



Photo: Sylvie Ricard

Elevated exposure to persistent organic pollutants (POPs) in Inuit from Nunavik and the role of climate change

Amira Aker, PhD, MPH







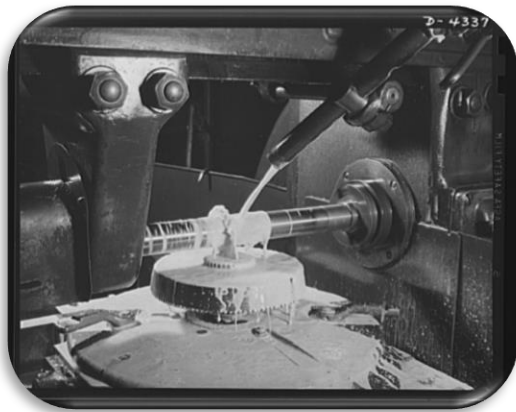
Organochlorinated pesticides (DDT, toxaphene, etc.)

Polybrominated diphenyl ethers (PBDEs)



PERSISTENT ORGANIC POLLUTANTS (POPs)

Per & polyfluorinated substances (PFAS)



Polychlorinated biphenyls (PCBs)



PER & POLYFLUOROALKYL SUBSTANCES (PFAS)

- A large family of chemicals used in a variety of consumer and industrial products
- Used for their water and stain resistant properties
- Their structure is composed of carbon and fluoride links

Examine these raincoats—each has been dry-cleaned...



One of these raincoats stays water-repellent!

Everyone loves a parade... if the weather cooperates. But if it doesn't, make sure that your raincoat does. And it will — even after repeated washing or dry-cleaning — if it has been treated with "SCOTCHGARD" Brand Rain & Stain Repeller.

All of the raincoats in the above photograph were dry-cleaned. But, notice what happened to those not made of fabric treated with "SCOTCHGARD" Repeller. They've virtually ceased to be raincoats.



And that's our point. Only one water repellent doesn't dry clean out! Only one gives effective rain protection season after season... without reprocessing. What's more, you'll probably need to clean your coat less often because "SCOTCHGARD" Repeller resists soil. Shrugs off spills and stains. Even oily ones.

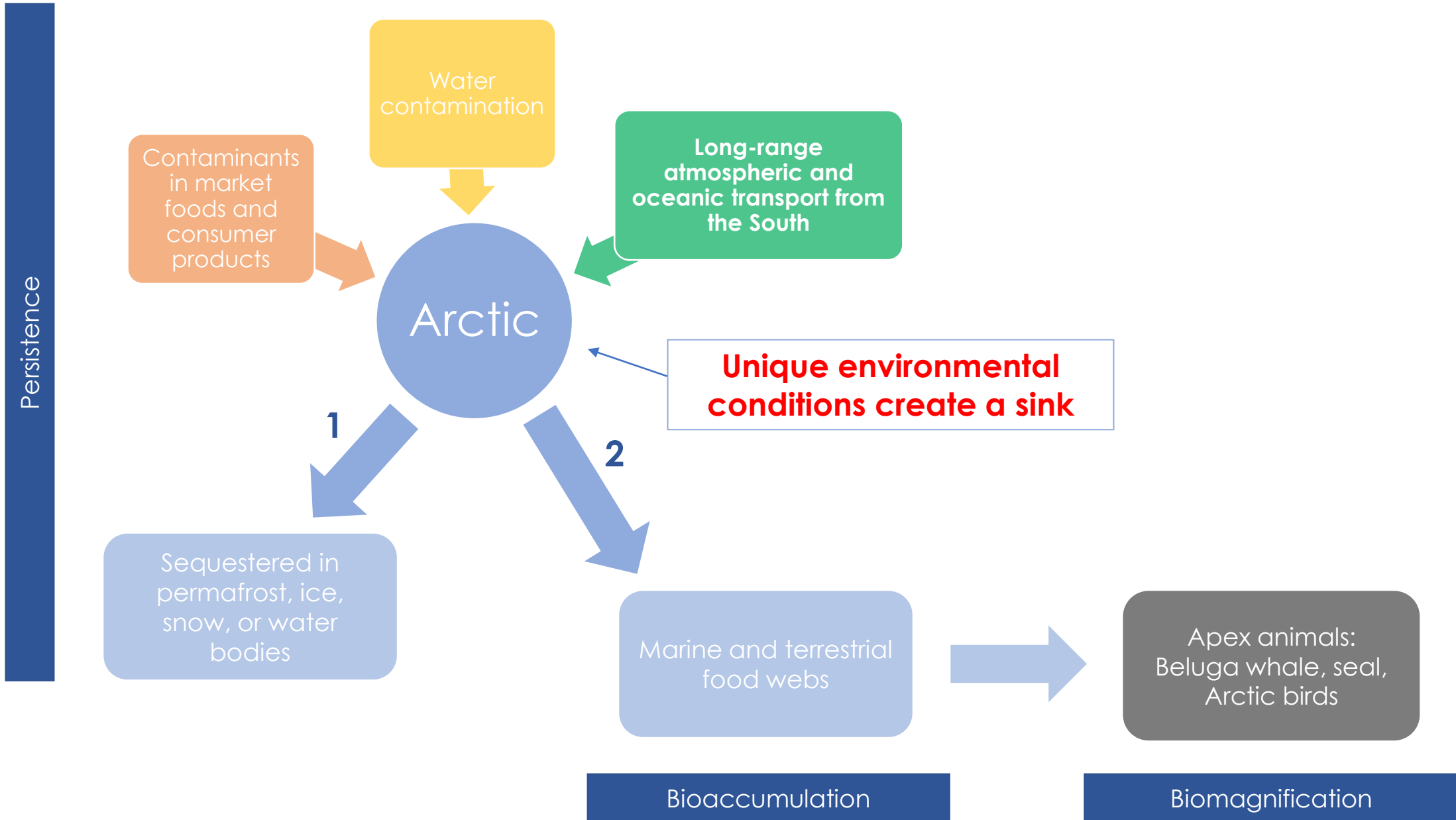
Want to know if your new raincoat was tailored from fabric treated with "SCOTCHGARD" Repeller? Just ask. Before you buy.

© 1963 3M Co., St. Paul 5, Minn.

Scotchgard
RAIN & STAIN REPELLER

A PRODUCT OF **3M**

POPS AND PFAS IN THE ARCTIC



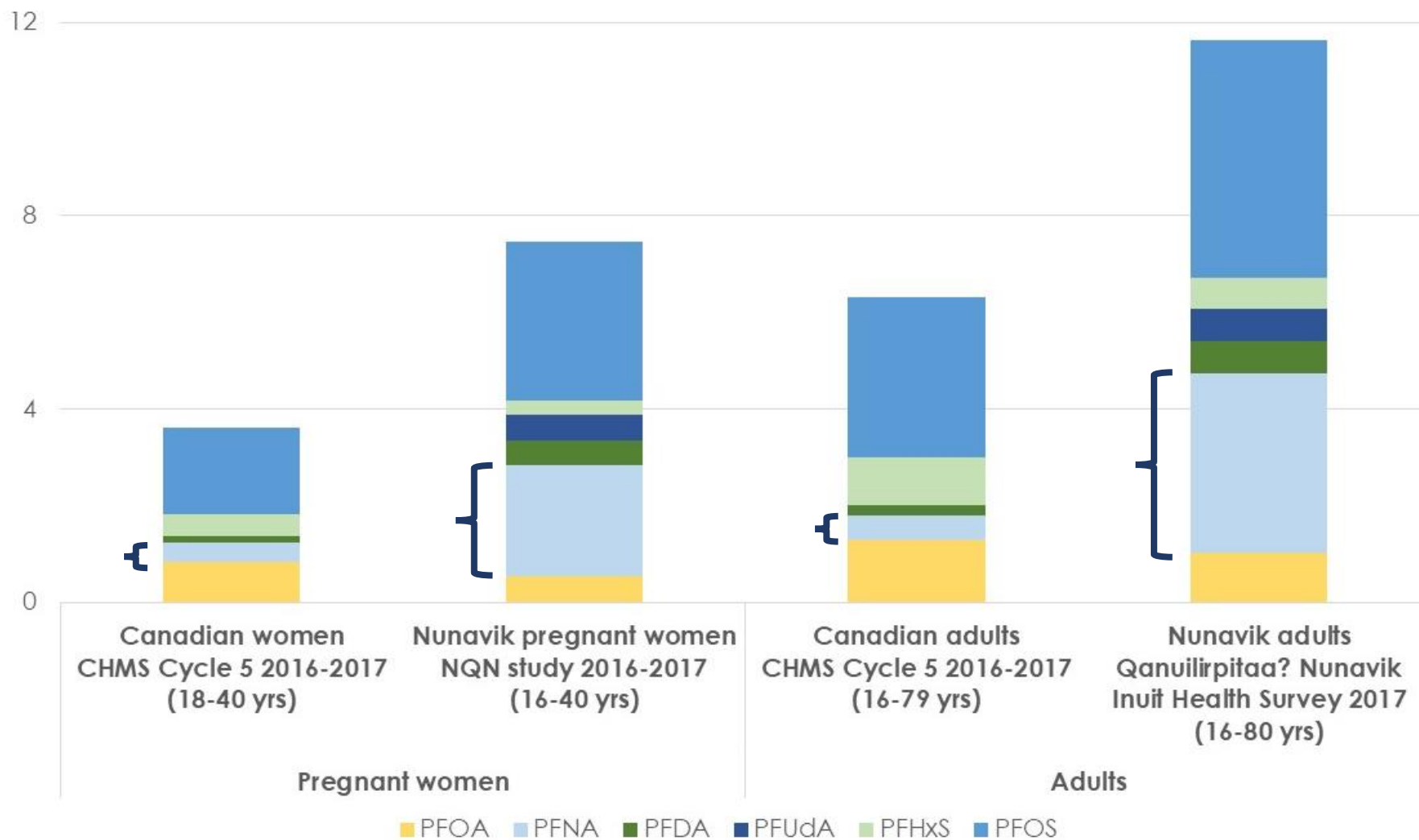


PFAS IN NUNAVIK VERSUS THE CANADIAN GENERAL POPULATION

Sum PFAS concentrations in Nunavik are double CHMS concentrations

PFNA levels were 7-fold higher in Nunavik versus CHMS

PFNA concentrations were also up to 8-fold higher among Anishinabe and Innu children aged 3-5 years compared to children in CHMS



HEALTH EFFECTS IN CHILDREN

Gestational impacts

Low birth weight
Gestational diabetes
Gestational hypertension

Cardiometabolic

Obesity
Abnormal cholesterol levels
Liver fat accumulation
Metabolic syndrome

Reproductive

Early puberty onset



Neurodevelopment

Cerebral palsy
ADHD
Academic achievement

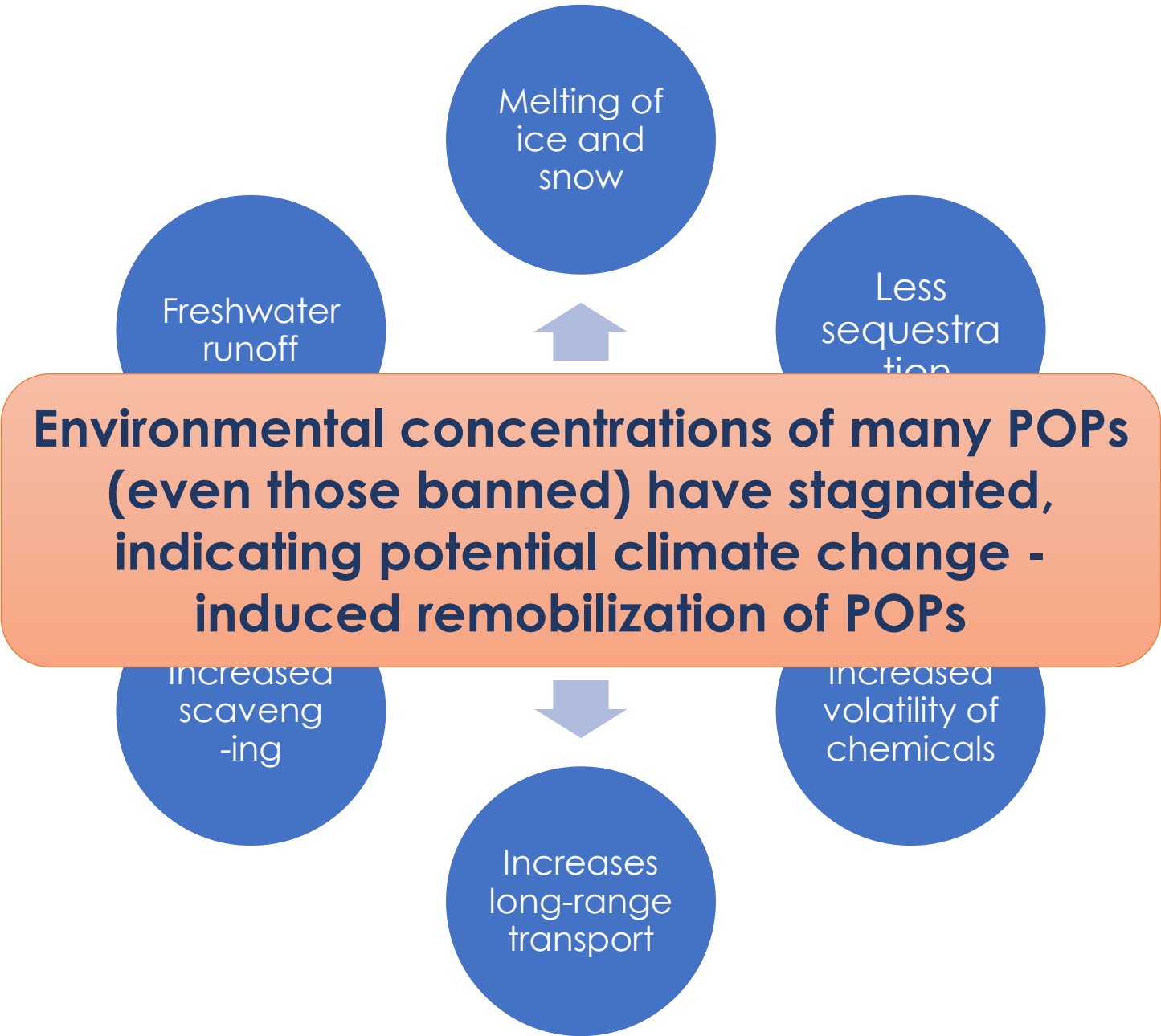
Thyroid

Hormone disruption

Immune

Decreased vaccine response
Respiratory and gastro infections
Asthma





MOVING FORWARD

- The Inuit Tapiriit Kanatami released the “National Inuit Climate Change Strategy”
 - Outlines improving environmental health and wellness through integrated Inuit health, education, and climate policies and initiatives
- Youth-led projects
 - A multi-year, Inuit-led research project to study the increased frequency of gastrointestinal illnesses in the community of Mittimatalik (Pond Inlet) and freshwater quality
 - Increasing on-land activities to deal with mental health
- Making use of Inuit ecological knowledge
 - Establishment of two-way conversations

Documentary to watch: “Inuit Knowledge and Climate Change”



ACKNOWLEDGEMENTS

We are grateful to all Nunavimmiut participants and all the people who planned and carried out these surveys. We would also like to thank the population of Nunavik as well as the members of the Nunavik Regional Board of Health and Social Services (NRBHSS)

LITTORAL

CHAIRE DE RECHERCHE EN PARTENARIAT
SENTINELLE NORD EN APPROCHES
ÉCOSYSTÉMIQUES DE LA SANTÉ

SENTINEL NORTH PARTNERSHIP
RESEARCH CHAIR IN ECOSYSTEM
APPROACHES TO HEALTH

NQN, Qanuilirpitaa? 2017 and Littoral funded by:

Northern Contaminants Program

Sentinel North

FRQS Fellowship

Institut national de santé publique du Québec

Nunavik Regional Board of Health and Social Services

Ministère de la Santé et des Services sociaux

ArcticNet

Makivik Corporation

Kativik Regional Government

Kativik School Board

Amundsen Science



Programme de lutte contre
les contaminants dans le Nord
Northern Contaminants Program

