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For Immediate Release

PROOF Centre turns its sights on a leading cause of hospital stays

New blood tests to bring new health solutions to combat global burden of COPD

VANCOUVER, BC, CANADA - The PROOF Centre of Excellence is working with GlaxoSmithKline Inc. on one of the world's major killers and the leading cause of hospitalization in Canada – chronic obstructive pulmonary disease (COPD) exacerbations (i.e. “lung attacks”).

Drs. Don Sin and Wan Tan of the University of British Columbia and St. Paul's Hospital will be leading the PROOF Centre in a multi-million dollar program to discover and develop new tools and biomarker blood tests to help clinicians predict which COPD patients will experience life-threatening “lung attacks.” GSK is providing biological specimens and clinical information collected from a subset of the ECLIPSE Cohort—a three-year, global, multi-center study, involving over 2,000 COPD patients (www.ECLIPSE-copd.com).

COPD is a serious lung disease that makes it hard to breathe. It is estimated that 210 million people have COPD worldwide and over 1.4 million in Canada. The disease kills one person every ten seconds. COPD exacerbations, often referred to as “lung attacks,” are a leading cause of death for people with COPD. Similar to heart attacks in cardiovascular disease, lung attacks can permanently damage the lungs. In Canada alone, the direct costs related to COPD exacerbations are \$736 million a year. Hospital admissions for serious COPD lung attacks in Canada average a 10-day length of stay at a cost of \$10,000 per stay.

“We are delighted to have GlaxoSmithKline and leading COPD research clinicians like Drs. Sin and Tan working with us in our COPD biomarkers program,” says Dr. Bruce McManus, director of the PROOF Centre. “Little progress has been made in battling this devastating disease and its impact on society and our health system continues to grow. The PROOF Centre aims to change that situation.”

“With the PROOF Centre's approach of bringing together the critical partners from all sectors concurrently and early in the process, we hope to discover and develop better solutions faster, more effectively, and efficiently.”

COPD is a disease without a cure, and exacerbations are extremely difficult to treat. There is currently no method to diagnose COPD in patients early in their course, and no way to predict exacerbation among COPD patients with robust reliability. Treatment for COPD patients is mainly about controlling or minimizing the impact of the symptoms and avoiding lung infections.

The discovery phase of the program is already underway, with researchers working to identify blood-based biomarkers – sets of expressed genes and proteins – that can be used to identify COPD patients at high risk of exacerbation. If successful, this information may help guide patient management and may be used to help facilitate the development of new therapies to better treat COPD. The PROOF Centre expects to have candidate biomarker sets identified by the end of 2011.

“We absolutely need new types of blood tests in COPD,” says Dr. Don Sin, Canada Research Chair in COPD and Head of the Respiratory Division of St. Paul's Hospital. “We need these tools to help clinicians diagnose COPD more accurately and to identify exacerbations before they lead to hospitalizations, permanent lung damage and even death.”

Quick Facts about COPD:

- Chronic Obstructive Pulmonary Disease (COPD) is a long-lasting respiratory disorder that causes the airways of the lungs to be inflamed and become “obstructed”. The two major forms of the disease include chronic bronchitis and emphysema¹.
- Those suffering from COPD usually experience shortness of breath, long-lasting coughs, and sputum production. COPD gradually deprive individuals of their health and vitality, and affects their quality of life. Up to 79 per cent of Canadians with COPD avoid everyday activities².
- Hospital admissions for COPD lung attacks in Canada averaged a 10-day length of stay at a cost of \$10,000 per stay. The total cost of COPD hospitalizations is estimated to be at \$1.5 billion a year³.
- COPD affects approximately 3 million Canadians, including 1.5 million Canadians who say they currently suffer from this disease and another 1.5 million undiagnosed Canadians⁴. This makes COPD Canada’s fourth leading cause of death.
- The disease is especially prevalent among younger Canadian baby boomers - one in seven Canadians aged 45 to 49 (375,000) may have COPD⁵.
- According to the latest estimates by the World Health Organization (WHO) in 2007, 210 million people currently have COPD. The disease is predicted to become the third leading cause of death worldwide by 2030⁶.
- COPD poses a huge drain on health resources and carries a significant economic in Canada. It accounts for the highest rate of hospital admission and readmission among major chronic illnesses in the country. 18% of COPD patients were readmitted once within the year and 14% twice within the year⁷.

About the PROOF Centre of Excellence

The Centre of Excellence for the Prevention of Organ Failure (PROOF Centre) discovers, develops, commercializes and implements bio-molecular markers (biomarkers) to prevent, predict, diagnose and better treat and manage heart, lung and kidney failure. The PROOF Centre is a cross-disciplinary engine of devoted partners including those from industry, academia, health care, government, patients and the public focused on reducing the enormous socioeconomic burdens of heart, lung and kidney failure and on improving health. The PROOF Centre is a not-for-profit society established in March 2008 by competitive funding from the Networks of Centres of Excellence Secretariat under the Centre of Excellence for Commercialization and Research (NCE CECR) Program. The PROOF Centre is hosted by the University of British Columbia and is anchored in the Institute for Heart + Lung Health at St. Paul's Hospital in Vancouver, British Columbia. Partnered resources and core capabilities of the PROOF Centre, including patient cohorts, information management and technology platforms, are situated in Vancouver, elsewhere in British Columbia and Alberta, and around the world. www.proofcentre.ca

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¹ Canadian Lung Association (2005). Chronic Obstructive Pulmonary Disease (COPD): A national report card. Retrieved from http://www.lung.ca/resources/2005.copd_reportcard.pdf

² Canadian Lung Association (2011). Out of breath: Many Canadians avoid everyday activities because of COPD [Press Release]. Retrieved from http://www.lung.ca/media-medias/news-nouvelles_e.php?id=213

³ Canadian Thoracic Society (2010). The human and economic burden of COPD: A leading cause of hospital admission in Canada. Retrieved from http://www.respiratoryguidelines.ca/sites/all/files/CTS_COPD_report.pdf

⁴ Canadian Lung Association (2007). New Lung Association research: Millions more may have COPD than previously estimated [Press Release]. Retrieved from http://www.lung.ca/media-medias/news-nouvelles_e.php?id=98

⁵ Canadian Lung Association (2007). New Lung Association research: Millions more may have COPD than previously estimated [Press Release]. Retrieved from http://www.lung.ca/media-medias/news-nouvelles_e.php?id=98

⁶ World Health Organization (2011). Chronic respiratory diseases. Retrieved from <http://www.who.int/respiratory/copd/en/index.html>

⁷ Canadian Thoracic Society (2010). The human and economic burden of COPD: A leading cause of hospital admission in Canada. Retrieved from http://www.respiratoryguidelines.ca/sites/all/files/CTS_COPD_report.pdf