

Editor's key points

► Family physicians are often the first contact with the health care system for suspected cases of communicable disease. They play a critical role in the management and control of communicable disease outbreaks in the community through early identification and reporting.

► Family physicians have a responsibility to notify public health authorities of suspected or confirmed cases of reportable diseases and should not rely on laboratories to report on their behalf.

► If clinically suspected, ordering the correct investigations for communicable diseases can help to ensure a quick and effective public health response.

Points de repère du rédacteur

► Les médecins de famille sont souvent le premier point de contact dans le réseau de la santé pour les cas soupçonnés de maladies transmissibles. Ils jouent un rôle essentiel dans la prise en charge et le contrôle des éclosions de maladies transmissibles dans la communauté par l'identification et la déclaration précoces.

► Les médecins de famille ont la responsabilité de signaler aux autorités de la santé publique les cas soupçonnés ou confirmés de maladies à divulgation obligatoire et ne devraient pas s'en remettre aux laboratoires pour qu'ils le fassent en leur nom.

► Lorsque des maladies transmissibles sont cliniquement soupçonnées, la prescription des investigations appropriées peut aider à assurer une réaction rapide et efficace de la santé publique.

Important role of family physicians in reporting communicable diseases

Outbreak of hepatitis A in a kindergarten class

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A recent outbreak of hepatitis A virus infection in a kindergarten setting highlights the contribution of family physicians to the identification of communicable disease in the community. Hepatitis A virus is spread from person to person through fecal-oral transmission, and consequently outbreaks can occur in day-care centres and kindergarten classes.^{1,2} As a result of incomplete laboratory investigations, laboratory error, and physician failure to report to public health authorities, the virus was able to spread unimpeded among a susceptible kindergarten class.

As the initial point of contact for most Canadians engaging the health care system, family physicians often have the first opportunity to identify and diagnose communicable diseases of concern for public health.

In Canada, all provinces and territories have a list of communicable diseases that must be reported to public health authorities.³⁻⁵ Diseases are assessed for inclusion using specific criteria.⁶ These lists are reviewed regularly and developed with extensive consultation. All physicians have a legislated responsibility to report suspected or confirmed cases of these diseases. Despite some minor variation across provinces and territories, the reportable disease process is largely similar for physicians across the country. Examples of reportable diseases in Canada can include hepatitis A, measles, *Legionella*, and sexually transmitted infections such as chlamydia or gonorrhea.^{3-5,7}

Public health action might depend on laboratory confirmation of disease.

By notifying public health authorities, and ordering the appropriate investigations to confirm the diagnosis, family physicians can help to prevent outbreaks by enabling public health units to initiate a timely and effective public health response.⁸ This is particularly important when the timely administration of postexposure prophylaxis to exposed contacts who are at risk of developing disease is effective in attenuating transmission; such is the case with hepatitis A.⁹ When there are delays or failures in the identification and reporting of these diseases, outbreaks can occur.¹⁰

Case

In late December 2016, the communicable disease team at a local public health unit received a laboratory report showing positive results for hepatitis A-specific immunoglobulin (Ig) M antibodies in a 5-year-old boy. Follow-up with the family confirmed that the child had symptoms consistent with acute hepatitis A virus infection including jaundice, fever, abdominal pain, pale stool, and dark urine. The child was excluded from school, and public health investigators began an investigation to identify the source of this infection and to limit its spread. Postexposure prophylaxis (in the form of hepatitis A vaccine) was offered to susceptible students in the kindergarten class and their household contacts.

The child had not recently traveled outside of Canada, and his household contacts had not experienced symptoms consistent with acute hepatitis. However, on follow-up with other students in the child's kindergarten class,

it was found that 2 other students had experienced similar symptoms earlier in the fall. Both students had been assessed by physicians and were diagnosed with hepatitis A virus infection.

Despite a mandated responsibility for both health care providers and laboratories to report acute hepatitis A, neither of these cases were reported to public health authorities. In one case, the appropriate investigations for acute hepatitis A were completed at a local emergency department. However, owing to a breakdown of the facsimile machine in the hospital laboratory, public health authorities were not notified of the positive hepatitis A IgM antibody result. In the second case, the investigations were incomplete, consisting only of hepatitis A IgG serology. The presence of this antibody is not diagnostic of acute infection and consequently did not trigger the laboratory to inform public health authorities. In both cases, the diagnosis was not reported by the treating physicians to the local public health unit.

Discussion

This outbreak highlights the important role that family physicians play in the control of communicable disease outbreaks. Transmission of hepatitis A virus might have been avoided if public health authorities had been notified of the earliest classroom case. That child would have been appropriately isolated and excluded from the class, and postexposure prophylaxis could have been administered with greater expediency. Unfortunately, the virus was able to spread, resulting in avoidable secondary cases.

Family physicians, through diagnosis and reporting, play an important role in outbreak detection and, by extension, outbreak control. Although physicians might rely on laboratories to report to authorities, incorrect diagnostic investigations or laboratory error can delay or prevent reporting. Physicians have a duty to report, and it is critical for them to have the contact information for their local public health unit.

Conclusion

In addition to a thorough history and physical examination, family physicians can enable a timely public health response for acute reportable viral illnesses like hepatitis A by ordering the correct diagnostic tests. Determining which tests to order can be challenging. Many of these diseases are not commonly encountered and might require additional investigations to confirm an acute case. Appropriate investigations for some acute viral illnesses are highlighted in **Table 1**.¹¹⁻¹⁵ Local or provincial public health authorities can be a helpful source of information and guidance when clinicians are unsure of the appropriate investigations (eg, www.publichealthontario.ca or www.bccdc.ca).

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Table 1. Appropriate initial investigations for common suspected viral illnesses

SUSPECTED ACUTE VIRAL ILLNESS	APPROPRIATE INVESTIGATIONS FOR ACUTE ILLNESS
Hepatitis A	• Serology for IgM and IgG antibodies
Hepatitis B	• Hepatitis B surface antigen • Anti-hepatitis B surface antibody • Anti-hepatitis B core antibody
Hepatitis C	• Anti-hepatitis C antibody
Measles	• Serology for IgM and IgG antibodies • Throat or NP swab of measles RNA • Urine for measles RNA
Mumps	• Serology for IgM and IgG antibodies • Buccal swab for mumps RNA • Urine for mumps RNA

Ig—immunoglobulin, NP—nasopharyngeal, RNA—ribonucleic acid.
Data from the Ontario Ministry of Health and Long Term Care.¹¹⁻¹⁵

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Acknowledgment

We acknowledge the contributions of the Control of Infectious Disease and Infection Control team at Toronto Public Health under the management of **Debra Hayden**.

Competing interests

None declared

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This article has been peer reviewed.

Cet article a fait l'objet d'une révision par des pairs.

Can Fam Physician 2018;64:742-3