

Notes from the IUCH Infectious Disease Working Group Meeting
Wednesday September 9, 2003

Attended by Representatives from:

CDC Arctic Investigations Program

Alaska Native Health Tribal Consortium

Statens Serum Institute

Office of the Chief Medical Officer, Nuuk, Greenland

Department of Health and Social Services Iqaluit, Nunavut

Odense University Hospital Denmark

Dronning Ingrid's Hospital Nuuk Greenland

State Sanitary & Epidemiological Center, Arkhangelsk Region Russian Federation

Topic for Discussion: “ Strategies for increasing cooperation for the prevention and control of infectious diseases in circumpolar regions” .

Agenda

- 1) Overview of IUCH Working Group structure and role in circumpolar cooperation
- 2) Open discussion of infectious disease issues of concern among circumpolar countries (HIV, AIDS, TB, Hepatitis Helicobacter pylori, vaccine preventable diseases respiratory syncytial virus influenza like illness, bioterrorism, emergency response).
- 3) Current Status of circumpolar cooperation
- 4) Gaps and needs
- 5) Potential solutions

Overview of IUCH Structure

Membership consists of 5 adhering bodies, American Society for Circumpolar Health, The Canadian Society for Circumpolar Health, The Nordic Society for Arctic Medicine, the Siberian Branch of the Russian Academy of Medical Sciences, Danish Greenlandic Society for Circumpolar Health.

Objectives are to promote and encourage:

- international cooperation in circumpolar health
- research and exchange of scientific information
- education and public awareness
- communication with other scientific organizations
- active participation by indigenous peoples

The main activity of the IUCH is the organization of the triennial International Congress on Circumpolar Health. Work of the IUCH is conducted by 13 working groups.

Active working groups include:

- Birth Defects
- Cancer
- Environmental Health
- Health Surveys
- Indigenous peoples
- Infectious Diseases
- Injury Prevention
- Occupational Safety & Health

Infectious Disease working group:

The formation of this working group grew out of the realization that Arctic Communities are no longer isolated from infectious diseases that now threaten other communities around the globe.

Of particular concern to Arctic residents are:

The reemergence of old infectious diseases such as Tb, and STD,

The emergence of antibiotic resistance particularly MDRTb, MDRSp, MRSA, VRSA.

The reappearance of old viruses causing new outbreaks, (Hep A, RSV);

The appearance of new viruses (Hep C, WNV SARS),

The rise in cancer rates within our populations that are caused by infectious agents and finally

The new concern over infectious agents which may be intentionally released.

The idea of an IUCH WG was to provide a forum for circumpolar information sharing on infectious diseases of concern and on prevention and control strategies and efforts.

The first official meeting of the infectious disease working group was at the ICCH held in 2000 in Harstad Norway. At that meeting the concept of establishing an International Circumpolar Surveillance system was presented. The goal of this project is to establish an integrated circumpolar surveillance system for infectious diseases by linking hospital, national reference laboratories and public health institutes throughout the Arctic. This system would use existing laboratory public health and the IUCH infrastructures to establish contacts, collect data and gain support.

An update on ICS progress was presented by Alan Parkinson

Surveillance for invasive pneumococcal disease has been established in the US Arctic (Alaska), northern Canada, Greenland, Iceland, Norway and Finland. Plans to extend this surveillance to include Sweden are underway. Surveillance for invasive diseases caused by Haemophilus influenzae, Neisseria meningitidis and groups A, and B streptococcus has been established in the US Arctic and northern Canada. The expansion of surveillance of diseases caused by these bacteria to other Arctic Countries is being considered.

Dr Andrei Tulisov from the State Sanitary & Epidemiological Center, Arkhangelsk Region Russian Federation presented results from a multi national surveillance system developed by the Nordic Barents collaboration, which reports rates of reportable infectious diseases (Hepatitis A, B, C, HIV, meningococcal disease, tick borne encephalitis, shigella, salmonella, rubella, mumps, pertussis, measles, Tb) from Iceland Norway, Finland, Sweden, and Murmansk, Karelia, Arkhangelsk, and Nenets regions of the Russian Federation have been reported since 1998. Emphasised differences in reporting, case definitions, lab methods. The potential to further expand this surveillance system to include other Arctic countries was discussed.

Dr Brian McMahon from the Alaska Native Tribal Health Corporation presented data on what the current status of knowledge on the incidence of Hepatitis A and B in the US Arctic Canada, Greenland and Siberia. Up to date data on the incidence of Hepatitis A is needed allowing the evaluation of vaccine impact. These can be determined by serosurvey's. Research questions include determining the long-term immunogenicity of current vaccines, if one dose schedules are practical, and if universal vaccination is cost effective. Gaps also exist in our knowledge of the incidence of Hepatitis B in circumpolar countries, the distribution of HBV genotypes, risk factors for hepatocellular carcinoma, and a need for a surveillance system for persons with chronic Hepatitis B.

Dr Mike Bruce of the CDC's Arctic Investigations Program presented Helicobacter pylori seroprevalence data from the US Arctic. Rates of infection are high. Treatment of infection in the US Arctic is complicated by high rates of resistance to common antibiotics, treatment failure and reinfection following treatment. Gastric Cancer rates are also high in Alaska Natives. The relationship between gastric cancer and helicobacter pylori infection in Alaska Natives is unknown but will be the subject of investigation. Studies of the seroprevalence of Hp have also been undertaken in Greenland, and attempts are being made to examine the question of antimicrobial resistance in Hp isolates collected from patients in Greenland.

Action Items:

The IUICH Infectious disease working group meeting identified three potential areas for ongoing circumpolar cooperation

1) International Circumpolar Surveillance. A need to resolve differences between cases reported to ICS and cases reported to Greenland Medical Officer of Health was identified. In addition a mechanism for capturing cases not reported (ie not culture confirmed) to ICS needs to be developed.

2) Hepatitis B. Determine rates of Hep A and B and rates of immunization in circumpolar countries. Develop proposal to determine if one dose of Hep A vaccine is enough to confirm long-term protection in areas when Hep A outbreaks still occur.

Establish surveillance for long term sequelae of Hep B and C infections. This could be achieved by monitoring hospital records and death certificates of persons with Hep B or Hep C, establishing prospective surveillance of chronically infected persons. Establish genotypes in northern Canada, Greenland and northern Russian Federation.

Draft Proposal developed “circumpolar study on Chronic Hepatitis B infection in indigenous populations”

Purpose:

Determine incidence of chronic hepatitis, cirrhosis, HCC, in Alaska, Greenland and northern Canada.

Determine the genotype prevalence

Determine the role of social environmental and infectious cofactors which may contribute to progression of liver disease such as other viral infections (HepC, D). alcohol abuse non alcoholic fatty liver disease etc.

Identify candidates who would benefit from early intervention with antiviral therapy.

Attempt to detect HBsAg carriers who develop HCC at an early and potentially treatable stage.

3) *Helicobacter pylori*. Because of the difficulty of recovering *Helicobacter pylori* from biopsy material transported from Greenland to SSI in Copenhagen, provide Greenland with protocols for collection, storage and transportation of biopsy material for culture of *Helicobacter pylori*.

Interest in infectious diseases in circumpolar countries continued at the meeting in Nuuk where four infectious disease sessions were conducted.

Infectious Diseases 1

Chairs: Anders Koch & Alan Parkinson

Public health response to an outbreak of pneumonia caused by streptococcus pneumoniae serotype 1 in Nunavik, Quebec, Canada. Proulx JF, Dery S, De Wals P.

Respiratory tract infections in Greenland. Results from an audit project. Aaen-Larsen B, Damsgaard J, Munck A.

Invasive pneumococcal disease in Greenland. Christiansen J, Poulsen P, Ladefoged K.

Surveillance on invasive diseases caused by haemophilus influenzae, neisseria meningitidis, and groups a & b streptococci in northern Canada and the US arctic: 2000-2002. Cottle T, Bruce M, Butler J, Parks D, Tam T, Parkinson AJ.

Respiratory infections in children on Baffin Island: a case-control study. Banerji A, Roberts A, Greenberg D, MacDonald WA, Thomas E, Sage D, Saxton A, Dingle M.

Characteristics of Inuit and non-Inuit infants admitted to a pediatric intensive care unit with bronchiolitis. Creery D, O'Malley A.

Infectious diseases 2

Chairs: Anders Koch & Brian McMahon

Research in Viral Hepatitis and Liver Disease in Alaska Natives. (AN). McMahon B.

Incidence of viral hepatitis B and vaccination in Arkhangelsk region, Russian Federation. Tulisov A, Buzinov R, Gordienko T.

Helicobacter pylori in Greenland. Johansen JK, Sehested A, Myrholm T, Ladefoged K, Kroghfelt K.

Risk factors for helicobacter pylori infection in Greenlanders. Koch A, Krause TG, Kroghfelt KA, Fischer TK, Olsen OR, Melbye M.

High prevalence of helicobacter pylori infection in Alaska natives. Bruce MG, McMahon BJ, Sacco FD, Hurlburt DA, Parks DJ, Reasonover AL, Morris JM, Hennessy TW, Parkinson AJ.

The Canadian SARS experience and implications for northern communities. Deeks SL, Sciberras J, Farzad E, Tam T, King A.

Tuberculosis & parasites

Chair: Knud Brinklov Jensen

Serological method for detecting anisakiasis. Moller LN, Kapel C, Petersen E, Krause TG, Melbye M, Koch A.

Tuberculosis in Greenland: current situation and future challenges. Thomsen VO, Lillebaek T, Stenz F.

Experience with BCG vaccine in Canada: Is it time for a change in policy? Dawar M, Clark M, Deeks S, Phyper M, Walop W, Ahmadipour N.

Tuberculosis in Greenland-still a problem to bear in mind. Development and strategy. Skifte T, Christiansen K.

Tuberculosis in Greenland, Tuberculin test, Erythema Nodosum. Christiansen K.

Cancer & retrovirus

Chair: Karin Ladefoged

Lung cancer in the Sami population of Sweden. Hassler S, Johansson R, Sjolander P, Gronberg H, Damber L.

Oncogenic human papillomavirus infection and cervical lesions in aboriginal women in Nunavut, Canada. Healy SM, Aronson KJ, Mao Y, Schlecht NF, Mery LS, Ferenczy A, Franco EL.

Cancer in Greenland 1973-1997 – a cohort study. Friberg J, Koch A, Wohlfahrt J, Storm HH, Melbye M.

Demographics of the HIV infection in Greenland from 1995-2002. Lohse N, Ladefoged K, Jensen-Fangel S, Obel N.

Poster Session

Chair Alan Parkinson

Trichinella in Ammassalik and Nuuk. Lone Nukaraq Moller, Sig Andersen, Eskild Petersen, Anders Koch, Mads Melbye, Peter Laurberg, Tyra G. Krause, Christian Kapel

Mannose-Binding lectin insufficiency and risk of childhood infections. A Koch, Melbye M, Sorenson P Homoe, Madsen HO. Molbak K. Hansen, CH Andersen, LH Hahn GW. Garred P.

MRSA in Greenland. Holt J.

The International Circumpolar Surveillance system for population based surveillance of invasive pneumococcal disease 1999-2001. M Bruce, T Cottle, J Butler, T Tam, M Lovgren, L Jette, K Kristinsson, G Sigmundsdottir, F Stenz, O Lovoll, P Nuorti, E Herva, A Parkinson.

Creating an International Circumpolar Surveillance System for invasive bacterial diseases: Public Health Partnerships and politics. A Parkinson, J Butler, M Bruce, T Cottle.