

2.3 Emerging New Infectious Diseases in Humans and Wildlife

Summary

Project Leader(s)

Lévesque, Benoit
Dewailly, Éric

Climate changes have the potential to affect the epidemiology of infectious diseases through a variety of indirect mechanisms. Possible climate-related impacts include changes in the range and activity of vectors, the appearance and extent of infectious agents and modifications in the availability, production and use of food and water supplies. Arctic regions are likely to be among the first affected by climate change, with serious implications for the 150,000 Inuit who live within the circumpolar zone. As a result of their traditional hunting and fishing practices, aboriginal people including the Inuit are likely to be especially sensitive to zoonoses (infectious diseases found in animal hosts and transmissible to humans) and to other diseases transmitted via food and water. This research project will centre on four components within the overarching objectives of identification, survey and prevention of health risks associated with infectious diseases in northern Canada. The first four years of research activities (2004-8) will concentrate on Nunavik given the existing strong linkages between researchers, communities and public health authorities in that region, but we hope that the work will have much broader significance and will be subsequently applicable to elsewhere in Northern Canada.

People

Network Investigators

Dewailly, Éric (Centre de Recherche du Centre hospitalier de l'Université Laval)
Hubert, Bruno (Université Laval)
Lévesque, Benoit (Centre de Recherche du Centre hospitalier de l'Université Laval)
Libman, Michael (McGill University)
Ogden, Nicholas (Université de Montréal)
Serhir, Bouchra (Institut national de santé publique du Québec)
Ward, Brian (McGill University)

Collaborators & Research Associates

Barbeau, Benoit (École Polytechnique Montréal)
Charron, Dominique (Public Health Agency of Canada)
Déry, Serge (Nunavik Regional Board of Health and Social Services)
Faubert, Gaétan (McGill University)
Grant, Jennifer (McGill University)
Proulx, Jean-François (Nunavik Regional Board of Health and Social Services)

PhD Students

Simon, Audrey (Université de Montréal)

Masters Students

Davy Ndasabé, Angela (Université Laval)
Grant, Jennifer (McGill University)
Messier, Valérie (Université Laval)

Technical Staff

Bédard, Tommy (Centre hospitalier universitaire de Québec)
Daigle, Louis-Frédéric (Centre hospitalier St-Sacrement)
Gingras, Suzanne (Université Laval)
Maguire, Jean-Sébastien (Unité de recherche en santé publique)

Maheux, Andrée (Université Laval)

Project Staff

Akparook, Minnie (Inuulitsivik Health Centre)
Alasie, Iqiquq (Makivik Corporation)
Angma, Johnny (Hamlet of Aupaluk)
Augiak, Annie (Kativik Regional Government)
Augiak, Dalacy
Billon, Louise
Blanchet, Carole (Institut national de santé publique du Québec)
Brindel, Pauline
Bujold, Simon (Glacialis Inc. (Productions))
Carrière, Marie-Paule (Canadian Coast Guard)
Côté, Suzanne (Unité de recherche en santé publique)
Desrochers, Lisanne (Institut national de santé publique du Québec)
Dubois, Isabelle (Nunavik Regional Board of Health and Social Services)
Dupuis, Joanne (Institut national de santé publique du Québec)
Fontaine, Julien
Gargano, Virginie (Université du Québec à Chicoutimi)
Groulx, Olivier (Université Laval)
Kealam, Sophie (Nunavik CLSC - Point de service Palaqsivik de Kangiqsualujjuaq)
Labranche, Elena (Nunavik Regional Board of Health and Social Services)
Laraki-Côté, Kattam (Université de Montréal)
Lavoie, Elaine (Unité de recherche en santé publique)
Lejeune, Pierre
Lemay, Karine
Lemelin, Sylvie (Canadian Coast Guard)
Martin, Daniel (Unité de recherche en santé publique)
Naktialuk, Johnny (Hamlet of Inukjuak)
Olivier, Karina (Institut national de santé publique du Québec)
Piché, Solange (McGill University)
Poulin, Michel (Université du Québec à Rimouski)
Robertson, Tirisi
Rochette, Louis (Institut national de santé publique du Québec)
Van Spronsen, Eric (McMaster University)
Vézina, Carole (Unité de recherche en santé publique)

Partners

Kativik Municipal Housing Bureau
Kativik Regional Government
Kativik environmental advisory committee (KEAC)
Makivik Corporation
Indian and Northern Affairs Canada - Northern Scientific Training Program
Public Health Agency of Canada
New York University
Nasivvik Centre for Inuit Health and Changing Environments
Ministère de la Santé et des Services sociaux – Québec

Publications

Articles Published in Refereed Publications

Lavoie, É., Lévesque, B., Proulx, J.F. et al., 2008, Évaluation du programme de dépistage de la toxoplasmose chez les femmes enceintes du Nunavik, 1994-2003., Canadian Journal of Public Health, 1, Accepted

Other Refereed Contributions

Messier V, Lévesque B, Proulx JF et al. , 2006, Seroprevalence of zoonoses in Nunavik: surveillance and risk factor assessment. , Third International Workshop on Arctic Parasitology, 1, Published

Messier, V., Serhir, B., Proulx, J.F. et al., 2007, Seroprevalence of zoonotic diseases in Nunavik, The 62nd Annual Meeting of the International Conference on Diseases in Nature Communicable to Man. , 1, Published

Lévesque, B., Lavoie, É., Simard, M. et al., 2007, Microbiological quality of blue mussels (*Mytilus edulis*) in Nunavik (Canada): A pilot study. , Salud Publica de Mexico , v. 49, E664, Published

Messier, V., Lévesque, B., Proulx, J.F. et al., 2007, Seroprevalence of zoonoses in Nunavik (Canada). , Salud Publica de Mexico , v. 49, E661, Published

Lavoie, É., Lévesque, B., Proulx, J.F., 2007, Evaluation of the toxoplasmosis screening program among pregnant Nunavik (Canada) women between 1994-2003., Salud Publica de Mexico, v. 49, E662, Published

Ndassebe, A.D., Hubert, B., Lavoie, É. et al., 2007, Prevalence and incidence of *Toxoplasma gondii* infection in pregnant Nunavik (Canada) women between 1994-2003., Salud Publica de Mexico , E661, Published

Messier, V., Lévesque, B., Proulx, J.F. et al., 2007, Zoonotic diseases, drinking water and gastroenteritis in Nunavik: A brief portrait, Qanuippitaa? How are we?, 1, Published

Non-Refereed Contributions

Lévesque, B., Proulx, J.F., Hubert, B., Serhir, B., Ward, B.J., Libman, M., Couillard, M., Déry, S., Dewailly, É., 2005, Seroprevalence of zoonosis in Nunavik, Réunion scientifique annuelle 2004 d'ArcticNet, 46, Published

Hubert, B., Proulx, J.F., Lévesque, B., Libman, B., Plaziac, C., Dewailly, É., 2005, Prévalence et incidence de la toxoplasmose chez les femmes enceintes du Nunavik, Réunion scientifique annuelle 2004 d'ArcticNet, 37, Published

Lévesque, B., Martin, D., Dewailly, E., 2005, Études en santé environnementale au Nunavik dans le cadre du réseau Arctic, La 7ème journée de la recherche de la faculté de médecine, 1, Published

Maheux, Andrée, Bernier, Jean-Luc T., Luc Bissonnette, Maurice Boissinot, François J. Picard, Daniel Martin, Jean-Sébastien Maguire, Benoît Levesque, Eric Dewailly, and Michel G. Bergeron, 2005, Development of new rapid, adaptable, affordable and efficient molecular microbiology methods for faecal contaminant indicators and pathogen detection in drinking water, Proceedings ArcticNet 2004 Annual Scientific Meeting, 48, Published

Messier, V., Lévesque, B., Proulx, J.F., Serhir, B., Ward, B.J., Libman, M., Couillard, M., Déry, S., Dewailly, E., 2005, Seroprevalence of zoonoses in Nunavik: surveillance and risk factor assessment, 2005 ArcticNet Annual Scientific Meeting Proceedings, 80, Published

Davys, A., Lavoie, E., Hubert, B., Déwailly, É., Lévesque, B., Libman, M., Proulx, J.F., Gingras, S., Plaziac, C., 2005, PREVALENCE AND INCIDENCE OF TOXOPLASMOSIS IN PREGNANT WOMEN IN NUNAVIK 1994-2003, 2005 ArcticNet Annual Scientific Meeting Proceedings, 47-8, Published

Lavoie, E., Lévesque, B., Proulx, J.F., Barthe, C., Martin, D., Maguire, J.S., Déry, S., 2005, Pilot project on health risks related to consumption of bivalve shellfish, Salluit, Nunavik, 2005 ArcticNet Annual Scientific Meeting Proceedings, 73, Published

Charbonneau-Roberts, G , Déry, S, Dewailly E,, Egeland, GM. , 2005, COMPARISONS OF OBESITY MEASURES AMONG INUIT OF NUNAVIK, 2005 ArcticNet Annual Conference Proceedings., 41, Published

Dallaire, Renée, Éric Dewailly, Pierre Ayotte, Daria Pereg, Serge Dery, Suzanne Côté and Sylvie Dodin, 2005, EXPOSURE TO PERSISTENT ORGANIC POLLUTANTS IN THE INUIT POPULATION OF NUNAVIK: TEMPORAL TRENDS AND POTENTIAL HEALTH EFFECTS, 2005 ArcticNet Annual Conference Proceedings., 46, Published

Martin, D., B. Levesque, J-S. Maguire, A. Maheux, C. Furgal, J-L. Bernier, É. Dewailly, 2005, DRINKING WATER QUALITY IN NUNAVIK: HEALTH IMPACTS IN A CLIMATE CHANGE CONTEXT, 2005 ArcticNet Annual Conference Proceedings., 77, Published

Messier V, Lévesque B, Proulx JF et al. , 2006, Seroprevalence of zoonoses in Nunavik-What we learned from Qanuippitaa Health Survey. , 3rd ArcticNet scientific meeting, 27, Published

Davys Ndasabé A, Lavoie E, Hubert B et al.. , 2006, Prevalence and incidence of toxoplasmosis in pregnant women in Nunavik 1994-2003, 3rd ArcticNet scientific meeting proceedings, 88, Published

Lavoie E, Lévesque B, Proulx JF et al, 2006, Toxoplasmosis Screening Program among Pregnant Women in Nunavik: Seroconversion to *Toxoplasma gondii* and Congenital Toxoplasmosis Chart Revision., 2006 ArcticNet scientific meeting proceedings, 78, Published

Lévesque, B., Lavoie, É., Simard M. et al., 2008, Microbiological quality of blue mussels (*Mytilus edulis*) in Nunavik (Canada): A pilot study., 2007 ArcticNet Annual Conference Proceedings, 67, Published