



## **Lung Cancer in Canada**

Lung cancer is the second most common cancer diagnosis in Canada – and, hands down, the most deadly. Last year, an estimated 25,300 Canadians were diagnosed with lung cancer and 20,600 died from it. Lung cancer is the leading cause of cancer death by a landslide: it kills at least two times more Canadians than any other cancer.

One out of every twelve Canadians will develop lung cancer during his or her lifetime – and all Canadians are at risk. Although it is a commonly held belief that only smokers develop the disease, in fact the majority of lung cancer diagnoses are among former smokers (many having quit years ago) or never smokers (an estimated 15 percent of lung cancer patients have never smoked at all).

Men and women are both affected by the disease, but while lung cancer diagnoses have been trending down for men over the last three decades, diagnoses for women have steadily risen – a trend that can largely be explained by the fact that women started smoking later than men. What scientists cannot explain is why nonsmoking women are significantly more likely to be diagnosed with lung cancer than nonsmoking men.

At present, the outlook for most lung cancer patients is hardly encouraging: 85 percent of Canadians diagnosed with lung cancer will not live five years. Moreover, the five-year survival rate for lung cancer has not changed significantly – a striking contrast with the considerable improvement in outcomes that other prevalent cancers have seen in recent decades. One problem is that lung cancer is typically diagnosed at an advanced stage when it's very difficult to treat. Earlier detection through greater public and physician awareness and more timely and thorough screening of high-risk populations could go a long way in improving outcomes.

Important advances are being made in the area of lung cancer research, particularly in the area of targeted drug therapies that focus their attack on certain molecules driving cancer growth. In many cases, this approach is proving to be more effective and less toxic than traditional chemotherapy – and there are signs that both quality of life and survival rates are improving, particularly for non-small cell lung cancer and advanced stage lung cancer patients. In Canada, relatively recent developments include the introduction and growing use of EGFR (epidermal growth factor receptor) and ALK (Anaplastic Lymphoma Kinase gene) targeted therapies. In addition to targeted therapies, other recent steps forward include the development of high-precision radiation, robotic surgery, minimally invasive surgery, and recent evidence supporting low-dose CT scans as an effective screening tool that decreases mortality for the disease.

It's important to keep recent momentum up – and greater funding is a key. While lung cancer accounts for one in four cancer deaths, it receives only 7 percent of Canada's cancer-specific research funding. Even worse, lung cancer receives *less than one percent* of private cancer donations. Canadians have yet to undertake investment in lung cancer research in a way that meaningfully corresponds to the enormity of lung cancer's impact.