise		YYYY / MM / DD
Fever		YYYY / MM / DD	Sepsis (e.g. bactremia, septicemia, etc.)		YYYY / MM / DD
Infection - empyema		YYYY / MM / DD			
Other s/s					

D) INCUBATION AND COMMUNICABILITY

LHN-> INVESTIGATION->INCUBATION & COMMUNICABILITY

Incubation for Case (period for acquisition):	
Earliest Possible Exposure Date: YYYY / MM / DD	Latest Possible Exposure Date: YYYY / MM / DD
<i>Exposure Calculation details:</i>	
Communicability for Case (period for transmission):	
Earliest Possible Communicability Date: YYYY / MM / DD	Latest Possible Communicability Date: YYYY / MM / DD
<i>Communicability Calculation Details:</i>	

E) RISK FACTORS

LHN-> SUBJECT->RISK FACTORS

DESCRIPTION	Yes Start Date	N, NA, U	Add'l Info
Contact - Daycare	YYYY / MM / DD TE		
Contact to a known case (Add'l Info)	YYYY / MM / DD AE		
Special population – Attends Childcare	YYYY / MM / DD TE		
Special population – Attends school	YYYY / MM / DD TE		
Travel - Outside of Canada (Add'l Info)	YYYY / MM / DD TE		
Travel - Outside of Saskatchewan, but within Canada (Add'l Info)	YYYY / MM / DD TE		

F) IMMUNIZATION HISTORY INTERPRETATION SUMMARY

LHN -> INVESTIGATION-> IMMUNIZATION HISTORY INTERPRETATION SUMMARY

Interpretation Date: YYYY / MM / DD	
Interpretation of Disease Immunity: ☐ IOM - Fully immunized (for age) ☐ IOM - Partially immunized	
☐ IOM – Unimmunized ☐ IOM - Unclear immunization history Valid doses received: _____ Doses needed: _____	
Reason: ☐ IOM – Interpretation of history by investigator	

Haemophilus influenzae infection (invasive) Data Collection Worksheet

Please complete **all** sections

Panorama Client ID: _____
Panorama Investigation ID: _____

G) TREATMENT

INVESTIGATION-> MEDICATIONS->MEDICATIONS SUMMARY

Medication (*Panorama = Other Meds*): _____

Prescribed by: _____ Started on: YYYY / MMM / DD

H) INTERVENTIONS

INVESTIGATION->TREATMENT & INTERVENTIONS->INTERVENTION SUMMARY

[illegible]

Haemophilus influenzae infection (invasive) Data Collection Worksheet

Please complete **all** sections

Panorama Client ID: _____
Panorama Investigation ID: _____

I) OUTCOMES

LHN-> INVESTIGATION-> OUTCOMES

☐ Not yet recovered/recovering	YYYY / MM / DD	☐ ICU/intensive medical care	YYYY / MM / DD	☐ Hospitalization	YYYY / MM / DD
☐ Recovered	YYYY / MM / DD	☐ Intubation /ventilation	YYYY / MM / DD	☐ Unknown	YYYY / MM / DD
☐ Fatal	YYYY / MM / DD	☐ Other _____	YYYY / MM / DD		

Cause of Death: (if Fatal was selected) _____

J) Transmission Events

LHN -> INVESTIGATION-> EXPOSURE SUMMARY -> TRANSMISSION EVENT SUMMARY -> QUICK ENTRY

Transmission Event ID	Exposure Name	Setting type (Consider the following settings for TE; if >1 select "multiple settings" in Panorama)	Date/Time	# of contacts
		☐ Congregate/Communal living ☐ Health Care setting ☐ Type of community contact ☐ Household Exposure ☐ Public facilities (e.g daycare)		
		☐ Congregate/Communal living ☐ Health Care setting ☐ Type of community contact ☐ Household Exposure ☐ Public facilities(e.g daycare)		
		☐ Congregate/Communal living ☐ Health Care setting ☐ Type of community contact ☐ Household Exposure ☐ Public facilities (e.g daycare)		
	Hib Contacts – Inv ID# _____	☐ Multiple Settings	YYYY / MM / DD to YYYY / MM / DD	

K) TOTAL NUMBER OF CONTACTS

LHN -> INVESTIGATION-> EXPOSURE SUMMARY -> TRANSMISSION EVENT SUMMARY -> TE HYPERLINK -> UNKNOWN/ANONYMOUS CONTACTS

Anonymous contacts: _____ (total number of individuals [including groups that 1:1 follow-up is not required or is not feasible])

1. What is *Haemophilus influenzae* type b disease?

- *Haemophilus influenzae* type b (Hib) is a bacterial infection that can cause deadly brain infections and other serious infections like meningitis (swelling of the covering of the brain and spinal cord), blood infections, pneumonia (lung infection), and infections of other parts of the body.

2. How is Hib disease spread?

- Hib is carried in the nose and throat of children and adults who may be healthy or have mild symptoms. It is then spread to another person through contact with discharges or droplets from the nose or mouth through activities such as kissing, sharing food, utensils, or glasses, or coughing directly on someone.

3. What will decrease the risk of getting Hib disease?

- The best way to prevent infection with Hib is through immunization.
- Hib vaccine is recommended for all children starting at 2 months of age. Children need a total of 4 shots, given at 2, 4, 6, and 18 months. This vaccine is included in routine immunization provided by Saskatchewan Ministry of Health. Make sure your child's immunizations are up to date.

4. What are the signs and symptoms of Hib disease?

- Hib infections are sometimes difficult to recognize. In general, any infection that seems more serious than usual should be brought to a doctor's attention.

Symptoms to look for are:

- fever;
 - drowsiness;
 - stiff neck;
 - rapid or difficult breathing;
 - loss of appetite;
 - skin or joints that are red, tender, or swollen.
- If your child develops any of these symptoms, see a doctor immediately for treatment.

5. How is Hib disease diagnosed?

- Lab tests look for the bacteria from various sites (blood, cerebrospinal fluid, etc.) from individuals who are ill.

6. How is Hib disease treated?

-
-
- Hib is treated with antibiotics. Treatment with antibiotics should be started immediately to reduce serious complications.

7. Who should receive preventive treatment?

- Medications to prevent getting or spreading Hib may be needed for those who live in the same house with a child who had Hib disease, and for children and employees in childcare settings. Check with your local public health office for advice.

8. What are the long-term complications of Hib disease?

- Hib can infect the throat and then can spread causing meningitis, pneumonia, or ear, skin, joint, or blood infections.
- If Hib meningitis occurs, death occurs in one out of 20 children and permanent brain damage in 10-30 % of the survivors.

9. Who is at risk of getting Hib disease?

- Since the vaccine was introduced, the disease usually occurs in children who are too young to be immunized or children who have not finished their immunizations.

For more information contact:

Your local public health office,

OR your physician or nurse practitioner,

OR the HealthLine at 1-877-800-0002.

References:

American Academy of Pediatrics, 2009.

Control of Communicable Disease Manual, Heymann (2008).

Date

Dear Parent/Guardian:

This letter is to let you know that your child had contact with a child who has been diagnosed with an infection caused by *Haemophilus influenzae* type b (Hib). Hib is a bacteria ("germ") that causes serious infections. More information about Hib is included in the attached Fact Sheet.

Hib infections are sometimes difficult to recognize. In general, any infection that seems more serious than usual should be brought to a doctor's attention. Symptoms to look for:

- drowsiness;
- stiff neck;
- rapid or difficult breathing;
- extreme irritability;
- skin or joints that are red, tender, or swollen.

Notify Public Health at _____ if your child becomes ill with any of the symptoms listed above.

The risk of your child getting this illness is low and Public Health is NOT recommending that your child receive any medicine. Further you should watch your child for fever, excessive sleepiness, trouble breathing, stiff neck, sore throat, or joint or skin infection. Call your doctor immediately if your child becomes sick.

Your child may have received immunizations for Hib as an infant. You should however make sure your child's immunizations are up to date. This will help protect your child. If you have other children under 5 years of age that have not been completely immunized for Hib, they should receive the vaccine.

If either you or your physician require(s) further information, please call _____
Yours sincerely,

Medical Health Officer

Date

Dear Parent/Guardian:

This letter is to let you know that your child had contact with a child who has been diagnosed with an infection caused by *Haemophilus influenzae* type b (Hib). Hib is a bacteria ("germ") that causes serious infections. More information about Hib is included in the attached Fact Sheet.

Hib infections are sometimes difficult to recognize. In general, any infection that seems more serious than usual should be brought to a doctor's attention. Symptoms to look for:

- drowsiness;
- stiff neck;
- rapid or difficult breathing;
- extreme irritability;
- skin or joints that are red, tender, or swollen.

Notify Public Health at _____ if your child becomes ill with any of the symptoms listed above.

Because your child was at the daycare with an infected child, he or she is considered a "close contact." Public Health recommends that all close contacts be given medication to prevent further spread of the disease. Please contact us as soon as possible. The most common medication recommended to prevent infection is called rifampin.

Your child may have received immunizations for Hib as an infant. You should however make sure your child's immunizations are up to date. This will help protect your child, but he or she still needs to take medication and should be watched carefully for signs and symptoms. If you have other children under 5 years of age that have not been completely immunized for Hib, they should receive the vaccine.

If you have any questions please call _____

Sincerely,

Medical Health Officer

Dosage Guide based on the noted weight in kg below. Calculate dose based on exact weight. Maximum dose 600 mg once every 24 hrs x 4 days (doses).										
Weight in kg	5	6	7	8	9	10	15	20	25	30 Max or adult dose
Dosage by age										
<1 mo of age 10 mg/kg (25 mg/ml suspension)	2.0 ml	2.4 ml	2.8 ml	3.2 ml	3.6 ml	4.0 ml				
>1 mo of age 20mg/kg (25 mg/ml suspension)	4.0 ml	4.8 ml	5.6 ml	6.4 ml	7.2 ml	8.0 ml	12.0 ml	16 ml	20 ml	24 ml

Recommendations

1. Use the appropriate weight-specific dose noted in the first column in the chart above for infants and children.
2. Rifampin Pediatric Suspension can be prepared as follows:
 - **Add contents of 3 – 300mg caps or 6 – 150 mg caps of Rifampin to 36 mls of simple syrup to yield a 25 mg/ml suspension.**
 - **SHAKE WELL.**
3. Store prepared suspension and simple syrup at room temperature because of their tendency to crystallize if refrigerated.
4. Discard prepared suspension after treatment course is completed. Preparation expires after 28 days.
5. As much as possible, use only one preparation form per client (i.e., capsule(s) only, or suspension only).
6. Give client a Rifampin information sheet. See [Appendix F – Patient Information Sheets – Rifampin](#)

Note:

- Rifampin is contraindicated in pregnancy. Discuss Ceftriaxone dose with MHO.
- If necessary, discuss alternative treatments with MHO for non-pregnant adults.