

# Chronic Disease Management



Ministry of Health

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## A Snapshot of COPD Care in British Columbia 2003/04

Chronic obstructive pulmonary disease (COPD) is a general term for diseases that are characterized by long-term or permanent inflammation and narrowing of the small airways connected to the lung. COPD is most commonly diagnosed in people who have a history of smoking, respiratory infections or long-term exposure to airborne irritants such as noxious fumes, dust or pollution. Although not all smokers develop COPD, smoking is the underlying cause of COPD in 80-90% of cases.<sup>1</sup>

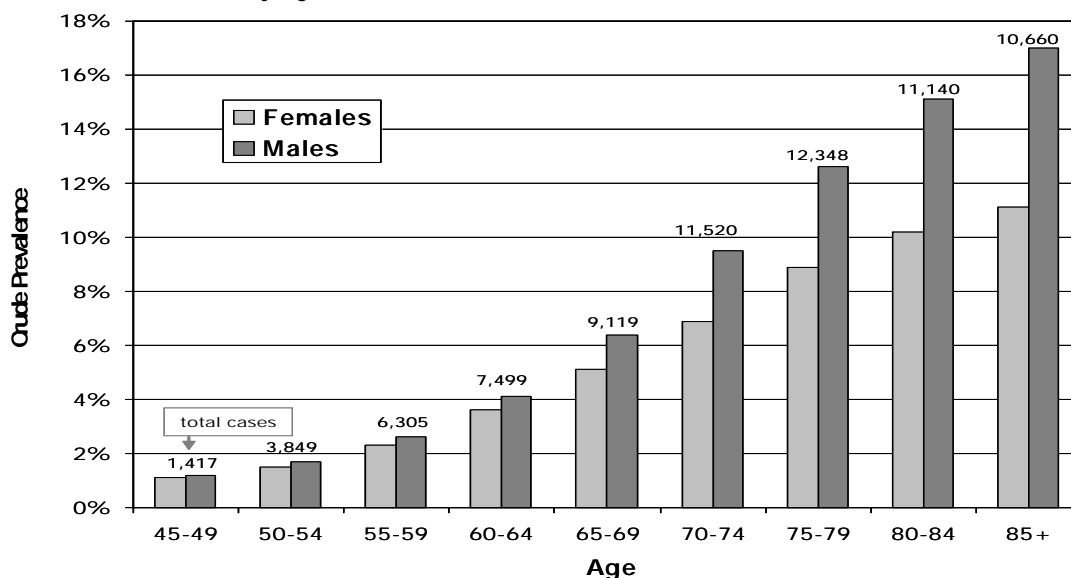
COPD is most often irreversible. The symptoms of COPD are similar to those of asthma, congestive heart failure and bronchiectasis. They include a chronic cough, sputum production and shortness of breath. As with asthma, COPD is characterized by airway inflammation, but the inflammation is distinct from that of asthma. It

may take many years from the time of exposure for the symptoms of COPD to become apparent. It is estimated that 50% of people living with COPD have not yet been diagnosed.<sup>2</sup> People with COPD experience restrictions in activity due to shortness of breath and a deteriorating quality of life.

### PREVALENCE AND INCIDENCE

The number of people with COPD in B.C. was estimated by applying a case definition of two medical visits or one hospitalization coded with chronic bronchitis (ICD-9 491/ICD-10 J41, J42), emphysema (492/J43) or COPD (496/J44) within 365 days. Patients who were aged 45 years and older and met the case definition with visits or hospitalizations were considered to have been diagnosed with COPD.

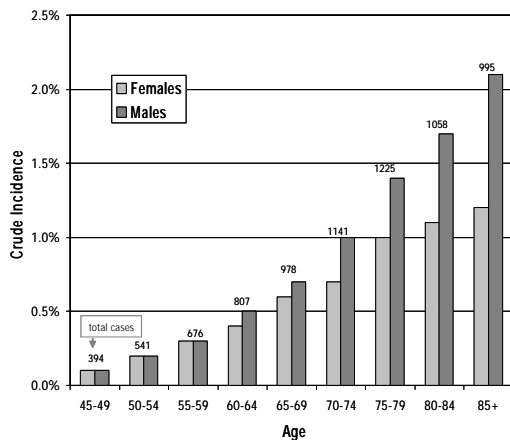
Figure 1. COPD Prevalence by Age and Gender, B.C., 2003/04.



In 2003/04, about 74,000 people, 4.3% of the population aged 45 and older, had COPD (Figure 1). This definition of COPD provides conservative estimates as it does not include “bronchitis not specified as acute or chronic” (490/J40), which would increase the prevalence estimate to approximately 7%, but might also include people who do not truly have COPD. Estimates from the Canadian National Population Health Survey (NPHS, 2000/01) suggest that 4.3% of the population aged 35 years and older report having COPD. <sup>3</sup>

The incidence rate in B.C. for COPD, in 2003/04, was 0.5% or 8,000 new cases per year, with the majority of new cases occurring in those aged 55 and older (Figure 2).

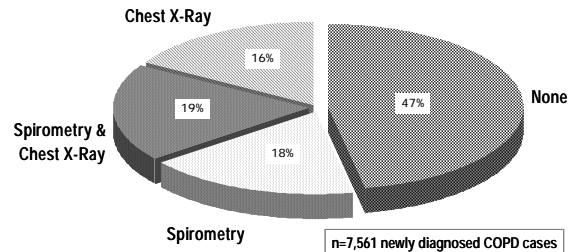
Figure 2. COPD Incidence by Age and Gender, B.C., 2003/04.



## DIAGNOSIS

Diagnosing COPD can be difficult as it shares symptoms with other chronic conditions, particularly asthma and congestive heart failure. Spirometry, a breathing test that measures lung function, can be used to distinguish between asthma, congestive heart failure and COPD and is therefore recommended for accurate diagnosis. It can also be used to monitor treatment and disease progression. Medical Services Plan fee-for-service data indicate that in 2002/03, only 37% of newly diagnosed COPD patients had received a spirometry exam within one year prior to or one year after diagnosis (Figure 3) and only 50% had ever received a spirometry exam. These results suggest that spirometry exams are underused for both accurate diagnosis and management of COPD.

Figure 3. Spirometry and chest x-rays performed on newly diagnosed COPD patients within one year prior to or one year after diagnosis, 2002/03.



## HOSPITALIZATION

In 2003/04, approximately 10,000 COPD patients (14%) were hospitalized in B.C. for COPD-related conditions, which include COPD, chronic bronchitis, emphysema, pneumonia, bronchiectasis, asthma and congestive heart failure. Of those who were hospitalized, 26% had more than one hospital admission in the year and 9% were readmitted within 15 days of being discharged.

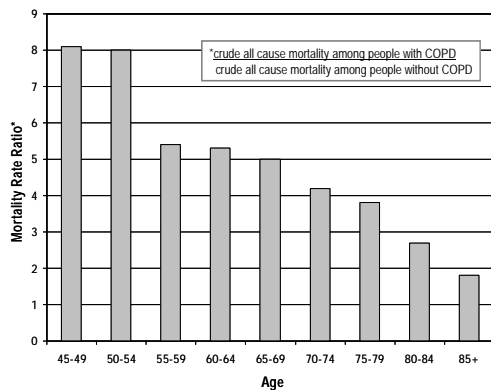
Table 1. COPD-Related Hospitalizations for COPD Patients, 2001/02 to 2003/04.

Fiscal Year	Total # COPD Patients	COPD Patients Hospitalized	Admissions per Hospitalized COPD Patient	Hospitalized COPD Patients Readmitted within 15 Days
2001/02	69,900	14%	1.4	9%
2002/03	72,228	13%	1.4	9%
2003/04	73,747	14%	1.4	9%

Focused patient education, proactive self-management and community care may improve quality of life for patients and reduce the current hospital utilization rates. <sup>2</sup>

The relative rates for all-cause mortality among people with COPD in B.C. are 3 to 8 times higher than for people without COPD, with the highest relative rate for mortality in those aged 45 to 55 (Figure 4).

Figure 4. All-cause mortality rate ratio for people with and without COPD, B.C., 2003/04.



### COPD GUIDELINES AND SERVICE FRAMEWORK

In January 2005, the Guidelines and Protocols Advisory Committee (GPAC) introduced a new clinical practice guideline for the recommended care of COPD patients. This guideline includes a series of evidence-based prevention and medical performance objectives for the management of COPD.

Clinical recommendations include:

- accurate diagnosis with spirometry;
- smoking cessation (provides benefits to health outcomes at all stages of the disease);
- influenza and *Pneumococcus* vaccination;
- bronchodilator and anti-inflammatory pharmacotherapy;
- pulmonary rehabilitation;
- oxygen therapy;
- patient self-management and active lifestyle;
- end of life care.

Seamless provision of patient-centered care continues to be a priority within B.C. To this end, a number of healthcare professionals,

including physicians, pharmacists, respiratory therapists, physiotherapists, nurses, dietitians and community workers are working towards the development of a 'service framework'. This multidisciplinary approach includes patients as partners and addresses care gaps in COPD management and service provision by providing evidence-based recommendations at each provider level and across an individual's life course. It will build on objectives outlined in the clinical practice guideline, such as accurate diagnosis, smoking cessation, immunization, and self-management. This pilot project will be implemented initially in the Interior Health Authority but the process will ultimately serve as a learning tool in the design of service frameworks for other chronic diseases.

### REFERENCES

1. Canadian Institute for Health Information. Respiratory Disease in Canada. Statistics Canada. 2001.
2. Canadian Thoracic Society Recommendations for Management of Chronic Obstructive Pulmonary Disease. Can Resp J 2003; 10: Suppl A.
3. Public Health Agency of Canada [http://www.phac-aspc.gc.ca/ccdpc-cpcmc/crd-mrc/facts\\_copd\\_e.html](http://www.phac-aspc.gc.ca/ccdpc-cpcmc/crd-mrc/facts_copd_e.html)
4. Mannino DM. COPD Epidemiology, Prevalence, Morbidity and Mortality, and Disease Heterogeneity. Chest 2002 May;121(5 Suppl):121S-126S.
5. Murtagh E, Heaney L, Gingles J, Shepherd R et al. The prevalence of obstructive lung disease in a general population sample: The NICE COPD study. European Journal of Epidemiology 2005;20:443-453.

## HELPFUL LINKS AND RESOURCES

- **BC Guidelines and Protocols and Patient Guide for COPD:**  
[www.health.gov.bc.ca/msp/protoguides/patguide.html](http://www.health.gov.bc.ca/msp/protoguides/patguide.html)
- **BC HealthGuide:** [bchealthguide.org/kbaltindex.asp](http://bchealthguide.org/kbaltindex.asp)
- **BC Lung Association:** [www.bc.lung.ca/services/servicescopd.htm](http://www.bc.lung.ca/services/servicescopd.htm)
- **BC Ministry of Health Chronic Disease Management:** [www.health.gov.bc.ca/cdm/patients/index.html](http://www.health.gov.bc.ca/cdm/patients/index.html)
- **Canadian Lung Association:** [www.lung.ca](http://www.lung.ca)
- **COPD-Support Inc. The family of COPD support programs:** [www.copd-support.com/](http://www.copd-support.com/)
- **quitnow.ca on line or by phone, Tobacco Facts and smoking cessation programs:**  
[www.tobaccofacts.org/quitting/youroptions.html](http://www.tobaccofacts.org/quitting/youroptions.html)