Levels and trends of contaminants in human populations in the Arctic

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Levels and trends of contaminants in human populations in the Arctic

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Abstract:

The Arctic Monitoring and Assessment Programme (AMAP) is one of six working groups (WG) established under the Arctic Council. AMAP is tasked with monitoring the levels of contaminants present in the Arctic environment and people as well as assessing their effects on a continuous basis, and reporting these results regularly. This presentation provides an overview of the human biomonitoring data from all eight Arctic countries reported in the 2015 Human Health Assessment Report. Levels of contaminants are declining in the monitored Arctic populations, but not consistently across the Arctic. Certain populations are experiencing more rapid declines than others, and certain populations have concentrations that are remaining stable or are still increasing. Most Arctic populations described in this presentation continue to experience elevated levels of these contaminants compared to other populations monitored worldwide, for example, mercury, where 7 to 85% of Inuit women 18 to 39 years of age in Arctic Canada and Greenland exceed the Canadian provisional blood guidance value of 8 ug/L established for children and women of childbearing age. There are certain contaminants, like perfluorinated compounds (PFCs) and polybrominated diphenyl ethers (PBDEs) which are still increasing in Arctic populations, and require more investigation to find the predominant and important sources of exposure. Most of these data have been collected over the last twenty years and are from all 8 circumpolar countries. Coordinated, international biomonitoring must continue in the future to determine if levels of these contaminants, and others, are changing in Arctic populations. This work also supports the objectives of Canada’s Chemicals Management Plan.
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Biography:

Jennifer is a Toxicologist with the Population Biomonitoring Section of the Environmental Health Science and Research Bureau at Health Canada, and a designated expert for Canada with the Arctic Monitoring and Assessment Programme (AMAP) Human Health Assessment Group. She is the first author of the human biomonitoring chapter in the new AMAP Assessment 2015: Human Health in the Arctic. She has spent the last two and a half years working with the other 7 circumpolar countries and the Inuit Circumpolar Council to compile human biomonitoring data from Arctic populations in order to show the current state of contaminant concentrations in humans in the Arctic. She graduated from the University of Ottawa in 2006 with her Masters in Biology, with specialization in Environmental Toxicology and Chemistry, after having done research on the effects of methylmercury on the metamorphic development of several species of amphibian tadpoles.