

Section 1

General Information



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Purpose

One of the key roles of Public Health is the prevention and control of communicable diseases. To successfully protect Saskatchewan's public from the health consequences of communicable diseases, a collaborative approach based on evidence and research is necessary, as pathogens do not recognize boundaries or jurisdictions. This manual contains the information Saskatchewan health regions and First Nations health agencies require for communicable disease control. It is targeted to Saskatchewan Public Health users but also contains information that other key players may find useful.

Key players in Saskatchewan include, but are not limited to:

- Saskatchewan health regions;
- First Nations health agencies;
- Saskatchewan Disease Control Laboratory and other laboratories;
- hospital infection control personnel;
- physicians;
- other health care providers;
- Saskatchewan Ministry of Health;
- Canadian Food Inspection Agency;
- Canadian Blood Services;
- Public Health Agency of Canada;
- Health Canada;
- other government and non-government organizations.

Control of Communicable Disease in Saskatchewan

The Public Health Act, 1994 and its regulations are the statutory basis for the reporting, investigation and control of communicable diseases in Saskatchewan. The Act and Regulations outline the roles and responsibilities of individuals and agencies as they relate to communicable disease control. See [Appendix C – Major Legislation](#) for a list of relevant legislation.



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Reporting Requirements

Under *The Public Health Act, 1994* and Disease Control Regulations, health care providers (physicians and nurses), school personnel, managers of eating establishments and laboratories are required to report Category I and II diseases and outbreaks to designated Medical Health Officers (MHOs). Please refer to [Appendix A](#) for reporting and follow-up timelines.

- Following the investigation of the case, detailed information shall be documented in the electronic public health case management and surveillance system called Integrated Public Health Information System (iPHIS) within 14 days. For certain diseases, MHOs have agreed to notify Saskatchewan Ministry of Health prior to the 14 day reporting regulation. See [Appendix A](#).
- In the instance of outbreaks, summary reports should be completed and submitted to the Ministry of Health no later than 30 days following outbreak resolution.

MHOs are required to submit case reports of notifiable and unusual communicable diseases to the Saskatchewan Ministry of Health. From time to time, additional information is requested from the Coordinator of Communicable Diseases (Deputy Chief Medical Health Officer) at the Ministry of Health for enhanced surveillance purposes. This information may be collected through the use of a specialized form or it may be documented on the electronic public health case management and surveillance system. The Ministry of Health compiles the information into a statistical report that is provided to the communicable disease contacts in Saskatchewan Health Regions and First Nations health agencies. De-identified case information is sent to the Centre for Infectious Disease Prevention and Control, Public Health Agency of Canada for “National Notifiable Diseases”.

This manual is divided into sections according to the organisms’ primary mode of transmission. Each section contains an introduction that provides some background information and general considerations pertaining to the particular mode of transmission, followed by information specific to each disease. The purpose of this section is to provide general information regarding risks of acquiring infections, primary prevention measures and population-based health promotion activities as they pertain to the delivery of a comprehensive communicable disease control program.



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There are numerous methods and interventions available to prevent and control communicable diseases. Health promotion activities have been shown to ease the burden on the health care system. Three types of preventive approaches can be applied to communicable diseases: primary, secondary, and tertiary. These approaches can be exercised across the lifespan of individuals and across all sectors of the health care system. Saskatchewan's health care system has resources available to promote health and well-being, and also to treat individuals infected with infectious agents.

Primary prevention is any effort undertaken to prevent the occurrence of diseases. This is one of the most important steps in disease prevention and control and even though all health care services play a role, this is most often the domain of public/community health services. Publicly funded childhood immunization programs are examples of primary prevention. Primary prevention also includes promoting healthy lifestyles and education specific to preventing the transmission of communicable diseases in recreational and personal service settings (body art establishments, esthetic salons, etc.).

Unfortunately, it may not be possible to prevent all communicable diseases and illnesses. However, by implementing the secondary prevention methods it is possible to detect diseases in a timely fashion and possibly slow the progression of disease within the individuals or disease transmission in the population. Understanding risk factors in the population and implementing methods of screening allows us to detect disease in early stages. For instance, screening for sexually transmitted infections (STIs) and blood borne pathogens allows health care providers to offer interventions that prevent secondary complications. Routine pap smears can allow for early detection and treatment of cellular abnormalities from a human papillomavirus (HPV) infection that left untreated may lead to cervical cancer.

Tertiary prevention approaches include the efforts of health care providers to minimize the effects of an agent and prevents disability as a result of infection. Tertiary prevention is often the responsibility of health care providers working outside of public health. The intensive supportive treatment of individuals with severe West Nile Neurological Syndrome (WNNS) and their rehabilitation is an example of tertiary prevention provided through the acute care or rehabilitative care system. The provision of antiviral treatment to people infected with hepatitis C virus or people living with human immunodeficiency virus (HIV) or acquired immunodeficiency syndrome (AIDS) is another example of tertiary prevention.



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In contrast, screening people living with HIV or AIDS for coinfection with tuberculosis is an example of secondary prevention (of tuberculosis) and the provision of hepatitis A and hepatitis B vaccine to people infected with hepatitis C is an example of primary prevention (of hepatitis A and hepatitis B).



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Role of Individuals Infected With/Exposed to Communicable Diseases

Individuals exposed to communicable diseases play an important role in communicable disease prevention and control. This includes their responsibility to seek timely medical attention when ill; to follow through with physician's treatment recommendations; and to take all reasonable measures to significantly reduce the risk of infecting others. In the case of Category II communicable diseases, there is also a responsibility to disclose information on their contacts and either inform their contacts or ask the physician or nurse to do so.¹

Role of Physicians and Nurses

Physicians and nurses are the front line health care professionals that clients will see when they have health concerns. These health care providers are required to report to the local Medical Health Officer (MHO) as soon as possible after forming an opinion of infection with a Category I or Category II Communicable Disease. This means that reports are to be made regarding both known and suspected cases. Early identification and reporting facilitates the early initiation of interventions that are vital to control the spread of communicable diseases.²

Role of Medical Health Officers

Each regional health authority (RHA), Northern Inter-Tribal Health Authority (NITHA), and First Nations Inuit Health (FNIH), Health Canada has a designated MHO who, together with other public health staff, is responsible for the control of communicable diseases in their jurisdiction. The MHO is a designated public health officer and has specific responsibilities under *The Public Health Act, 1994*. For the purposes of clause 11(2) (b) of the Act, the qualifications of a MHO are prescribed in *The Public Health Officers Regulations*.

¹ *The Public Health Act, 1994, c.P-37.1, s.33.*

² *The Public Health Act, 1994, c.P-37.1, s.34; 2003, c.29, s.53.*



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Role of Health Authorities

It is the responsibility of each RHA, NITHA, and FNIH to ensure reports of communicable diseases are received, reviewed and generally managed during regular work hours. MHOs in their health jurisdictions have identified specific individuals that have the lead responsibility for managing these reports to ensure that documentation of cases and outbreaks occurs in the approved format within the specified timeframes. When applicable, reports will also be sent to other provincial public health jurisdictions.

In situations where a RHA, NITHA, or FNIH does not have an MHO, or when the MHO is absent, another MHO will cover that jurisdiction, as per *The Regional Health Services Act*, according to an established coverage arrangement. See [Appendix E - Contact Information for Regional Health Authorities and First Nations Health Agencies](#).

Role of Saskatchewan Regional Health Authorities

Each RHA has public health staff including Communicable Disease Coordinators, Public Health Inspectors, Public Health Nurses, and others working with the MHO to assist in communicable disease control. They are responsible for the public health follow up of individual cases and contacts that reside within the RHA's jurisdiction.

Role of First Nations Health Agencies

FNIH and NITHA work with First Nations organizations and communities within their jurisdiction, to carry out activities aimed at assisting people to keep healthy. This includes preventing or minimizing the acute and chronic impacts of communicable diseases.

FNIH and NITHA are each responsible for the coordination and public health follow up of individual cases and contacts that reside in First Nations communities in their jurisdiction. The follow up is provided by Community Health Nurses (CHNs) and Environmental Health Officers (EHOs) employed by the First Nation or FNIH.



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Role of the Ministry of Health, Population Health Branch

The Saskatchewan Ministry of Health, Population Health Branch (PHB) aims to enhance the health status and well-being of Saskatchewan citizens through surveillance, prevention and control of communicable diseases and the support of public health services. In the area of communicable disease control, PHB:

- Coordinates the development of provincial standards, policies and procedures for the prevention and control of communicable diseases.
- Provides consultation to local MHOs and health agencies as required.
- Provides direct linkages to other provinces and other jurisdictions, such as the Public Health Agency of Canada (PHAC) Centre for Infectious Disease Prevention and Control, the Canadian Food Inspection Agency (CFIA), the World Health Organization (WHO), etc.
- Reports nationally notifiable communicable diseases to PHAC for national disease surveillance and statistical summaries (e.g., Canadian Communicable Disease Report, Disease Surveillance On-Line, etc.).
- Disseminates regular, and ad-hoc reports to health regions, First Nations Agencies and Saskatchewan Ministry of Health using information reported through the electronic case management and surveillance system.
- Provides vaccines and some medications for the prevention and control of specific communicable diseases. See [Appendix D - Publicly Funded Medications for Chemoprophylaxis](#).
- Conducts ongoing surveillance of communicable disease for unusual health events and emerging communicable disease trends and alerts the public health community and others.
- Contributes to national public health standards and guidelines through participation on federal/provincial/territorial (FPT) committees and working groups.
- Takes a leadership role to facilitate coordination and management of significant health issues that have intersectoral needs.



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Role of Saskatchewan Disease Control Laboratory

The Saskatchewan Disease Control Laboratory (SDCL) provides a wide range of public health and reference testing services utilizing current technology and research methods. SDCL:

- Provides laboratory testing to assist in the diagnosis, treatment and confirmation of communicable diseases in individuals and to assist with the assessment of communicable disease outbreaks including waterborne and food-borne disease outbreaks.
- Provides infectious disease surveillance information enabling early detection of outbreaks and monitoring of disease trends.
- Provides copies of notifiable communicable disease laboratory reports to MHOs, the ordering practitioner and Saskatchewan Ministry of Health.
- Provides other public health services in the field of environmental health (e.g., analyze water samples, measure toxins to assess and identify environmental hazards, etc.).

*The Public Health Act, 1994*³ requires all microbiology labs to report notifiable communicable diseases in a timely manner.

Role of Public Health Agency of Canada

PHAC was established to promote and protect the health of Canadians through leadership, partnership, innovation and action in public health. Several departments of PHAC provide support to the provinces and territories:

- National Microbiology Laboratory (NML) services include such things as confirmation of tests (e.g., Lyme disease), sub-typing of bacteria and viruses, diagnosis of some diseases (e.g., Hantavirus), surveillance, etc.
- Centre for Emergency Preparedness and Response (CEPR) responsibilities include such things as developing and maintaining national emergency response plans for PHAC.
- Pandemic Preparedness Secretariat (PPS).
- Centre for Infectious Disease Prevention and Control (CIDPC) assists in the coordination, investigation and case management of communicable diseases and outbreaks that cross jurisdictional boundaries.

³ *The Public Health Act, 1994*, c.P-37.1, s.32; 2003, c.29, s.52; 2004, c.46, s.12; 1994, c.P-37.1, s.36; 2003, c.29, s.55; 2004, c.46, s.13.

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- Canadian Field Epidemiology Program (CFEP) deploys epidemiologists to the field upon request to support investigations to control diseases of local, provincial, territorial, national or international concern. CFEP also provides resources for technical and investigative support of individual cases and during outbreaks when required.
- Provides expertise in unusual disease occurrence.
- Summarizes nationally notifiable diseases for inclusion in the Canadian Communicable Disease Report.

Role of Other Individuals and Agencies

Other agencies and individuals play a role in communicable disease control, including outbreaks in Saskatchewan. These include schools, the CFIA, local veterinarians, the Ministry of Agriculture, the Ministry of Environment, Canadian Blood Services, and others depending on the specific food borne illnesses, waterborne illnesses, vector-borne and zoonotic diseases.



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Government of Saskatchewan. (2007). *The Public Health Act, 1994*. Regina, SK: Queens Printer Saskatchewan.



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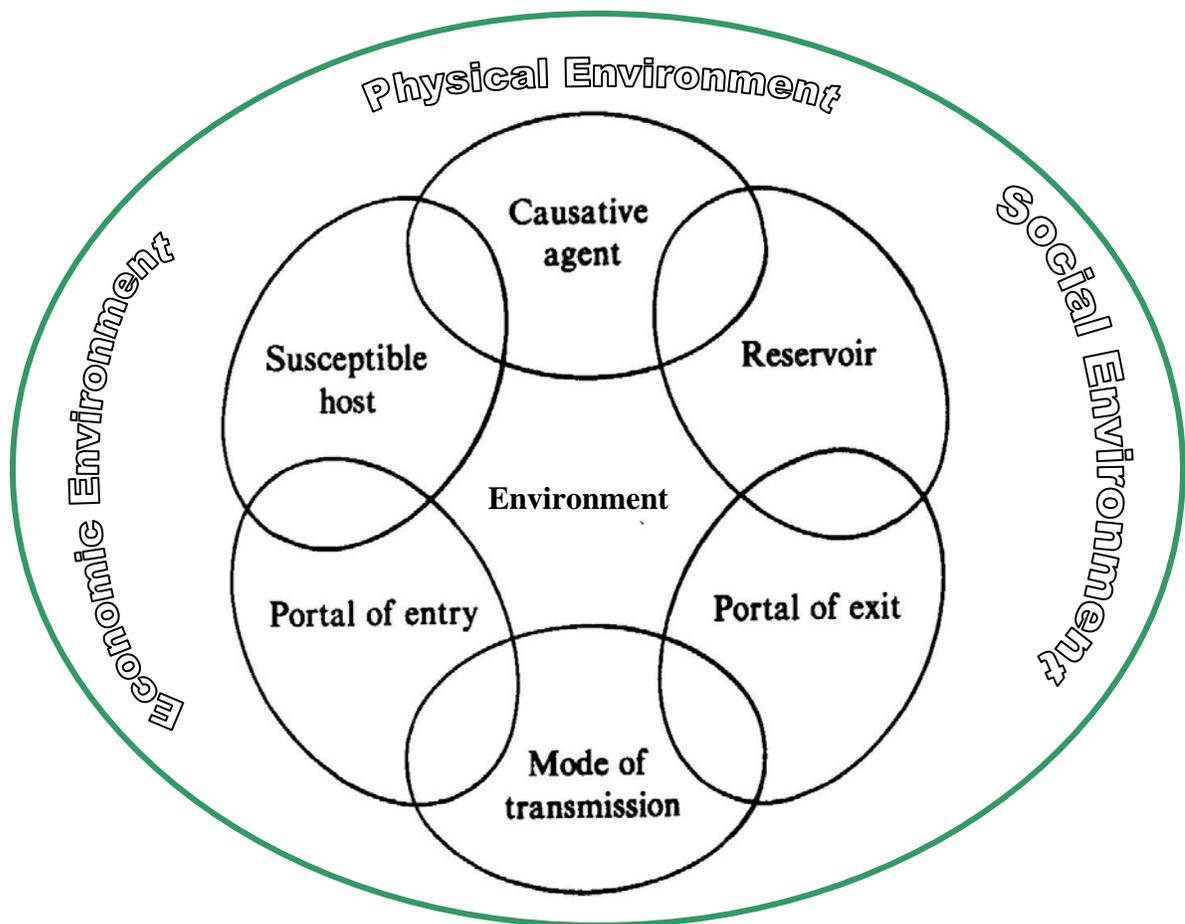
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One of the basic principles of communicable disease prevention and control is the chain of infection. An understanding of each link in the chain will assist in disease prevention. There are a number of socio-economic and environmental factors that have an impact on the spread of disease. Some of these factors include population density, level of employment, income, weather condition (e.g., temperature, humidity and sunlight), pollutants, and geology/soil type, (Brachman, 2006). These factors should be taken into consideration when investigating communicable diseases.



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Interventions designed to break the chain of infection at one (or more) of the various links can limit the spread of communicable diseases. Interventions can be targeted at any link of the chain. Some interventions will be specific for a particular causative agent while others such as protection of a water shed to prevent water borne illnesses or school health education services to address healthy lifestyle choices to prevent sexually transmitted infections and communicable diseases may have a broader impact. Information regarding risks, primary prevention and population health issues, as they pertain to the delivery of a comprehensive communicable disease control program, are key elements of an investigation. Details relating to the appropriate investigation and specific follow-up for each communicable disease are outlined within the specific disease section in this manual.

Prevention interventions are optimal from a public health perspective. Determining which link, or links, to direct interventions at depends on many variables. In some cases, elimination of the **causative agent** is not feasible due to the nature of the agent. For example, tetanus is a normal, and ubiquitous, inhabitant of soil and animal and human intestines (American Academy of Pediatrics, 2009) but immunization of a **susceptible host** can prevent tetanus. Safe food handling practices make it possible to eliminate agents responsible for food-borne illnesses. There are instances in which targeting the **reservoir** is appropriate to assist in prevention and control measures. For example, control measures for West Nile virus include eliminating or reducing mosquito breeding sites through yard and lawn maintenance, and the appropriate management of standing water sources.

When a particular agent is identified, appropriate interventions, such as infection control measures - contact, droplet and airborne precautions (refer to [Sections 9-32, 9-44, and 9-54](#)) that target the **portal of exit, mode of transmission and portal of entry** should be implemented. For these links, successful intervention is also dependent on the individual's cooperation and compliance with personal protective measures. Examples of this include safer sex practices, isolation and exclusion of infectious individuals. Each disease section in this manual highlights the key points as they relate to prevention and control measures specific to that particular disease.



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Another key factor in disease control is identifying and reducing the risk for **susceptible hosts**. For example, an individual with pertussis in a daycare setting that includes infants <12 months requires more intense investigation and interventions because the population involves individuals who are considered more vulnerable for more severe disease. Conversely, an individual case of parvovirus in a school setting would require less intense follow-up because many contacts will already have developed immunity from natural infection.

General Considerations for Investigation of Cases

When investigating a case, there are a number of factors that must be considered. The following questions can assist in guiding the investigation:

1. What is the source of the disease? Can it be identified?
2. Is the disease endemic in the area where it occurred? Did the person travel to an area where the disease is endemic?
3. Who else may have been exposed to the disease?
4. Is an outbreak present?
5. What is the potential impact of the disease?
6. Are there people who are more likely to develop symptoms or serious manifestations of the infection?
7. Is there a population more likely to be susceptible to the infection?
8. What interventions are available to prevent the transmission of the infection?
9. Is there a high risk for transmission to others (e.g., a highly communicable agent, common vehicles for transmission like food or water, etc.)?

Once these questions have been answered, the level of follow-up required will be more apparent. Interventions targeted at the specific disease are included in the specific disease sections.



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Determinants of Health

When looking at communicable disease prevention and control as it pertains to the health of our communities, it is important to consider how the determinants of health may contribute to the development and transmission of communicable diseases. Interventions that are targeted at the level of primary prevention or impact on health determinants almost always have a significant impact on the health status of the population and the health of individuals. The determinants of health (Public Health Agency of Canada, 2010) include:

- income and social status;
- social support networks;
- education and literacy;
- employment/working conditions;
- social environments;
- physical environments;
- personal health practices and coping skills;
- healthy child development;
- biology and genetics;
- health services;
- gender;
- culture.

It is our social responsibility to ensure the health and well-being of all Saskatchewan citizens. Meaningful participation of specific populations in the development and implementation of policies and programs is essential to influence the decisions that affect their health. Working in collaboration with other agencies and assisting in community development strategies to address the determinants of health has a greater impact than working in isolation. It is the responsibility of society as a whole to take care of all its members.



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