



**FOR RELEASE**

**Embargoed until May 17, 2016, 10:15 a.m. PDT**

**FOR MORE INFORMATION, CONTACT:**

Dacia Morris

dmorris@thoracic.org

ATS Office: 212-315-8620 (until May 11)

Cell Phone: 917-561-6545

Session: C14 Finding the Sweet Spot Between Too Much and Too Little Care

Tuesday, May 17, 2016, 10:15–10:30 a.m.

Location: Room 307 (South Building, Esplanade Level), Moscone Center

**Asthma Overdiagnosed in Canadian Adults**

ATS 2016, SAN FRANCISCO — Asthma is overdiagnosed in an estimated 30 percent of Canadian adult , according to a study presented at the ATS 2016 International Conference.

“Careful testing revealed that 33 percent of people who had been recently diagnosed with asthma in the community did not have current asthma even after withdrawal of asthma medications,” said lead study author Shawn Aaron, MD, of the Ottawa Hospital Research Institute, Ottawa.

The prospective multicenter study randomly recruited 701 adult nonsmoking participants from 10 Canadian communities, who reported a history of physician-diagnosed asthma in the previous 5 years. Investigators obtained information to determine how a diagnosis of asthma was originally made. Spirometry, home peak flow, and symptom monitoring, as well as repeated bronchial challenge tests, were used to assess participants. They were also tapered off of asthma medications over four study visits.

Of the 701 participants, 613 were conclusively assessed with an asthma diagnosis. The participants in whom an asthma diagnosis was not confirmed had no evidence of airflow obstruction or bronchial hyper-reactivity or acute asthma worsening despite tapering off all asthma medications. Participants with no evidence of asthma were sent to pulmonologists and followed for one year.

“Pulmonologists diagnosed alternative diagnoses instead of asthma in 87 percent of these subjects,” the study authors wrote. “Results to date indicate that 81 percent in whom asthma was excluded did not restart asthma medications nor require healthcare utilization for asthma during the subsequent 12-month follow up period.”

Only half of participants received spirometry at the time of their initial asthma diagnosis, according to the study authors.

**Contact for study:** .D. Aaron, MD, [saaron@ohri.ca](mailto:saaron@ohri.ca)

###

## Diagnosis and Over-Diagnosis of Asthma in Canadian Adults

Type: Scientific Abstract

Category: 03. Asthma / Adult / Clinical Studies / Behavioral Science and Health Services Research (BSHR)

Authors: S.D. Aaron<sup>1</sup>, K. Vandemheen<sup>1</sup>, L.-P. Boulet<sup>2</sup>, J.M. FitzGerald<sup>3</sup>, M. Ainslie<sup>4</sup>, S. Gupta<sup>5</sup>, C. Lemiere<sup>6</sup>, S. Field<sup>7</sup>, A. McIvor<sup>8</sup>, P. Hernandez<sup>9</sup>, I. Mayers<sup>10</sup>;

<sup>1</sup>Ottawa Hospital Research Institute - Ottawa, ON/CA, <sup>2</sup>Institut universitaire de cardiologie et de pneumologie de Québec (IUCPQ) - Quebec, QC/CA, <sup>3</sup>Vancouver General Hospital - Vancouver, BC/CA, <sup>4</sup>University of Manitoba - Winnipeg, MB/CA, <sup>5</sup>St Michael's Hospital - Toronto, ON/CA, <sup>6</sup>Université de Montréal - Montréal, QC/CA, <sup>7</sup>University of Calgary - Calgary, AB/CA, <sup>8</sup>McMaster University - Hamilton, ON/CA, <sup>9</sup>Dalhousie University - Halifax, NS/CA, <sup>10</sup>University of Alberta - Edmonton, AB/CA; Canadian Respiratory Research Network

### Results:

Site	Number Enrolled	Completed Study Algorithm	Diagnosis of Asthma Confirmed	Diagnosis of Asthma Ruled Out on Serial Testing
Ottawa	239	193	113	80
Vancouver	67	61	32	29
Halifax	29	24	17	7
Montreal	59	53	36	17
Hamilton	30	27	15	12
Winnipeg	62	53	27	26
Quebec	93	91	73	18
Calgary	42	41	23	18
Edmonton	20	18	10	8
Toronto	60	52	37	15
<b>TOTAL</b>	<b>701</b>	<b>613</b>	<b>383 (62.4%)</b>	<b>230 (37.5%)</b>

### Background

It is unclear whether physicians are properly investigating and correctly diagnosing asthma.

### Methods

We conducted a prospective, multi-center, cohort study. We used random-digit dialing to recruit 701 adult non-smoking from 10 Canadian communities who reported a history of physician-diagnosed asthma established within the past 5 years. We obtained information from their diagnosing physician to determine how the diagnosis of asthma was originally made. Subjects were then assessed with spirometry, home peak flow and symptom monitoring, and repeated bronchial challenge tests while being tapered off asthma medications over 4 study visits. A diagnosis of current asthma was excluded in subjects who did not have evidence of acute worsening of asthma symptoms, or reversible airflow obstruction, or bronchial hyper-responsiveness, despite being entirely weaned off asthma medications. We stopped asthma medications in those in whom a diagnosis of asthma was excluded, these subjects were seen by a study pulmonologist to establish a potential alternative diagnosis and they were followed for one year with repeated methacholine challenge tests at 6 and 12 months.

### Results

We obtained the original diagnostic record from the physicians of 515 of 701 study subjects. Only 49% had spirometry performed at the time of their initial diagnosis of asthma in the community. Of 701 subjects with recent physician-diagnosed

asthma who entered into the study, 613 could be conclusively assessed for a diagnosis of asthma. The diagnosis of asthma was excluded via serial testing in 230 or 37.5% (95% CI: 33.7-41.5%) of 613 subjects. These subjects had no evidence of airflow obstruction or bronchial hyper-reactivity despite being tapered off all asthma medications. Study pulmonologists diagnosed alternative diagnoses instead of asthma in 87% of these subjects. Results to date indicate that 80.8% (95% CI 74.3-86.1%) in whom asthma was excluded did not restart asthma medications nor require healthcare utilization for asthma during the subsequent 12 month follow-up period.

#### *Conclusion*

Only half of Canadians receive spirometry at the time of their initial diagnosis of asthma in the community. Careful testing revealed that 37.5% who had been recently diagnosed with asthma in the community did not have current asthma even after withdrawal of all asthma medications. After 12 months of follow-up, 30% of the initial cohort continued to exhibit no clinical evidence of asthma and had not restarted asthma medications. We conclude that asthma is improperly worked up in the community and is over-diagnosed in approximately 30% of adult North Americans.