



Asbestos

Burden of Occupational Cancer Fact Sheet



WHAT IS ASBESTOS?

Asbestos is **a group of naturally occurring, fibrous silicate minerals**. The **manufacturing and use of asbestos-containing products is severely restricted in most western countries**, including Canada, and in some countries it is banned.

Asbestos has historically been useful for many commercial applications because of its heat resistance, tensile strength, and insulating and friction characteristics. It is found primarily in roofing, thermal and electrical insulation, cement pipe and sheets, flooring, gaskets, friction materials, coatings, plastics, textiles, and other products.

The International Agency for Research on Cancer classifies asbestos as a **known carcinogen** (IARC 1).

WHAT ARE ITS HEALTH EFFECTS?

- Mesothelioma (a cancer of the protective lining of many internal organs)
- Lung, laryngeal, and ovarian cancer
- Asbestosis (scar tissue in the lungs)

THE BURDEN OF CANCER FROM WORKPLACE EXPOSURE TO ASBESTOS IN CANADA

The term 'burden' refers to the human impact (deaths, illness, years of life lost) and the economic costs (health care, productivity) associated with a cause or group of causes of disease.

1,900
 Lung cancers caused by
 workplace asbestos exposure

Results show that approximately **1900 lung cancers** and **430 mesotheliomas** are attributed to occupational asbestos exposure each year, based on 2011 cancer statistics. This amounts to **8% of all lung cancers** and **81% of all mesotheliomas** diagnosed annually (almost all of the remaining mesotheliomas are likely due to environmental asbestos exposure).

WHAT IS THE ECONOMIC IMPACT?

Results show that work-related asbestos exposure resulted in approximately **\$2.35 billion in costs for newly diagnosed lung cancer and mesothelioma cases** in 2011.

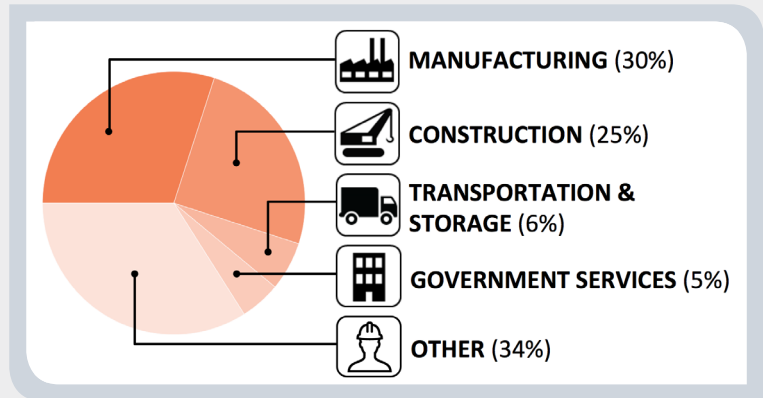
This includes approximately:

- 65% in health-related quality of life losses
- 8% in direct costs including health care, out of pocket expenses, family care giving, and workers' compensation administration
- 27% in indirect costs including output and productivity losses

\$2.35 billion
 Estimated yearly cost of lung
 cancer and mesothelioma
 caused by asbestos exposure

WHAT WORKERS ARE MOST AFFECTED?

Most asbestos-related cancers occur among workers in the **manufacturing** and **construction sectors** (see pie chart on right). These cancers also occur among workers in the transportation and storage sector and government services. Some of the other sectors affected include communication and other utilities, educational services, and wholesale trade.



CAREX CANADA ASSESSMENT OF OCCUPATIONAL EXPOSURE TO ASBESTOS

Inhalation is the most important route of occupational exposure to asbestos. Approximately 152,000 Canadians are exposed to asbestos at work.

Industries with the largest number of exposed workers in Canada include:

- **Specialty trade contractors** (82,000 people exposed)
- **Building construction** (52,000 exposed)
- **Automotive repair and maintenance** (4,300 exposed)

Occupations with the largest number of exposed workers include:

- **Carpenters** (34,000 exposed)
- **Construction trades helpers and labourers** (28,000 exposed)
- **Electricians** (16,000 exposed)

Exposure level

Occupational exposure to asbestos has changed over the past 40 years in Canada, making it challenging to assess exposure levels using historical data. Research on current exposure levels is ongoing.

HOW CAN EXPOSURE BE REDUCED?

Asbestos-related cancers can be prevented by reducing the number of workers exposed and ensuring that the levels of exposures are as low as reasonably achievable (ALARA). Organizations should evaluate the risk of exposure in the workplace and implement the hierarchy of controls to address the safety needs of workers.

ABOUT THE BURDEN OF OCCUPATIONAL CANCER STUDY

The Burden of Occupational Cancer Study aims to quantify the number of cancers that are caused by exposure to carcinogens in the workplace in order to identify priority areas for prevention. It is a collaboration between researchers at OCRC, CAREX Canada, the Institute for Work & Health, University of British Columbia, Université de Montréal, Institut de recherche Robert-Sauvé en santé et en sécurité du travail, and Imperial College London.



For more information, please visit OCRC at www.occupationalcancer.ca or CAREX Canada at www.carexcanada.ca.

This fact sheet was produced by CAREX Canada in partnership with OCRC. The Burden of Occupational Cancer Study is led by OCRC and is supported by the Canadian Cancer Society. CAREX Canada is hosted at Simon Fraser University and supported by the Canadian Partnership Against Cancer. Acknowledgments for header photos: KOMUnews, Chris RubberDragon.

