

How do changes in weather, season, and climate impact Inuit mental wellbeing in Nunatsiavut?

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Introduction

Inuit rely on the environment to support their livelihoods, culture, relationships, and wellbeing.^{1,2} Changes in the physical environment can limit the ability of Inuit to engage in land-based practices such as hunting, trapping, and harvesting.^{2,3} As such, climatic changes have been linked to mental health challenges, including increased family stress, possible substance abuse, the potential for increased suicidal ideation, and concurrent reports of an increased use of mental health services and overburdened health professionals.^{3,4}

Rationale

Ongoing community-driven research in the Labrador Inuit Land Claim Area (hereafter referred to as Nunatsiavut) has identified mental wellness among several climate-sensitive health priorities.⁵ Although some mental health outcomes such as suicide are already known to be associated with seasonal and meteorological trends in some Alaskan Natives,⁶ these findings are both regionally and outcome specific and cannot be reliably extrapolated to other populations.^{7,8} Therefore, the present study seeks to investigate the environmental-mental health relationship in Nunatsiavut.

Research Objectives

- 1 Investigate meteorological, seasonal, and climatic factors locally-identified as important to Nunatsiavut Inuit mental wellbeing.
- 2 Explore how these meteorological, seasonal, and climatic factors influence the use of mental health-related services in Nunatsiavut.

Methods

Qualitative Data

- Between 2012-2013, 106 in-depth interviews were conducted by local research coordinators across all 5 communities (Nain, Hopedale, Makkovik, Postville, and Rigolet).
- 96 community members; 20 health professionals were interviewed (N=116).

Analysis

- Thematic analysis of transcripts using an iterative, constant-comparative method was conducted.⁹

References

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Findings

Temporal Patterns of Mental Wellbeing

"The weather has a strong hold on us"

Weather and climatic conditions were consistently reported to impact individual and collective emotional states as they determined people's ability to connect with the land and thereby their culture, livelihoods, community, and identity. Emotions were often experienced in relation to the timing of weather events and trends described in the following subthemes:

Transient Emotional Experiences

Day-to-day interactions with weather were woven into individuals' wellbeing, eliciting a range of mental states from happiness to "frustration" when prevented from getting out on the land. Unexpected weather events, such as storms, poor ice conditions, and high winds, led to "scary" and intimidating experiences while on the land.

"you're so at the mercy of the elements that you appreciate those elements...so when the first snowfall comes...and the snowflakes are falling on your face...you'll stop and enjoy that...you really feel like you're so attuned like you feel closer to land"

Seasonal/Emotional Experiences

During fall freeze-up and spring breakup periods of sea ice, people were often limited to their communities feeling "bored", "isolated", and "in despair." Some health professionals reported that these "down feelings" were reflected in an increased need for mental health services during the fall and spring. The fall freeze-up was described as a particularly difficult period due to the shorter days.

"I think anybody with mental health issues would find the fall the worst. Even when you're not...when you don't have mental health issues, just being isolated and nothing to do and there's no sunlight... It gets to you... That gets to everybody."

Changing Climate and Anticipated Wellbeing

All participants described increasingly unpredictable changes in weather and climate. When asked how these changes made them feel, many felt "sad" for the loss of their land, culture, and skills learned through place. Many participants faced ontological insecurities, examining if and how their place-based identity would exist in a new climate.

"Inuit are not really known for warm weather but I think we're probably going to get hit by that, you know, warmer temperatures, I don't know. Just hopefully the warmer temperatures don't hit us too fast, just gradually."

Discussion

- Short- and long-term patterns of weather both impeded and enhanced mental wellbeing.
- Temporal patterns in mental wellbeing reflected potential periods of vulnerability for mental health (e.g. the fall freeze-up), and conversely, opportunities to support individuals and communities with health resources.¹⁰
- Identifying community-level exposures for mental wellbeing enables population-based approaches to health that can help build resilient communities and address larger proportions of the burden of mental health issues.¹¹

Next Steps

- Investigate the generalizability of these qualitative findings, and explore how trends in weather impact the use of mental health-related services across the region (i.e. objective two):



Clinic Data

- Dates and demographics for all mental health-related visits from community clinics across the region (2009-2016).



Weather Data

- Locally-identified predictors (e.g. temperature, wind)
- Determine fall freeze-up and spring breakup periods of sea ice.



Quantitative Analyses

- Regression modeling to examine associations between dates of clinic visits and local weather conditions.

Implications

- A better understanding of the impact weather, season, and climate have on individual and collective mental wellbeing and the burden this poses to regional and local healthcare systems.
- Development of epidemiological approaches that integrate Indigenous and Western knowledge.
- Inform regional and local public health policies, planning, and programming.
- Provide a baseline of mental health for evaluation of future health initiatives and adaptation strategies in response to a changing climate.

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