

# The epidemiology of hepatitis C in Canada

This fact sheet provides a snapshot of the hepatitis C epidemic in Canada. All epidemiological information is approximate, based on the best available data. Most of the data in this fact sheet come from national hepatitis C surveillance and estimates data published by the Public Health Agency of Canada. More information can be found in the section “Where do these numbers come from?” at the end of the fact sheet.

## What is hepatitis C?

Hepatitis C is a liver infection caused by the hepatitis C virus. About one in four people clear hepatitis C on their own (spontaneous clearance), and the others go on to develop chronic hepatitis C that will need treatment to be cured. Treatments are highly effective at curing hepatitis C.

If left untreated, the hepatitis C virus causes inflammation over time, destroying healthy liver cells and causing the liver to replace them with scar tissue. This happens in a process called fibrosis. Over time, more of the liver gets replaced with scar tissue until nearly all of the liver is scarred; this is called cirrhosis. Chronic hepatitis C infection is associated with an increased risk of liver cancer, liver failure and early death.

There is no vaccination available against hepatitis C and there is no lasting immunity to hepatitis C.

## Why are certain populations disproportionately impacted by hepatitis C in Canada?

Hepatitis C can affect anyone, no matter their age, sex, gender, sexual orientation, race or ethnic origin. However, certain populations carry a disproportionate burden of hepatitis C in Canada. In Canada, the hepatitis C epidemic is concentrated in marginalized communities because of structural and social factors that create health inequities. These communities, sometimes called priority populations, include:

- people who inject or use drugs
- people with experience in the prison system

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- Indigenous peoples (First Nations, Inuit and Métis)
- gay, bisexual and other men who have sex with men (gbMSM)
- immigrants and newcomers from countries where hepatitis C is common

As well, adults in the 1945–1975 birth cohort are disproportionately affected by hepatitis C.

While these populations have higher rates of hepatitis C and carry a disproportionate burden of hepatitis C compared with the broader population, this does not mean that being a member of one of these populations is itself a risk factor for hepatitis C. Rather, the intersections of many factors and experiences over an individual's lifetime can lead to increased risk among people within these populations. It is also important to recognize the strengths and protective factors that exist within each of these communities and to work to build on those strengths to support and enhance health and wellness.

### What statistics are available in Canada to inform programming?

There are two main types of numbers available: hepatitis C estimates and hepatitis C surveillance data (reported hepatitis C diagnoses).

Hepatitis C estimates are developed by the Public Health Agency of Canada through statistical modelling, using a variety of data sources. There are two main types of estimates:

- *Incidence* estimates tell us how many people got hepatitis C in a given year; some people may have been diagnosed in that year, and others may not have been.
- *Prevalence* estimates tell us how many people have ever had hepatitis C and how many people are living with chronic hepatitis C.

Hepatitis C surveillance data are also published by the Public Health Agency of Canada and tell us how many people were diagnosed with hepatitis C in a given year. This information does not tell us when they got hepatitis C, just when the diagnosis was made. People may have had hepatitis C for many years before diagnosis.

### How many new hepatitis C infections are there in Canada (incidence)?

According to national hepatitis C estimates, there were 9,470 new hepatitis C infections in 2019.

These data are broken down only by birth cohort. Among the 9,470 new hepatitis C infections:

- 5,115 new infections occurred in people born after 1974
- 4,354 new infections occurred in people born between 1945 and 1974
- 0 new infections occurred in people born before 1945

Hepatitis C infections have decreased steadily since 2012, when there were an estimated 10,173 new infections.

### How many people have ever had hepatitis C in Canada (prevalence)?

According to national hepatitis C estimates, there were an estimated 387,000 people who had ever had hepatitis C in 2019. The prevalence rate was 1.0%, which means that for every 100 Canadians, 1.0 had ever had hepatitis C.

In 2019, of the estimated 387,000 people who had ever had hepatitis C:

- 61,600 were people who inject drugs
- 175,000 were people with a history of injecting drugs
- 4,050 were people who are incarcerated
- 134,000 were Indigenous people
- 23,400 were gay, bisexual and other men who have sex with men

- 178,000 were immigrants
- 242,000 were adults born between 1945 and 1975

*\*As a person can belong to more than one priority population, these numbers total more than 387,000 people.*

In 2019, compared with the prevalence rate of 1.0% for all Canadians, certain populations were disproportionately affected by hepatitis C:

- 46.1% of people who inject drugs (within the previous six to 12 months) had ever had hepatitis C
- 44.9% of people with a history of injecting drugs had ever had hepatitis C
- 10.7% of people who are incarcerated had ever had hepatitis C
- 7.4% of Indigenous people had ever had hepatitis C
- 3.7% of gay, bisexual and other men who have sex with men had ever had hepatitis C
- 1.5% of immigrants had ever had hepatitis C
- 1.7% of adults born between 1945 and 1975 had ever had hepatitis C

*\*As a person can belong to more than one priority population, these percentages total more than 100%.*

### **How many people have ever had hepatitis C in Canada and are unaware (undiagnosed)?**

Of the people who, as of 2019, had ever had hepatitis C, an estimated 79,500 people (24.0%) were unaware they had it (undiagnosed). Of those who had ever had hepatitis C and who were in populations disproportionately impacted by hepatitis C an estimated:

- 22.0% of people who inject drugs were unaware they had ever had hepatitis C
- 22.0% of people who are incarcerated were unaware they had ever had hepatitis C

- 8.8% of gay, bisexual and other men who have sex with men were unaware they had ever had hepatitis C
- 34.4% of adults born between 1945 and 1975 were unaware they had ever had hepatitis C

This information is not available for people with a history of injecting drugs, immigrant populations and Indigenous people.

### **How many people have chronic hepatitis C in Canada (prevalence)?**

According to national hepatitis C estimates, 204,000 people were living with a chronic hepatitis C infection in Canada at the end of 2019. Among the populations disproportionately affected by hepatitis C, in 2019:

- 36.9% of people who inject drugs had a chronic hepatitis C infection
- 29.6% of people with a history of injecting drugs had a chronic hepatitis C infection
- 3.7% of people who are incarcerated had a chronic hepatitis C infection
- 3.5% of Indigenous people had a chronic hepatitis C infection
- 1.1% of gay, bisexual and other men who have sex with men had a chronic hepatitis C infection
- 0.9% of adults born between 1945 and 1975 had a chronic hepatitis C infection

This information is not available for the immigrant population.

### **How many people have been treated for hepatitis C?**

From the time that direct-acting antiviral treatment was introduced in 2014, until 2019, an estimated 74,500 people with chronic hepatitis C were treated.

- 65.9% of these treatments occurred between 2017 and 2019

- From 2015 - 2019, the number of people treated for hepatitis C each year surpassed the number of new infections each year

## Is Canada reaching hepatitis C elimination targets?

The World Health Organization (WHO) has established a global health sector strategy to eliminate viral hepatitis including hepatitis C, by 2030. Canada has joined countries around the world in committing to eliminate hepatitis C as a public health threat by 2030.

There are targets for the years 2020 and 2030.

The targets for 2020 are:

- **30%** reduction in new cases of hepatitis C by 2020
- **30%** of infections diagnosed by 2020
- **30%** of eligible people receiving treatment by 2020
- **10%** reduction in hepatitis C deaths by 2020

*\*These are the targets for which epidemiological data are available from the Public Health Agency of Canada.*

- As of 2019, Canada has surpassed the 2020 targets for diagnosis and treatment but has not met the targets for reducing the number of new cases or reducing the number of hepatitis C deaths.
- In 2019, there were an estimated 9,470 new hepatitis C infections, which represents a **2%** reduction in new infections since 2015.
- As of 2019, an estimated **76%** of people who had ever had hepatitis C in Canada had been diagnosed.
- Between 2014 and 2019, an estimated **30%** of people living with chronic hepatitis C had been treated (74,500 people).
- In 2019, there were 2,692 hepatitis C related deaths, corresponding to a death rate of 7.4 per 100,000 people. There was a **7%** increase in deaths since 2015.

- The targets for 2030 are:
- **90%** reduction in new cases of hepatitis C by 2030
- **90%** of infections diagnosed by 2030
- **80%** of eligible people receiving treatment by 2030
- **65%** reduction in hepatitis C deaths by 2030

Canada has not met any of the targets for 2030.

## How many people are newly diagnosed with hepatitis C?

According to national hepatitis C surveillance data, there were 6,736 hepatitis C diagnoses in Canada in 2020. This means that for every 100,000 Canadians, 18.4 people were diagnosed with hepatitis C. Based on limited data (as not all provinces report infection status) 186 diagnoses were acute, 2,012 were chronic and 4,538 were unspecified.

The hepatitis C diagnosis rate increased from 2011 to 2018 (by 24%) and then decreased from 2018 to 2019 (by 10%). Because of a decrease in testing during the COVID-19 pandemic, the diagnosis rate decreased substantially from 2019 to 2020 (by 40%).

## Who is being diagnosed with hepatitis C?

According to 2020 national hepatitis C surveillance data:

- Among those whose sex was known, more males than females were diagnosed: 62.3% of new hepatitis C diagnoses were in men and 37.7% were among women.
- Males had a higher rate of hepatitis C diagnoses than females: the rate of hepatitis C diagnoses among males was 22.9 cases per 100,000 males and among females was 13.7 cases per 100,000 females.
- Among males, those aged 30 to 39 had the highest hepatitis C diagnosis rate at 43.1 cases per 100,000 males aged 30 to 39.

- Among females, those aged 25 to 29 had the highest hepatitis C diagnosis rate at 32.3 cases per 100,000 females aged 25 to 29.

### Where are hepatitis C diagnosis rates the highest?

According to 2020 national hepatitis C surveillance data, there were eight provinces with hepatitis C diagnosis rates above the national average of 18.4 cases per 100,000:

- Saskatchewan (38.5 per 100,000)
- British Columbia (27.8 per 100,000)
- Yukon (26.1 per 100,000)
- Newfoundland and Labrador (26.0 per 100,000)
- Nova Scotia (25.2 per 100,000)
- New Brunswick (23.9 per 100,000)
- Prince Edward Island (19.9 per 100,000)
- Ontario (19.2 per 100,000)

Four provinces and territories had diagnosis rates below the national average:

- Alberta (13.6 per 100,000)
- Quebec (9.2 per 100,000)
- Nunavut (too low to report)
- Northwest Territories (too low to report)

Manitoba did not provide surveillance data in 2020.

### How is Canada doing at reaching people who inject drugs with key services along the continuum of care?

According to a surveillance study conducted with people who inject drugs in Canada between 2017 and 2019:

- 64.2% had ever had hepatitis C in their lifetime (antibody positive).

- 36.9% had a current chronic hepatitis C infection (a positive result on an RNA test). Of these, 50.1% were aware of their current hepatitis C infection.
- Among participants aware of their current hepatitis C infection, 48.5% had been linked to hepatitis C care, 10.6% had ever been on hepatitis C treatment and 3.8% were currently taking hepatitis C treatment.

### Key definitions

**Hepatitis C prevalence**—The number of people with hepatitis C at a point in time or the number who have ever had hepatitis C at a point in time. Prevalence tells us how many people have hepatitis C or have ever had hepatitis C.

**Hepatitis C incidence**—The number of new hepatitis C infections in a defined period of time (usually a year). Incidence tells us how many people are getting hepatitis C.

**Hepatitis C diagnosis**—The number of new hepatitis C diagnoses in a defined period of time (usually a year). Hepatitis C diagnoses tell us how many people have been diagnosed within a certain time frame.

### Where do these numbers come from?

All epidemiological information is approximate, based on the best available data. The information in this fact sheet comes from data supplied by the Public Health Agency of Canada, including hepatitis C estimates, hepatitis C surveillance data and the Tracks survey of people who inject drugs in Canada (population-specific surveillance study).

### National estimates of hepatitis C prevalence and incidence

National hepatitis C estimates are produced by the Public Health Agency of Canada using statistical modelling that takes into account some of the limitations of surveillance data reported to the Public Health Agency of Canada. It also accounts for the number of people with hepatitis C who are undiagnosed and the number of people with hepatitis C who have died.

## Hepatitis C diagnoses (routine hepatitis C surveillance)

Healthcare providers are required to report hepatitis C diagnoses to their local public health authorities. Each province and territory then compiles this information and provides it to the Public Health Agency of Canada. This information does not contain names or personal identifiers. Limited additional information is also collected and sent to the Public Health Agency of Canada (e.g., age and gender).

## Population-specific surveillance

The Public Health Agency of Canada monitors trends in key populations through periodic cross-sectional surveys conducted at selected sites in Canada. Because these systems only recruit participants voluntarily and are conducted only in certain locations, the results do not represent all people who belong to each population in Canada.

The Tracks survey of people who inject drugs in Canada is the national surveillance system of people who inject drugs conducted by the Public Health Agency of Canada. Through this surveillance system, anonymous information is collected directly from people who inject drugs, using a questionnaire and a biological specimen sample for HIV and hepatitis C testing. Phase Four of this cross-sectional survey was administered at selected sites (typically needle and syringe programs) across Canada from 2017 to 2019.

## References

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