

Healthy Lives Begin Prenatally

Report of the Annual Conference of the
New Brunswick Children's Environmental Health Collaborative
Thursday, January 26, 2017
At the New Maryland Centre, New Maryland, NB

PRESENTED BY THE NEW BRUNSWICK ENVIRONMENTAL NETWORK



Healthy Lives Begin Prenatally

A New Brunswick Children's Environmental Health Collaborative Conference

Summary

The conference “Healthy Lives Begin Prenatally” was held at the New Maryland Centre, in New Maryland, on Thursday, January 26, 2017. This conference was organized by the New Brunswick Environmental Network, under the umbrella of the New Brunswick Children's Environmental Health Collaborative (CEH). A total of 44 people attended the conference, from a range of different sectors, including federal and provincial governments, public health, environmental and family service non-governmental organizations, and post-secondary institutions.

This year's theme centered on prenatal environmental health. The outcomes of the conference were as follows: empowering and educating collaborative members and professionals, providing the latest evidence-based information around prenatal environmental health, providing new evidence-based information to professionals that will be in contact with expectant parents, sharing progress of the Collaborative and inspiring participants, and creating action and excitement. All the outcomes were achieved thanks to the engagement of participants, the support of the members of the CEH Strategic Committee, and the speakers' interest and generosity.

Setting the stage at the beginning of the day, the CEH Strategic Committee Chair and Team Leads presented a summary of their recent achievements and also gave a preview of the exciting work ahead. Dr. Bruce Lanphear (BC Children's Hospital, Simon Fraser University) shared important information about the impact of toxic chemicals on the developing brain. Professor Cathy Vaillancourt (Institut national de la recherche scientifique, Centre INRS-Institut Armand-Frappier, Université du Québec) presented evidence-based information on prenatal environmental health, specifically the effects of environmental contaminants. A panel titled *Exploring Environmental Health Indicators for Children* highlighted the work of Gavin Kotze (Office of the New Brunswick Child and Youth Advocate), Dan Crouse (New Brunswick Institute for Research, Data and Training) and Todd Arseneault (New Brunswick Department of Health). Gaetane LeBlanc Cormier (Perinatal NB) and Kelly Day (Faculty of Nursing, UNB) presented success stories and practical applications in New Brunswick. An introduction to prenatal yoga session was led by Samantha Hynes (Breathing Space Yoga Studio). The conference concluded with Dr. Céline Surette (Université de Moncton) presenting the *Environment, Community, Health Observatory (ECHO) Network* project and hosted a collaborative session.

The planning committee presented the closing remarks. Participants were invited to complete an evaluation of the day, and 82% of participants did so. In summary of these responses, the participants were very satisfied with the conference (rating their overall experience an average of 4.6 out of 5). The participants confirmed that their level of awareness and understanding of prenatal environmental health in the context of chemical substance exposure and impacts changed or improved as a result of attending this conference. They also agreed that they will apply some of their learnings from the conference to their personal or professional life. Highlights of the conference, as noted in the evaluation forms, were the speakers (especially Dr. Bruce Lanphear), networking opportunities and sharing with fellow participants, the prenatal yoga, the indicators panel, expertise and motivation, and diversity in the participating groups and organizations.

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1. Agenda for the day

Healthy Lives Begin Prenatally: A Conference of the New Brunswick Children's Environmental Health Collaborative	
9:00am	Registration and Networking
9:30am	Welcome and Introductions
9:55am	Update from the New Brunswick Children's Environmental Health Collaborative <ul style="list-style-type: none"> - Sharon Murphy for the Strategic Committee - Lisa Lussier for Team Education - Bonnie Hamilton Bogart for Team Policy - Susanne Priest for Team Nurses - Céline Surette for Team Research
10:15am	Little Things Matter: The Impact of Toxic Chemicals on the Developing Brain <ul style="list-style-type: none"> - Dr. Bruce Lanphear, BC Children's Hospital, Simon Fraser University
11:05am	Break
11:20am	Pregnancy and Toxicology: Effects of Environmental Contaminants <ul style="list-style-type: none"> - Dr. Cathy Vaillancourt, Institut national de la recherche scientifique, Centre INRS-Institut Armand-Frappier, Université du Québec
11:50am	Round Table and Discussions: Prenatal Environmental Health
12:10pm	Lunch
12:55pm	Exploring Environmental Health Indicators for Children <ul style="list-style-type: none"> - Gavin Kotze, Office of the New Brunswick Child and Youth Advocate - Todd Arsenault, New Brunswick Department of Health - Dan Crouse, New Brunswick Institute for Research, Data and Training
1:45pm	Success Stories and Practical Applications in New Brunswick <ul style="list-style-type: none"> - Gaetane LeBlanc Cormier, Perinatal NB - Kelly Day, Faculty of Nursing, UNB
2:25pm	Introduction to Prenatal Yoga, Samantha Hynes, Breathing Space Yoga Studio
2:40pm	Break
2:55pm	Collaborative Effort: ECHO Network (Environment, Community, Health Observatory) <ul style="list-style-type: none"> - Dr. Céline Surette, Université de Moncton
3:55pm	Wrapping Up and Moving Ahead

2. Little Things Matter: The Impact of Toxic Chemicals on the Developing Brain

Dr. Bruce Lanphear was the keynote speaker for this conference. As the theme of this conference was prenatal environmental health, Dr. Lanphear's work on the study of toxic chemicals on the developing brain and his approach of using video to reach a greater audience made him a speaker of choice.

Dr. Bruce Lanphear
Clinician Scientist, BC
Children's Hospital

Professor, Faculty of
Health Sciences, Simon
Fraser University



Dr. Lanphear noted that many years of research on the impact of toxic chemicals have taught him that even if the science is present, action does not necessarily follow. There needs to be a change in the narrative on health. The research shows that low-level exposure to toxic chemicals are cumulative and can be linked to an epidemic of brain-based disorders. He presented the case of the rise of autism and how we need to question the balance of research funds (research to cure versus focus on prevention). Dr. Lanphear presented his video "[Little Things Matter: The Impact of Toxins on the Developing Brain](#)". Many diseases are a result of multiple causes (cumulative hit) and genetic vulnerability. If we are to have an impact on these diseases, we need to focus on subtle impacts. He referred to a meta-analysis study on the impacts of second-hand smoke in Scotland, where smoke-free legislation resulted in a 15% reduction of pre-term births. According to Dr. Lanphear, the narrative that drives our health system (one person at a time) needs to change. He then presented his video "[Prevention Paradox: Why We are Failing to Prevent Disease](#)". The cost-benefit ratio for prevention is \$1 = \$17 to \$220 (US data), compared to the cost-benefit ratio for childhood vaccines which is \$1 = \$10. He noted the benefits of increasing the share of health dollars that go towards public health prevention (a population strategy). In closing, he suggested that "if we didn't evolve with it, avoid it."

3. Pregnancy and Toxicology: Effects of Environmental Contaminants

Professor Cathy Vaillancourt was invited to present at this conference to present her work on the effects of environmental contaminants on pregnancy.

Cathy Vaillancourt Professor

Institut national de la
recherche scientifique,
Centre INRS-Institut
Armand-Frappier,
Université du Québec



Dr. Vaillancourt shared her past and current research on the impacts (in-utero and during childhood) of daily low-level exposures of toxic chemicals. She presented a list of chemical substances that are found in our environments and our daily lives, while noting that more than 100 chemical substances have been found in fetal cord blood samples. Even at very low doses, the contaminants can have a negative effect (endocrine disrupters) as they can mimic hormones. People are exposed to these contaminants throughout their lives, but some moments in life, e.g. pregnancy and childhood, are particularly vulnerable. Dr. Vaillancourt also noted that the impacts of these contaminants during pregnancy can have lifelong as well as transgenerational effects.

4. Panel: Exploring Environmental Health Indicators for Children

This panel aimed to provide three perspectives on the topic of exploring environmental health indicators for children.

Gavin Kotze

Director of Systemic
Advocacy

Office of the New
Brunswick Child and
Youth Advocate

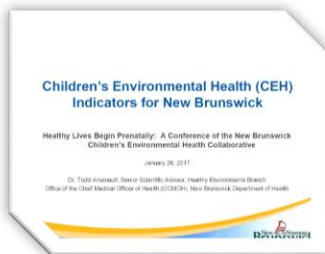


Mr. Kotze noted that the Office is an independent human rights institution and that they strive to ensure children in New Brunswick have the right to the highest standards of health. They recently published the 2016 State of the Child Report, which aims to develop indicators to track and disseminate information for children. He noted advancement in policy work at the provincial level, notably the Children's Rights Impact Assessment tool. He highlighted the United Nations Convention of the Rights of the Child and the importance of providing evidence so that these rights are upheld.

Todd Arsenault

Senior Scientific Advisor,
Healthy Environments
Branch

Office of the Chief Medical
Officer of Health
(OCMOH), New
Brunswick Department of
Health



Dr. Arsenault introduced the concept of environmental health indicators for children, noting that they are measurements that can be tracked and potential factors that may impact children's health (positive impacts like green spaces and negative impacts like contaminants). He noted that many determinants of health are interrelated. Todd then mentioned examples of current CEH indicators from the US EPA: air pollution, drinking water, indoor environments, and neurodevelopment disorders. Finally, he presented possible avenues for the development of children's environmental health indicators for New Brunswick.

Dan L. Crouse

Epidemiologist, New Brunswick Institute for Research, Data and Training

Research Associate, Department of Sociology, University of New Brunswick



Dr. Crouse noted that his recent work has been to study the links between exposures to ambient air pollution and mortality. His other focus is the study the benefits of greenspace and greenness to longevity and mental health. This work is done with the Maritime SPOR Support Unit (supporting health research in the Maritimes) and with the NB-IRDT. The NB-IRDT is a new institution that will provide a secure facility to access a wide range of data, in cooperation with the Government of New Brunswick. They have an agreement with many different departments and a number of data sets are already accessible.

5. Success Stories and Practical Applications in New Brunswick

The aim of this session was to introduce two approaches of successes and applications in New Brunswick.

Gaetane LeBlanc Cormier

Director

PerinatalNB – New
Brunswick Perinatal Health
Program



Ms. LeBlanc Cormier noted that Perinatal NB is a fairly new group, working with both Horizon and Vitalité health networks. Of their four pillars, they are focusing on data and information management. Working with stakeholders is an important part of this. Gaetane also discussed their involvement in the Canadian Congenital Anomalies Surveillance System.

Kelly Day

Nurse Clinician III

Faculty of Nursing, University
of New Brunswick



Ms. Day presented her role as a nurse clinician at UNB and highlighted the importance of raising awareness with second- and third-year nursing students. The integration of prenatal environmental health in the nursing curriculum at this time is important as the students are required to do prenatal visits with families. This also includes examining how the determinants of health may contribute to the family's environmental health. Ms. Day noted that her focus with third year students will be to start thinking about leadership and to encourage students to initiate change and promote awareness.

6. Collaborative Effort: ECHO Network

The last session of the day featured Dr. Céline Surette who presented the ECHO Network (Environment, Community, Health Observatory) project.

Céline Surette

Directrice, Maîtrise en études de l'environnement, FESR
Professeure agrégée,
Département de chimie et de biochimie, Faculté des Sciences, Université de Moncton



Dr. Surette presented a newly-funded project: the ECHO Network (Environment, Community, Health Observatory). The ECHO Network is a pan-Canadian network that aims at strengthening intersectoral capacity to understand and respond to health impacts of resource development. Its research team is informed by experienced health, environmental, and social science researchers and the research program is anchored in four regional cases (NB, Alberta, BC, and Northern BC). The NB regional case builds on over a decade of relationships and intersectoral effort the NB CEH Collaborative. The NB case is focused on building geospatial tools and creative and narrative tools.

7. Evaluations

The evaluations were completed by 36 participants (82% of participants). On a scale from 1 (poor) to 5 (excellent), the conference received an average evaluation of 4.6, which reveals a high satisfaction rate among the participants. The participants confirmed that their level of awareness and understanding of prenatal environmental health in the context of chemical substance exposure and impacts changed or improved as a result of attending this conference. They also agreed that they will apply some of the content of this conference to their personal or professional life. In response to the question, What actions will you take or ideas will you put into practice as a result of this conference?, the participants responded as follows: ideas to build educational kits (public health, healthy families and babies), continue to spread awareness and promote advocacy, buying organic, less plastic, right to a healthy environment, develop an education kit to facilitate education at home on environmental risks for pregnant women and children, add environmental dimension to my job and in every day life, continue to speak the word, yoga, more preventive strategies, more policies and legislation, include my kids, raise awareness with my

clients, continue collaborating, links with NB IRDT, join Team Nurses, prevention and promotion with students, more personal action, smoking five cigarettes a day is not an improvement on fetal outcomes over smoking 30 a day, tips to avoid toxic substances, give summary of conference to next public health meeting. The highlights of the conference, as noted in the evaluation forms, were the speakers (especially Dr. Bruce Lanphear), networking opportunities and sharing with fellow participants, yoga, indicators panel, expertise and motivation, diversity in the groups and organizations present.

8. Acknowledgements

Special thanks to those providing financial support for the conference: Health Canada, Fredericton Community Foundation, Faculté des Sciences at the Université de Moncton, New Brunswick Department of Intergovernmental Affairs.

Appendix A: List of participants

First name	Last name	Affiliation
Samantha	Hynes	Breathing Space Studio
Tiffany	Blyth	Care'N'Share Family Resource Center
Paula	Tippett	Conservation Council of New Brunswick
Sylvie	Rioux	Centre de ressources familiales Madawaska Victoria
Bruce	Lanphear	Faculty of Health, Simon Fraser University
Kelly	Day	Faculty of Nursing, University of New Brunswick
Lisa	Cheney	Family Resource Centre of Charlotte County
Melissa	Cyr	Fredericton Regional Family Resource Centre
Paula	Wood	Fredericton Regional Family Resource Centre
Sarah	Boulter	Health Canada
Cathy	Vaillancourt	Institut de la recherche scientifique, Centre Institut Armand Frappier
Tera	Kozak	Kings County Family Resource Centre
Amy	Wood	Learning Disabilities Association of New Brunswick
Andre	Deschenes	Learning Disabilities Association New Brunswick
Adele	Kent	Learning Disabilities Association New Brunswick
Melanie	LeBlanc	New Brunswick Department of Environment and Local Government
Christine	Landry	New Brunswick Environmental Network
Raissa	Marks	New Brunswick Environmental Network
Pascale	Ouellette	New Brunswick Environmental Network
Dan	Crouse	New Brunswick Institute for Research, Data and Training
Barbara	MacKinnon	New Brunswick Lung Association
Jane	O'Rourke	New Brunswick Lung Association
Liz	Smith	New Brunswick Lung Association and Canadian Network for Human Health and the Environment
Susanne	Priest	Nurses Association of New Brunswick
Todd	Arsenault	Office of the Chief Medical Officer of Health, NB Dept of Health
Lisa	Lussier	Office of the Chief Medical Officer of Health, NB Dept of Health
Gavin	Kotze	Office of the Child and Youth Advocate
Sharon	Murphy	PEACE-NB
Gaetane	LeBlanc-Cormier	Perinatal-NB
Melanie	Madore	Public Health
Natalie	Weir	Public Health
Patricia	Cox	Public Health Nurse

Annie	Ouellette	Public Health Saint John
Adèle	LeBlanc	Reseau de santé Vitalité - Santé publique
Mélanie	Bois	Santé publique
Isabelle	Doucet	Santé publique
Julie	Levasseur Dube	Santé publique
Hélène	Ouellet- Morneault	Santé publique
Denise	Roy	Santé publique
Hélène	Savoie	Santé publique
Nathalie	Theriault Auclair	Santé publique Région Moncton (Vitalité)
Céline	Surette	Université de Moncton
Bonnie	Hamilton Bogart	Voices for Sustainable Environments and Communities
Amanda	Hudson	