

Nova Scotia

Communicable Disease Control Manual

Communicable Disease
Prevention and Control

Public Health Services


NOVA SCOTIA
Department of Health

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Disclaimer Statement

The Nova Scotia Communicable Disease manual was developed for the use of Public Health Services staff. This manual is constantly under revision. Public Health staff will be informed of the changes as they occur. However, information contained on this site may not contain the latest information.

Nova Scotia Department of Health does not assume any responsibility for the use of this information by any other groups or organizations aside from Public Health Services staff.

Acknowledgment

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The Coordinators/Managers for Communicable Disease Prevention and Control and the Office of Provincial Medical Officer of Health were instrumental in helping to make the manual clinically accurate and at the same time practical for use by Public Health staff. The Department of Agriculture and Fisheries, Food Safety Division, played a major role in ensuring the Enteric Section of the manual was accurate and consistent with today's practice. The hard work, expertise and dedication shown by these staff is graciously acknowledged.

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The committee also acknowledges the hard work and diligence of the writers in the revision of the manual.

Introduction

The first edition of the *Communicable Disease Control Manual* was developed in 1993 as an integral part of the communicable disease surveillance program.

As in 1993, the purpose of this revision was to provide both reference information and procedural guidelines including policies relating to prevention and control of communicable diseases for use by Public Health staff across the province.

In this revision, thorough research has been done to provide the most current, accurate and complete information available.

The manual is developed for use by Public Health staff in conjunction with local Public Health Service's goals and objectives. Although procedural guidelines for communicable disease investigation are made clear in the manual, it does not replace critical thinking and decision making that Public Health staff should use in their practice.

The manual has been organized under broad general disease categories: Enteric, Foodborne and Waterborne Diseases; Blood Borne Pathogens; Sexually Transmitted Diseases; Vaccine Preventable Diseases; Tuberculosis; Diseases Transmitted by Direct Contact and Respiratory Routes; and Vectorborne and other Other Zoonotic Diseases. Each specific disease section includes accurate and up-to-date information; public health services policies; investigative procedures; educational fact sheets and other information to assist staff in the investigation of the disease.

There have been four broad procedural sections written for the manual; they are the Enteric Diseases, Blood-Borne Pathogen Diseases, Sexually Transmitted Diseases, and Vaccine Preventable Diseases. These sections provide general information on investigative procedures that are appropriate for all diseases in each specific area.

This manual is only one of many references available to Public Health staff for communicable disease prevention and control. It is a tool to assist Public Health staff in their investigation and follow up of communicable diseases. Nevertheless, staff should continue to look for the latest relevant information when dealing with a communicable disease.

Standard Precaution Guidelines



This section is excerpted from the document “Partners for Infection Control, May 1999.”

1. Introduction

Standard Precaution Guidelines provide direction for all service providers, clients and visitors who may be at risk to exposure to communicable diseases.

The importance of meticulous and frequent hand washing is essential. Hand washing is the single most effective way to prevent the spread of infection.

Service providers or clients may carry an infectious disease. A person appearing healthy can carry organisms without having any symptoms and can spread the organisms to someone who is already compromised and at risk of becoming ill following contact with organisms.

Standard Precautions combine Universal Blood and Body Precautions and Body Substance Precautions. The combination of these precautions reduces the risk of contacting and transmitting infections related to blood-borne pathogens and pathogens from moist body substances e.g. urine, feces, saliva, wound discharge etc.

The following guidelines apply to direct caregivers or clients who are at risk for contact and/or transmission of a communicable disease.

Terms marked with a star* will be defined in the glossary, found at the end of this section.



2. Guidelines

HAND WASHING

Hand washing is the key to infection prevention and must be done by service providers and clients.

BARRIERS

Barriers include gloves, gowns, masks, eye wear, and mouth pieces. Barriers are only effective when worn properly.

GLOVES

Disposable* gloves should be worn when touching blood, body fluids, secretions* (saliva), excretions* (urine, feces), and items contaminated with these fluids. Gloves should be worn when touching mucous membranes* and broken skin. Gloves should be removed immediately after use, hands washed and new gloves used between client care or cleaning areas. Wash hands before touching non-contaminated* areas.

If you have an allergy to disposable gloves cotton gloves may be worn under the vinyl or latex gloves. If you have a chronic skin condition and your hands have open areas or bleed, contact your supervisor for instructions on precautions.

GOWNS/APRONS

Gowns/apron are required only when soiling from splashes or sprays of blood, body fluids, secretions or excretions is likely. Wash your hands after removing the gown/apron.

MASKS, EYE PROTECTION AND FACE SHIELDS

Masks, eye protection and face shields should be worn to protect mucous membranes* of the eyes, nose and mouth only when the situation/procedure is likely to result in splashes or sprays of blood, body fluids, secretions or excretions.

MOUTH PIECES

Mouth pieces are available and should be used when resuscitation is indicated.

3. Preventative measures

DIETARY

Established dietary policies and procedures for food handling and care of equipment must be followed. The use of disposable dishes are not routinely required to prevent the spread of infection. Hand washing is essential.

Food handling courses are available through the Department of Agriculture and Fisheries. Guidelines are available in the “Home Support Workers, Curriculum Standard, 1998”

GOOD HYGIENE AND WORK HABITS

Good hygiene and work habits are required to maintain health and minimize the risk of exposure and transmission of infection.

This includes:

- Personal grooming e.g. showering/bathing, hand care, nails trimmed and cleaned, proper diet and exercise and meticulous and frequent hand washing.
- Reduce splashes or sprays when completing procedures that involve blood, body fluids, secretions or excretions e.g. handling soiled linen.
- Do not eat, drink, smoke, apply make up, handle contact lenses or brush teeth when there is a reasonable risk for contact with blood, body fluids, infectious secretions or excretions.
- Do not store food and drink in an area where contact with blood, body fluids, secretions or excretions is likely.
- Follow guidelines for the use of personal protective equipment; wear as much or as little as needed to maintain safety.

GENERAL HOUSEKEEPING AND CLEANING

Routine housekeeping is sufficient. Follow your organization’s recommendation for cleaning or disinfection products. Further instructions will be provided should situations occur requiring an alternate method of cleaning or disinfecting.

Bathrooms may be shared with others and routine cleaning procedures are sufficient. It is essential that visible soiling with blood, body fluids, secretions or excretions is immediately cleaned and disinfected. Instructions for increased cleaning and or use of designated commodes will be provided if enteric precautions require that separate bathroom facilities are required.

Frequently handled areas such as door knobs, hand rails and bedrails should be cleaned and disinfected as a part of routine housekeeping procedures.



INFECTIOUS WASTE

Follow your organizations and municipality guidelines for infectious waste.

Do not over fill garbage bags.

Garbage bags should be carried away from clothing to prevent soiling.

Full garbage bags should be carried to prevent touching the floor and prevent ripping of the garbage bag.

LABORATORY SPECIMENS

Specimens must be transported in a manner that prevents contact with or leakage of contents. Follow organization's recommendation for handling specimens.

A specimen must never be discarded in regular garbage.

LINEN

All linen soiled with blood, body fluids, secretions or excretions should be handled, transported and processed in a manner that prevents skin and mucous membrane* exposure and soiling of clothing.

Carry the linen away from your clothing to prevent soiling

Do not throw linen freely on the floor.

Carry linen bag to prevent contact with the floor.

Wear gloves when handling soiled linen.

Follow your organization's recommendation when special precautions are required e.g. Clostridium difficile.

Wash your hands after handling soiled linen and before handling clean linen.

NEEDLES, SYRINGES AND ALL DISPOSABLE SHARPS

Needles, syringes and all disposable sharps should be handled with care to prevent accidental exposure to blood-borne pathogens. Needles, lancets, razor blades and other disposable sharps are to be discarded immediately after use into a puncture-proof container specifically designed for disposal of sharps.

Do Not:

Bend, break, or otherwise manipulate used needles by hand

Recap used needles, or other capped sharp items.

Overfill sharps containers

Any permucosal* or percutaneous* exposure must be reported immediately to the supervisor. Risk assessment must begin immediately.

PERSONAL CARE AND MEDICAL EQUIPMENT

All personal care or medical equipment e.g. adaptive aides, aerosols, suction equipment etc. must be changed regularly according to manufacturer's guidelines or have a regular cleaning/disinfecting schedule. Follow your organization's recommendation for cleaning or disinfection products.

All non - disposable equipment, designated for a specific client, must be cleaned and/or disinfected prior to being used for another client.

SPIILLS OF AN INFECTIOUS NATURE

Follow your organization's recommendation Protocol.

If there is no Blood/Body Spills Kit available the following procedure is used.

Equipment: disposable gloves, plastic garbage bag, paper towel, disinfectant (preferably bleach 1:10.)

Procedure:

- Wear gloves
- Wipe as much as possible and dispose in plastic bag
- Cover with paper towel and soak with disinfectant
- Leave for 10 minutes
- Remove gloves and wash hands
- Identify wet floors as appropriate
- Reapply gloves
- Remove paper towel and dispose in plastic bag
- Disinfect area
- Dispose of infectious material as per facility policy
- Remove gloves and wash hands.

TRANSPORTING CLIENTS

When being transported, clients' clothing and bedding should be free from visible soiling with blood, body fluids, secretions or excretions. All drainage systems (e.g. catheter bags) are to be adequately contained according to your organizations procedures.

VISITORS

Standard precautions do not require visitor restrictions. Visitors will be notified of communicable diseases based on their risk of contact e.g. loved one is currently symptomatic with a communicable infection.

If visible soiling with blood, body fluids, secretions or excretions, is noticed visitors are asked to alert a staff member immediately.

Visitors should wash their hands before and after visiting.

4. Glossary

Disposable:	Not for reuse. Disposed of following use.
Contaminated:	The soiling or making inferior by contact or mixture, as by introduction of organisms into a wound.
Excretion:	The act, process, or function of throwing off or eliminating, as waste matter, by a normal discharge e.g. feces, urine.
Mucous Membranes:	A surface layer of epithelial tissue covering a deeper layer of connective tissue that line cavities or canals of the body that open to the outside. They protect the underlying structure, secrete mucous, and absorb water, salts, and other solutions.
Percutaneous:	Through the skin.
Permucosal:	Through the mucous membranes.
Secretion:	The cellular process of developing a specific product e.g. saliva, gastric juices.

Guidelines for Outbreak Management



DEFINITION

An outbreak is the occurrence in a community or district of cases of an illness, specific health-related behaviour, or other health-related events clearly in excess of normal expectancy, OR

A single case of a communicable disease long absent from a population or first invasion by a disease not previously recognized in the area that requires immediate response (e.g. measles).

PRINCIPLES

The principles of outbreak management are:

1. All suspected outbreaks will be responded to immediately.
2. Upon confirmation of an outbreak, it will be investigated immediately and an outbreak management plan developed.
3. During and following an outbreak, appropriate intervention and education will be provided.
4. All appropriate agencies will be kept informed of the status of the outbreak.
5. An outbreak report will be completed and appropriate debriefing will follow.

General Guidelines for Investigation and Management of Outbreaks

This section provides guidelines for the investigation and management of an outbreak in Nova Scotia. Specific procedures for cases and special risk groups are included with the individual disease sections. District Public Health Services should have an “Outbreak Response Kit” available at all times.

1. Role of the Medical Officer of Health (MOH)

1.1. Function as the team leader:

- Ensure appropriate investigation and management of an outbreak situation.
- Determine if an outbreak is present, inform appropriate agencies and form an outbreak team.

1.2. Initiate Public Health Control Measures:

Initiate specific interventions during an outbreak.

1.3. Communicate outbreak information to Provincial Medical Officer of Health or Designate.

1.4. Ensure that debriefing occurs.

2. Role of the Investigator

The investigator should begin an investigation immediately upon receipt of report.

2.1. Determine status:

Contact source of the report and begin investigation of symptoms, possible exposures and number of individuals involved.

2.2. Notify MOH.

2.3. Function as member of the Outbreak Team.

3. Role of the Outbreak Team

The Outbreak Team works in conjunction with external agencies, conducts the outbreak investigation and implements control measures. The Outbreak Team meets as frequently as required.

Membership of the Outbreak Management Team may include:

- Medical Officer of Health (MOH)
- CDC Coordinator/Manager
- Public Health Nurse
- Food Safety Specialist, NS Department of Agriculture and Fisheries
- Inspector Specialist, NS Department of Environment and Labour
- Field epidemiologist
- Communication staff

External agencies/individuals on the Outbreak Management Team may include:

- Other provincial government departments
- Laboratory
- Individual(s) with content expertise
- Canadian Food Inspection Agency
- Contact person from affected institution (if applicable)
- Health Canada

3.1. Role of Food Safety Specialist, Department of Agriculture and Fisheries

The Food Safety Specialist is a member of the outbreak team that will investigate food borne illness as well as enteric outbreaks in institutions, e.g. daycares and long term care facilities.

3.2. Role of Inspector Specialist, Department of Environment and Labour

The Inspector Specialist is a member of the outbreak team.

4. Components of Outbreak Investigation and Management

Public Health Services in conjunction with the Department of Health leads the investigation of outbreaks occurring in Nova Scotia.

The following steps are not necessarily in order of priority and may be done simultaneously depending on the outbreak situation encountered.

4.1. Verify the diagnosis and the existence of an outbreak.

Notify MOH using initial outbreak reporting form. Assign an outbreak number.

4.2. Establish a case definition.

The case definition may include clinical symptoms and/or laboratory confirmation. Refer to specific disease for details.

4.3. Develop an interview questionnaire and other forms as required and review with the investigators.

4.4. Collect information.

The Outbreak Team reviews all available current information collected and determines what further information is required. Team members are designated to collect information. See Appendix 1 for investigation process diagram.

Information collected will include:

- Cases and contacts where appropriate.
- Information related to individuals involved - person, place & time
 - Inquire about common social events such as a wedding, reception, anniversary, party, sports events. Obtain a guest list and menu if possible; determine what food was served and where food was purchased.
 - Inquire about travel.
- Possible exposures (e.g. menus, common food item).
 - If a common social event is identified, determine what food was served, obtain a menu and identify where food was purchased.
 - Identify common food ingested, and any other food that was served that might not be on the menu.
 - Determine if there might have been another social event where the same individuals shared food.
 - Inquire about travel.
- Consultation with Laboratory regarding collection of specimens (clinical and/or environmental). Label specimens and requisitions with outbreak number.

Information will be obtained through:

- Interviews with involved individuals/agencies.
- Environmental inspection (facility/site).
- Literature review.
- Consultation with experts.
- Laboratory testing.

4.5. Complete preliminary analysis of information.

- Review case definition.
- Determine attack rates and epidemic curve.
- Formulate tentative hypotheses regarding source and transmission.

4.6. Develop communication plan.

The Outbreak Team reviews and determines necessary information to be communicated. If necessary, bring in district or provincial communication expertise.

The communication plan should consider the following target groups:

- Community at risk and community at large.
- Internal staff, other District Public Health Services.
- Health professionals and institutions.
- Provincial and federal departments.
- Laboratory.

One member of the Outbreak Team should be designated to respond to inquiries from the media and coordinate response to the public. Consider whether a 1-800 line is needed.

4.7. Initiate control measures based on findings.

Determine interventions and treatment such as:

- Necessity of contact tracing.
- Preventative measures – immunization, exclusion, prophylaxis.
- Removal of agents/exposure.
- Address the source of the outbreak (see specific disease sections for control measures of identified source of outbreak).
- Refer to relevant outbreak management guidelines as follows:
 - For **enteric outbreaks in long term care facilities**, refer to *Partners for Infection Control Guidelines*.
 - For **enteric outbreaks in the community**, refer to *IAMFES, Procedures to Investigate Foodborne Illness*.
 - For **influenza outbreak control in long term care facilities**, refer to *Partners for Infection Control Guidelines*.
 - For **respiratory outbreak control in long term care facilities**, refer to *Partners for Infection Control Guidelines*.

4.8. Education

Provide education for individual cases, institutions and/or agencies involved, e.g. childcare centre, long term care facility, volunteer groups or food establishments. See specific disease for educational requirements regarding control measures.

4.9. Re-evaluate most current information and outbreak control measures on a continuous basis.

4.10. Further studies.

Further studies or special investigations may be warranted to gain insight into source, transmission or more effective control measures.

4.11. Determine when outbreak is over.

The Outbreak Team determines when the outbreak can be declared over.

4.12. Evaluate outbreak control and management.

The Outbreak Team reviews the investigation and management of the outbreak and makes recommendations for future outbreak management.

4.13. Complete report.

Use the Nova Scotia Illness Outbreak Reporting Forms (Initial and Final Report). Also complete a detailed report with epidemiology, inspection report, etc.

5. Role of the Physician

5.1. Report suspected outbreak:

Report any suspected food and water borne outbreaks and provincially legislated notifiable diseases. Also report unusual cluster illness.

5.2. Diagnose and treat.

Diagnose and treat individual cases that are his/her patients.

5.3. Facilitate specimen collection.

Work with the primary investigator to facilitate specimen collection for patients that may be excluded from work or child-care.

5.4. Provide patient education.

In consultation with Public Health Services, provide patient education and follow up of cases and contacts that are his/her patients.

5.5. Consider issues around exclusions and returns to work or childcare.

Work with Public Health Services to determine when an individual may return to work/child-care in cases of exclusions.

6. Role of the Laboratory

In consultation and discussion with the MOH, it is the responsibility of the laboratory to complete laboratory testing and report immediately by telephone (with follow-up in writing) all positive lab results relating to the outbreak. The laboratory acts as a consultant to review the case findings and recommend an/or suggest further testing. The Outbreak Team should make an early decision regarding saving specimens and/or isolates.

7. Surveillance Forms

Use the Nova Scotia Illness Outbreak Reporting Forms (Initial and Final Report) in *Working Guide: Notifiable Disease Reporting System in Nova Scotia* or other appropriate forms.

References

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- Dictionary of Epidemiology*, Second Edition. 1998. John M. Last, Oxford University Press.
- IAMFES, Procedures to Investigate Foodborne Illness*. 4th edition. 1987. International Association of Milk, Food and Environmental Sanitarians, Inc. Iowa.
- IAMFES, Procedures to Investigate Waterborne Illness*. 1st edition. 1979. International Association of Milk, Food and Environmental Sanitarians, Inc. Iowa.
- Report of the Committee on Infectious Diseases*, 1988. American Academy of Pediatrics.

Outbreak Kit

List of Kit Contents

- Specimen containers:
 - Carey-blair – culture & sensitivity
 - SAF fixative – ova & parasites
 - Plain sterile container – virology
- Ziploc bags with pockets
- Laboratory requisitions
- Stamps with MOH name and address – outbreak
- Outbreak stickers – bright coloured
- Note paper
- Pens
- Highlighter
- Follow-up forms
- NS illness outbreak reporting forms
- Instructions for specimen collection
- Post Its
- Elastic bands
- Brown paper bags
- Rubber gloves
- Ink pad
- List of contact names and phone numbers (MOHs, microbiologists, CFIA, Department of Agriculture and Fisheries Food Safety specialists, Department of Environment and Labour staff, and appropriate district staff, etc.)

Appendix 1: Outbreak Management



Outbreak Investigation/Management Flow Chart

