

Profiles on Health

October 2016

Multiple sclerosis in New Brunswick

Multiple sclerosis (MS) is an unpredictable, potentially disabling disease of the central nervous system (brain, spine and the nerves that connect them). Signs and symptoms of MS vary widely by person, but they can include vision problems, muscle weakness and spasms, loss of coordination, pain, bladder problems, mood changes and extreme tiredness. Some people with severe MS may lose the ability to walk, while others may experience long periods of remission without any new symptoms.

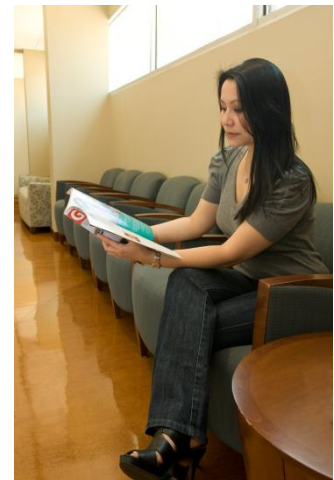
The cause of MS is not known, but it likely involves some interplay of genetic and environmental factors [1,2]. While there is no known cure, many of the symptoms can be treated effectively with drugs and rehabilitation. In rare cases, MS is terminal, but most people with MS have the same or close to the same life expectancy as the general population [2].

One out of every 400 New Brunswickers 20 and older has multiple sclerosis

The most common disabling neurological condition affecting young adults, MS usually first appears between the ages of 20 and 40. The disease is more common among women than men [3-5].

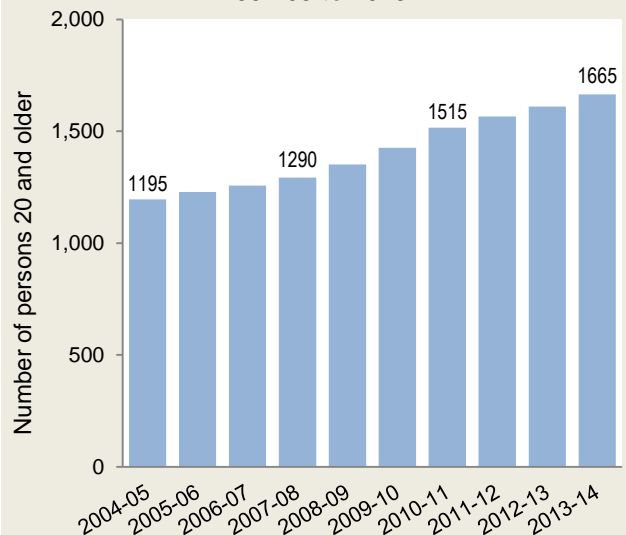
Provincial chronic disease surveillance data indicate an estimated 1,665 New Brunswickers 20 and older have been diagnosed with MS, or approximately 1 out of every 400 New Brunswickers (Figure 1). The number of persons with MS has been increasing with the growth and aging of the population, as more people are living longer with MS.

MS can occur among children, although it is challenging to diagnose since many other health conditions in children mimic the symptoms of



A woman waits to be seen by a health-care provider. About 90 New Brunswickers receive a medical diagnosis of multiple sclerosis each year, women more often than men.

Figure 1: Trends in the number of New Brunswickers with multiple sclerosis, 2004-05 to 2013-14



Source: New Brunswick Department of Health, using data from the Canadian Chronic Disease Surveillance System.

MS. While there is no single test to diagnose MS, magnetic resonance imaging is often used to support the diagnostic process.

Taking into account population growth, the prevalence (total number of cases) of MS has been increasing in New Brunswick, and at a pace largely in line with the national average (Figure 2). Since MS is a chronic disease, increasing prevalence is largely a reflection of an older population and greater longevity.

Chronic neurological conditions such as MS account for more than one-half of Canadians requiring continuing care, including those using home care programs or living in a long-term care facility [6]. In New Brunswick, some 95 persons with MS live in long-term residential care facilities, representing one per cent of the province's institutionalized population [7].

Each year 90 new cases of multiple sclerosis are diagnosed in New Brunswick

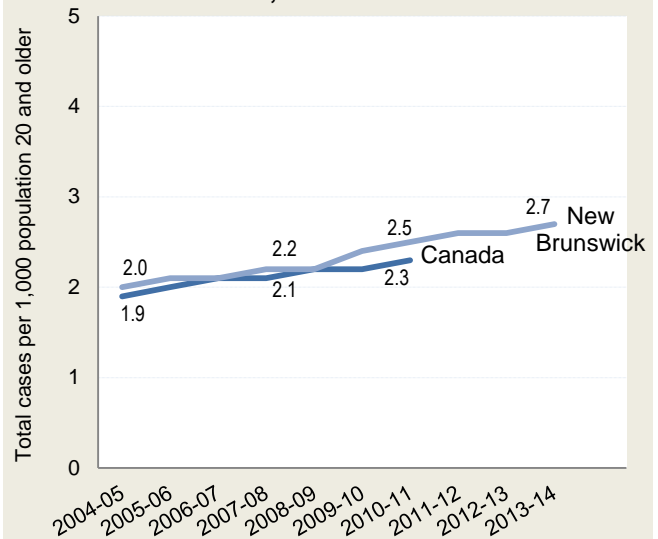
While the incidence (new cases) of MS has experienced some year-to-year fluctuations in New Brunswick during the past decade or so, it has remained relatively stable at around 0.15 per 1,000 population – about 90 new diagnoses each year (Figure 3). The incidence rate has stayed close to the Canadian average [4].

For MS and other neurological conditions whose risk does not increase markedly with age, the incidence count is likely to continue to parallel population growth during the next 20 years [6].

Canada lies among the world's high-frequency zones for multiple sclerosis

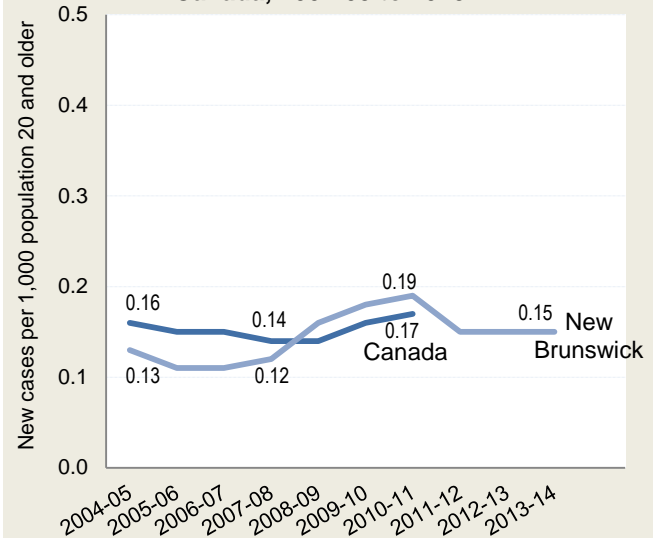
The frequency of MS varies by geographical region throughout the world, more common in temperate climates, especially in Europe and North America. Countries with the highest estimated prevalence of MS include Canada, the United States, Germany, Norway, Denmark and Cyprus, among others [2,8]. Better understanding of the genetic and environmental factors influencing this disease is needed to help understand why this is the case and, eventually, inform the development of prevention and control strategies.

Figure 2: Trends in the prevalence rate of multiple sclerosis, New Brunswick and Canada, 2004-05 to 2013-14



Source: New Brunswick Department of Health and Public Health Agency of Canada, using data from the Canadian Chronic Disease Surveillance System.

Figure 3: Trends in the incidence rate of multiple sclerosis, New Brunswick and Canada, 2004-05 to 2013-14



Source: New Brunswick Department of Health and Public Health Agency of Canada, using data from the Canadian Chronic Disease Surveillance System.

- For more information about multiple sclerosis and related community resources, visit the Multiple Sclerosis Society of Canada: www.mssociety.ca.
- For information about the New Brunswick Multiple Sclerosis Plan, a provincial drug plan that helps New Brunswickers with affordable access to certain MS drugs, visit www2.gnb.ca/content/gnb/en/services/services_renderer.8938.html.

About the data

Measures of the incidence and prevalence of multiple sclerosis in New Brunswick were calculated using custom extracts of anonymized records from different provincial administrative databases, including the health insurance registry, physician billing and hospital discharge abstract databases, drawing on Canadian Chronic Disease Surveillance System (CCDSS) infrastructure, privacy protocols and case definitions. New Brunswick has a universal single-payer health-care system that covers all physician and hospital services for residents. Full-time members of the Canadian Forces and people in federal correctional facilities are not included in the provincial databases.

The CCDSS identifies people with diagnosed multiple sclerosis using an algorithm validated through a collaborative network supported by the Public Health Agency of Canada. Information from the discharge abstract database includes clinical diagnoses for inpatient hospital stays, coded using the *International Classification of Diseases and Related Health Conditions* (ICD-10-CA). Data from the physician billing database are based on search patterns for “multiple sclerosis” and related nomenclature, including all fee-for-service payments for services rendered as well as alternate payment structures using shadow-billing claims. Factors such as coding/classification systems, clinical practices or billing methods may influence the rates that are estimated from administrative data.

References

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5. New Brunswick Department of Health, “Neurodegenerative diseases in New Brunswick.” *New Brunswick Health Indicators*, Issue 4. Fredericton, 2012 (http://www2.gnb.ca/content/dam/gnb/Departments/h-s/pdf/en/Publications/Health_Indicators4.pdf, accessed Sept. 27, 2016).
6. Public Health Agency of Canada and Neurological Health Charities Canada, *Mapping Connections: An understanding of neurological conditions in Canada*. Ottawa, 2014.
7. Statistics Canada, “Table 105-1305: Neurological conditions in institutions, by age, sex, and number of residents, Canada, provinces and territories, 2011/2012.” *CANSIM* [online database]. Ottawa (<http://www5.statcan.gc.ca/cansim>, accessed Sept. 27, 2016).
8. Multiple Sclerosis International Federation, *Atlas of MS 2013*. London (<https://www.msif.org/about-us/advocacy/atlas>, accessed Sept. 27, 2016).

Multiple sclerosis in New Brunswick is available at www.gnb.ca/health.

Ce document est également disponible en français sur le site Web du Ministère de la Santé du Nouveau-Brunswick (www.gnb.ca/santé).

Image courtesy of Centers for Disease Control and Prevention.

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