



May 5, 2015

Environmental-exposures study tracks more than 3,200 Canadian babies

An SFU health scientist has co-authored a study that is the first report on research tracking the health impact of environmental exposures for thousands of Canadian babies

Simon Fraser University health scientist Tim Takaro and researchers from AllerGen's [Canadian Healthy Infant Longitudinal Development \(CHILD\) Study](#) have extensively assessed indoor and outdoor environmental exposures for 3,217 Canadian babies. It is an unprecedented accomplishment for any birth cohort.

Takaro is the lead author of a paper just published in the [Journal of Exposure Science and Environmental Epidemiology](#), outlining which environmental factors were assessed, how this was accomplished and how the data might be analyzed. The data collected is for the first year of the multi-year study.

The CHILD Study is examining how a child's environment during pregnancy and in the first few years of life can interact with genetics to affect the risk of developing several chronic conditions or diseases. They include allergies, asthma and diabetes.

AllerGen and the Canadian Institutes of Health Research (CIHR) are funding the study.

For this initial report, investigators inspected carefully the homes of more than 3,000 babies. They analyzed exposure to dust, mould, furry pets, chemicals and cleaning products, cooking emissions, second-hand smoke, and traffic-related air pollution. It's the first study of its kind to analyze the home environment of such a large number of study participants in such detail. It's also unprecedented in its ability to link the home environment with epigenetic changes and the potential role of the microbiome. That's the combined genetic material of the microorganisms in a particular environment.

"Asthma is the most common chronic childhood disease and many cases may be preventable," says Takaro, a physician-scientist trained in occupational and environmental medicine, public health and toxicology. "The CHILD Study is helping us to gain a better understanding of the link between environment and health, which may help us to intervene early in life to prevent asthma from occurring. The size of the study and the rigour with which we assess environmental exposure will increase our capacity to detect associations between environmental factors and health outcomes."

Adds Malcolm Sears, a professor at McMaster University and director of the CHILD Study: "This is one of the largest studies in the world to look in depth at how genes and the environment interact to impact the development of allergies, asthma and other chronic diseases. We believe the study's findings will influence public policy, parenting decisions, purchasing behaviours, and even urban planning."

About AllerGen NCE (Networks of Centres of Excellence)

[AllerGen NCE Inc.](http://allergen-nce.ca), the Allergy, Genes and Environment Network (est. 2004), is a national research network dedicated to improving the quality of life of people suffering from allergic and related immune diseases. Funded by Industry Canada through the federal Networks of Centres of Excellence (NCE) Program, the Network is hosted at McMaster University in Hamilton. Visit <http://allergen-nce.ca> for more information.

About Simon Fraser University

As Canada's engaged university, SFU is defined by its dynamic integration of innovative education, cutting-edge research and far-reaching community engagement. SFU was founded almost 50 years ago with a mission to be a different kind of university—to bring an interdisciplinary approach to learning, embrace bold initiatives, and engage with communities near and far. Today, SFU is a leader amongst Canada's comprehensive research universities and is ranked one of the top universities in the world under 50 years of age. With campuses in British Columbia's three largest cities—Vancouver, Surrey and Burnaby—SFU has eight faculties, delivers almost 150 programs to over 30,000 students, and boasts more than 130,000 alumni in 130 countries around the world.

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Link to CHILD publication: <http://at.sfu.ca/mRyPtH>

Photos: <http://at.sfu.ca/lcjlTw>

NOTE: Tim Takaro is in transit and can be contacted as of 9 a.m., Pacific Time, Wednesday, May 6