



EU-Canada Roundtable on Arctic, Health and Wellness

July 6th 2015

The roundtable was designed to enable the EU and Canadian research communities to determine new areas of collaboration, as well as to outline potential joint endeavours to address the following issues: ***Impacts of climate change on health – Environmental contaminants – Mental wellness / suicide prevention***. It also provided inputs for the EU-Canada S&T policy dialogue.

Anthropogenic climate change is one of the biggest threats to human health this century. Evidence indicates that there will be direct and indirect effects of climate change, stemming from increased severity and frequency of storms and severe weather events; long-term droughts and chronic weather events; forest fires and floods; heat waves; and changes in ice regimes globally. These effects include:

- increased frequency and distribution of *foodborne, waterborne, vectorborne, and zoonotic diseases sensitive to weather and heat changes*
- decreased *nutritional opportunities and food shortages*
- *heat-related deaths and stresses*
- greater risks of *injury, disease, and mortality* from extreme weather events and *respiratory and cardio-vascular challenges* from changing air quality
- challenges to *mental health and wellness*.

The **Circumpolar North** is experiencing some of the most rapid changes in climate and environment in the world, such as for example disruptions to sea ice regimes; increased surface air temperature; thawing permafrost or disruptions to wildlife and vegetation. These changes are **disrupting the livelihoods and cultural practices** of many Arctic peoples, particularly indigenous populations, leading to a range of climate-change-related health impacts. In addition to the above list, the latter also include *deaths and injuries from unstable ice conditions and unpredictable weather - sunburns - reaction to new allergens, dust, and forest fires - effects of anthropogenic environmental contaminants - emotional and mental distresses*.

These climate-change-sensitive health impacts are a pressing priority across the Circumpolar North, yet represent a newly-emerging area of study. As such, **little is known about their range, scope, and severity of climate-change-related across the Circumpolar North, nor are there evidence-based strategies for mitigation and adaption**. Resources are required to support multi- and interdisciplinary research that spans countries, disciplines, and methodological approaches, and unites researchers, policy makers, Indigenous communities and leaders, local, regional, national, and international governments, and funding organizations to a) **find creative and innovative approaches** to studying and understanding the health impacts of a changing climate and associated environmental changes in the Arctic; b) **find locally-appropriate and culturally-relevant strategies** to mitigate and adapt to health challenges; and c) **enhance the health and wellness** of Arctic populations within a new climate and environmental reality.



The discussions and debates led to a series of recommendations, the main ones being to:

- Carry-out and develop **time-sensitive suicide research** focusing on quantitative and qualitative assessment of suicide to allow for a broader cultural understanding of suicide risk factors, ideation, perception and normalization within the indigenous Arctic populations.
- Support **local action-oriented and community-led participatory interventions** to respond to suicide in high-risk Arctic communities with involvement of local elders and leaders as well as the youth impacted both at an early prevention level as well direct targeting of high risk groups.
- Create an **Arctic research chair for Mental Wellness and Suicide Prevention**, thus providing the leadership to foster a coordinated and collaborative evaluation approach.
- Better **harmonize**, in study design, bio-banking and data archiving protocols, the **on-going bio-monitoring programmes and health assessments** in Canada and Europe/Scandinavia.
- Carry-out a **comprehensive risk-benefit assessment of diet** shifts of indigenous peoples, as well as studies on seasonal changes in diet with regards to nutrient and contaminant exposure.
- Study **exposure and uptake of contaminants** from foodstuffs and the indoor environment within Arctic settlements.
- Share **successful and innovative approaches** between Arctic scientists in the EU and Canada to optimize outreach and regional/national comparisons.
- Maintain and reinforce the **monitoring initiative of air quality and deposition** in the Arctic.
- Consider new environmental matrices for inclusion in **long-term monitoring efforts** across the Arctic, including surface seawater, given the rise in 'water-transported' contaminants in the Arctic, as well as the exploitation of snow and ice cores.
- Better **characterize contaminants** arising within Arctic settlements or through local infrastructure (dump sites, waste water disposal)
- Foster research on **untreated wastewater disposal** associated with larger Arctic settlements or shipping (tourist vessels), which are likely to be significant sources of contaminants to coastal waters.

- Evaluate the health impacts of **exposure** on indigenous people, particularly infants and pregnant women, **to multiple contaminants** ('cocktail effect')
- Determine the transport, fate and impact of **combustion derived pollution** and the effects of black carbon (and associated contaminants) in the Arctic need to be studied.
- Study the **exposure of contaminants to sentinel organisms** as well as to the **base of food webs**, in a warming Arctic and in both terrestrial and marine environments.
- Study climate change consequences for **food and water security** in the Arctic and carry out international comparisons across countries, jurisdictions, and boundaries.
- Understand the **changing patterns, distribution, frequencies, and risk levels of a variety of diseases**, including infectious, vectorborne, and zoonotic, in the Arctic.

In addition the participants recognized the ***need for moving beyond current strategies for funding grants, and entering into a new and innovative approach to funding multi-country, multi-disciplinary teams.*** One such approach would consist in a ***two-tiered funding structure***: 1) support to the creation of teams reflective of multiple disciplinary backgrounds, with an emphasis on Indigenous leadership and priorities; 2) application to access full funds to conduct the research program.