

## Asthma Facts and Statistics

### What is asthma?

Breathing is something that most Canadians take for granted, but for Canadians who have asthma, breathing can be a challenge. Asthma is a chronic disease of the airways caused by swelling and inflammation of the airway, lining, and tightening of the muscles around the airways, which block the flow of air through the lungs. This chronic disease affects more than 3.8 million people in Canada.<sup>1</sup>

Asthma symptoms typically include cough, wheeze, shortness of breath, chest tightness and increased mucous production. With increased airway inflammation, the lining of the airways become irritated and swollen, leading to an exacerbation of symptoms.

There is still much research that needs to be done to fully understand how to prevent, treat and cure asthma. Even though most people with asthma do not die as a result of the disease, they may spend part of their daily lives coping with the symptoms. But, with proper management, people can live healthy and active lives.

### Who is affected by asthma?

Asthma affects people all over the world and of all ages – in Canada, it is the third-most common chronic disease.<sup>2</sup> Those most affected in Canada are children and asthma continues to be a major cause of hospitalization for children in Canada.<sup>3</sup>

- It is estimated that over 3.8 million people in Canada currently suffer from asthma<sup>4</sup>; approximately 850,000 of those are children under the age of 14.<sup>5</sup>
- Asthma is the most common chronic disease among children.<sup>6</sup>
- 317 Canadians are diagnosed with asthma every day.<sup>7</sup>
- Severe Asthma (SA), a greater threat to health, impacts between 150,000 and 250,000 Canadians.<sup>8</sup>
  - Severe Asthma is defined as continued asthma symptoms, frequent worsening of asthma symptoms, and attacks among patients who take multiple asthma medicines with a high degree of compliance and good trigger management.<sup>9</sup>
- Some Canadians are hit harder by asthma: it is 40 per cent more prevalent among First Nations, Inuit, and Metis communities than in the general Canadian population.<sup>10</sup>

### How is asthma diagnosed?

The diagnosis of asthma entails taking a detailed medical history, conducting a physical examination of the nose, throat, and upper airways, using a stethoscope to listen for the presence of wheezing in the lungs, and evaluating the skin for allergic conditions such as skin eczema.

Spirometry is the principal test that clinicians use to assess pulmonary function and determine if an individual has asthma. Patients are asked to inhale and then exhale into a tube which is attached to a spirometer. The spirometer records the volume a patient exhales and the speed with which a patient exhales. When the measures are below normal, taking into account someone's age, it may be a sign that asthma is present. Allergy tests may also be done to look for allergic triggers.

### How is asthma treated and managed?

Asthma patients generally take two types of medications: one to address the underlying inflammation in their airways and one to treat symptoms when they occur such as wheezing or shortness of breath. Inhaled corticosteroids are taken to address the underlying inflammation associated with asthma. When asthma control is still not achieved with inhaled corticosteroids, additional medications such as leukotriene receptor antagonists (LTRAs) can be prescribed. LTRAs are available in tablet form and as

sprinkles for very young children. Rescue inhalers or asthma “puffers” are taken when a patient with asthma has shortness of breath. These inhalers relax the muscles around the airways and open up the airways. They can be used in a preventative manner, for example, before exercise to prevent an asthma attack.

One of the first steps that a patient with asthma can take to treat and manage their asthma, is to avoid or minimize exposure to triggers that bring on or worsen asthma.

### What triggers asthma?

In the presence of specific triggers, patients with asthma can experience worsening of their symptoms. Triggers can be environmental and include allergens, such as pollens, mold spores, pet dander, and dust mites, and irritants, such as strong odours, air pollution, or tobacco smoke. Seasonal allergies can also make asthma worse. Apart from allergens and irritants, exercise, cold air, and intense emotions can also provoke or worsen asthma symptoms as can exposure to second-hand smoke. The causes of asthma are complex and include genetic factors, allergen exposure, and hormonal influences.<sup>11</sup>

### What are the differences between mild-to-moderate asthma and Severe Asthma?

Patients who have mild-to-moderate asthma can control their disease with medications and largely avoid visits to hospital emergency rooms. By comparison, patients who have Severe Asthma in spite of high doses of medications may still be unable to control their disease. They are susceptible to asthma attacks that lead them to emergency rooms, hospital admission, and even death. Patients with Severe Asthma may have to curtail activities in their daily lives including work, sports, school, and social events. Medication for Severe Asthma often include oral steroids, but medications called biologics, which are taken by injection, are being approved by regulatory bodies for management of Severe Asthma.

### Is asthma fatal?

Unlike many other diseases, asthma is considered chronic which means that most people with asthma live a long time with their disease, coping with their symptoms. Despite advances in understanding the disease, and the availability of more efficacious medications, asthma is still a major cause of morbidity. This is often a result of under-diagnosis, under-treatment, lack of public understanding and knowledge about the disease, and inadequate asthma supervision.<sup>12</sup>

- In Canada, approximately 250 people die each year from asthma.<sup>13</sup>
- Asthma deaths can be prevented with proper asthma education.<sup>14</sup>

### How does asthma impact the Canadian healthcare system and the economy?

- Asthma often affects quality of life, as it results in time away from school, work, or other activities. Asthma is the leading cause of absenteeism from school and one of the leading causes of work loss through both absenteeism and presenteeism.<sup>15</sup>
- The direct costs of asthma, including hospitalization, healthcare professional services and medication and indirect costs, including decreased productivity, are estimated at \$2.1 billion annually.<sup>16</sup>
- Apart from direct costs related to healthcare for asthma patients (such as medications and visits to the doctor), there are indirect costs owing to lost productivity. The cost of asthma to the Canadian economy is expected to climb to \$4.2 billion annually by 2030.<sup>17</sup>
- Asthma is a major reason for why children in Canada are hospitalized.<sup>18</sup>
- In 2015, asthma attacks resulted in over 70,000 emergency room visits.<sup>19</sup> Approximately 250 Canadians die each year from asthma.
- About one in 10 Canadians with asthma have said that they have gone without their medication, either not filling a prescription or skipping a dose of medication, because of cost.<sup>20</sup> Many insurance carriers do not offer comprehensive coverage to asthma patients, making it prohibitive for them to gain control of their asthma and leaving them vulnerable.<sup>21</sup>

## References

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