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Population-based case-finding to identify subjects with undiagnosed asthma or COPD

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20% of randomly selected individuals who report respiratory symptoms in Canada have undiagnosed airflow obstruction due to asthma or COPD http://bit.ly/2WdXlaH

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ABSTRACT

Background: ~5–10% of adults may have undiagnosed airflow obstruction. The objective of this study was to develop a population-based case-finding strategy to assess the prevalence of undiagnosed airflow obstruction (asthma or COPD) amongst adults with respiratory symptoms in Canada.

Methods: Adults without a previous history of asthma, COPD or lung disease were recruited using random digit-dialling and asked if they had symptoms of dyspnoea, cough, sputum or wheeze within the past 6 months. Those who answered affirmatively completed the Asthma Screening Questionnaire (ASQ), COPD-Diagnostic Questionnaire (COPD-DQ) and COPD Assessment Test (CAT). Those with an ASQ score of ⩾6 or a COPD-DQ score of ⩾20 underwent pre- and post-bronchodilator spirometry to diagnose asthma or COPD.

Results: 12 117 individuals were contacted at home and assessed for study eligibility. Of the 1260 eligible individuals, 910 (72%) enrolled and underwent spirometry. Ultimately, 184 subjects (20% of those enrolled) had obstructive lung disease (73 asthma and 111 COPD). Individuals found to have undiagnosed asthma or COPD had more severe respiratory symptoms and impaired quality of life compared with those without airflow obstruction. The ASQ, COPD-DQ, and CAT had ROC areas for predicting undiagnosed asthma or COPD of 0.49, 0.64 and 0.56, respectively. Four descriptive variables (age, BMI, sex and pack-years smoked) produced better receiver operating characteristic (ROC) values than the questionnaires (ROC area=0.68).

Conclusion: 20% of randomly selected individuals who report respiratory symptoms in Canada have

undiagnosed airflow obstruction due to asthma or COPD. Questionnaires could exclude subjects at low risk but lack the ability to accurately find subjects with undiagnosed disease.