

**The theme of the workshop was Arctic health research: Past, present and future perspectives.**

The aim of the workshop was to bring experts in Arctic health together to consolidate work efforts and identify areas for potential collaboration. Key health researchers and associates from the circumpolar countries, including AMAP representatives, presented their research experiences, including social, epidemiological, clinical, as well as human toxicological studies and active discussions were taking place upon the presentations.

Seventy-two participants from Greenland, Canada, Faroe Island, Norway, Finland and Denmark with interest in Arctic health and research and their associates attended the 2 days' workshop. Several Greenlandic medical students at Aarhus University were also invited to participate.

The workshop was built up over thematic group sessions including

- “Cohort studies & Reproduction”,
- “Endocrinology – Diabetes”,
- “Health Research & Organization in the Arctic”,
- “Health programmes in Manitoba & Greenland”
- “Infectious Disease in the Arctic”
- “Environmental Impact & Health”
- “The Young Arctic Population”

In between the sessions there were breaks with splendid of time for discussion.

**Day two of the workshop ended up with group work for mixing and project contacts followed by presentation of new project ideas in plenum.**

The researcher agreed on that an array of health issues requires an effort to increase the quality of life and years of life for the Arctic population. Changes in lifestyle, diet in combination with climate changes will in the future be a challenge that must involve the primary health care system. The diseases pattern is changing e.g. obesity, diabetes; some cancers and tuberculosis are increasing. Another topic is that the changes in diet might influence the gut flora and can affect the immune status. Moreover, the Greenlandic plans for mining might affect the environment and the human living. To explore these changes over time prospective studies must be started up for in this way the follow parameters affecting the health of the Arctic population.

Moreover, based on recent years initiatives in the Greenlandic education system, including primary and secondary schools, profession schools and universities on the basis of EU funding, it was proposed using this data base to monitor developments in the relationship between health status and level of education in Greenland on selected indicators. The possibility of starting collaboration with the Ministry of Education and Research was suggested.

It was clearly pointed out the importance of nutrition and dietary advises on reproduction and health in general, also taking into consideration the low life expectancy in the Arctic populations.

Samples and questionnaires from 1000 Greenlandic pregnant women were taken in 1999-2005. Currently a new Greenlandic geographical, prospective mother-child cohort including 800-1000 pregnant women and their child are established ranging from 2010 to 2015. An array of samples and questionnaires are taken and stored in an official biobank. By analyses of mother's life style and environmental exposures during pregnancy, following-up the child, it is expected to elucidate the impact on fetal and child development and health later in life including genetic susceptibility.

The importance of the personal contact during the workshop allowing discussion with colleagues from the circumpolar countries including Greenland and within Denmark to initiate collaborative enterprises was pointed out.

Moreover, the importance of cross disciplinary cooperation between researchers, the health care system and medical doctors was also pointed out.

**In conclusion, the workshop was an absolute Arctic Health success and the participant agreed on that it must be repeated every two years.**

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### **Summary of the outcome of group work for mixing and project contacts followed by presentation of new project ideas in plenum.**

#### Group 1; Cohort studies & Reproduction:

I: Implementation of mother-child cohorts already existing and currently being establish.

a. 1999 – 2005 (Nuuk, Manitsoq, Ilulissat)

(Public Health; POPs; vaccinations response, immune defence) (PB+JPB+HSP)

b. 2010 – (-2012) – 2015 (Nuuk, Ilulissat, Aasiaat, Sisimiut, Manitsoq, Tasiilaq, Qorqortoq)

(Public health; POPs; child development; vaccinations response, immune defence) (ECB-J, SM, LH): Biobank is established with a steering board.

Possible DATA: a+b= 1999-2015 (15 years of trend for lifestyle; diet; POP exposure/levels)

Questionnaires for lifestyle; health; diet

Possible future research: Fetal exposure vs. diseases frequency; development/skills (IQ, ADHD, ASP), nutrition, zoonose, immune defence (antibody complement), cancer.

II: Focus on indoor PCB exposure: PCB profile and levels indoor and levels in serum of the residents

III: Basic trend in environment – animals (seals) - humans in Nuuk fjord before mining start

Group 2: Endocrinology & Diabetes

I: Pilot study on the rapid changes in mortality / potential last year of life

II: Diabetes project / Dental status

III: Primary health care in GRL and DK

Group 3: Health Research & organization in the Arctic

I: The group discussed how to combine the daily work with free health research

Group 4: Infectious diseases in the Arctic:

- a. Invasive pneumococ; Diseases and immune function
- b. OTITIS media; Diseases and immune function
- c. Catalog over biobanks for arctic samples and questionnaire's
- d. INFcare OTITIS; data capture modules
- e. Microbiology and gut flora vs. change in lifestyle
- f. INFcare and hepatitis
- g. Zoonoses and climate change

Venlig hilsen Eva C. Bonefeld-Jørgensen