IPY Inuit Health Survey speaks to need to address inadequate housing, food insecurity and nutrition transition

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Published in the current issue of the International Journal of Circumpolar Health are four manuscripts representing findings from the Canadian International Polar Year (IP) Inuit Health Survey on the inter-related themes of nutrition transition and food insecurity and housing conditions (1-4). These four manuscripts provide only a small glimpse into the quality of life a population residing in 36 remote communities in the Canadian Arctic. Our work, thus far, finds that the arctic communities are experiencing challenges of fundamental importance to the protection of population health: adequate nutrition and housing.

Overall, 1 in 4 homes were crowded, 1 in 5 homes provided temporary shelter to homeless visitors, and 2 in 5 homes were in need of major repairs (1). Further, homes with children had a greater prevalence of disrepair, a mold problem, and crowding than homes without children with prevalences similar to that found in our Nunavut Inuit Child Health Survey (5). Given that children, in particular young children, spend the majority of time at home, housing conditions are considered an important determinant of health and well-being. Research in other study populations have found that household crowding is an important associate of a wide range of health parameters from psychological well-being to respiratory health (6-8). The IPY Inuit Health Survey attempted to document the prevalence of homes providing temporary shelter given concerns voiced during planning meetings of an undocumented hidden homelessness in the Canadian Arctic. The results emerging from the IPY data lends evidence regarding the need for finding both short and long-term solutions to the housing crises including shelters for those experiencing domestic violence.

In addition to suboptimal housing, we found a high prevalence of food insecurity in the communities surveyed (2). Food insecurity is an extreme form of economic hardship and our IPY survey represents the most comprehensive assessment, to date, of food insecurity among Inuit residing in the Canadian Arctic. The concept of food insecurity is broad, however, and covers a continuum of hardship from worrying whether food will run out to outright hunger. We found that Nunavut, in particular, had by far the highest documented food insecurity prevalence rate (68.8%) for any Indigenous population residing in a
developed country (2). The higher prevalence of food insecurity in Nunavut compared to the other regions corresponded with evidence of a greater prevalence in other indicators of economic hardship in Nunavut compared to the Inuvialuit Settlement Region and Nunatsiavut. In the context of limited income and a high cost of market food in the Arctic (9), access to and consumption of traditional food becomes ever more important for food security.

In addition to the strains of food insecurity, Inuit are undergoing a dietary transition as a result of numerous societal and environmental changes. The transition away from traditional food has consequences for diet quality, nutrient intakes and nutritional status (10-12). For example, we found that on days when traditional food was consumed 22.7% of energy came from protein and 37.2% of energy came from carbohydrates as opposed to 13.9% of energy from protein and 50.8% of energy from carbohydrate when no traditional food was consumed (10). Given the nutrient-rich density of traditional food, even small amounts of traditional food consumption can improve nutrient intakes in the Arctic (10-12). Thus, we were interested in comparing the extent of traditional food consumption identified in the IPY Inuit Health Survey with that of 18 Inuit communities evaluated a decade earlier (3). In these analyses, we found that Inuit today are consuming a significantly greater amount of sugar-sweetened beverages and pasta and less traditional food than 10 years ago (3). However, the transition away from traditional food was more evident among women than men in terms of the decline in the percent consuming traditional food and in the percent of energy from traditional food (3).

Biochemical evidence of dietary transition was evaluated by examining highly unsaturated n-3 fatty acid levels in erythrocyte membranes in which we found striking regional and coastal to inland community differences in n-3 fatty acid status indicating the varying degrees to which traditional food is consumed across the Canadian Arctic (4). Importantly too, Inuit n-3 fatty acid status was significantly and inversely related to saturated and trans-fatty acids indicating that n-3 rich traditional food is being replaced by market foods sources of unhealthy fats. Inland Inuit, in particular, had the highest trans-fatty acid levels and the highest ratio of saturated fat to polyunsaturated fat among the 36 communities surveyed (4).

Food insecurity and economic hardship including inadequate housing and the nutrition transition away from traditional food in the context of costly market food represent fundamental public health challenges which need to be addressed. It is hoped that the survey results will be put to good use in identifying priorities and developing interventions and public policy to help make a meaningful difference in the Canadian Arctic.

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