Indigenous Ways of Knowing and Doing in Academic-Community Partnerships: The Story of the Centre for Indigenous Peoples’ Nutrition and Environment (CINE)

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4th Annual Conference on Native American Nutrition
Prior Lake, MN, September 18, 2019
Message from Norma

• “Absolutely amazing conference”
• Honored to have made many friends and colleagues
• An honor to work with my two co-presenters in creating CINE
• CINE will continue to be viable for Indigenous Peoples’ for traditional food, diet and health
• We need to encourage young people to use research with *two-eyed seeing*.
Treena & Harriet (for Norma)

- Regrets
- Presentation plan
- Contaminant concerns in the Canadian North
- CINE Governing Board; responding to community needs

Harriet

- Nutrition and contaminants in Indigenous food systems
- Start-up with McGill and the CINE Board; staffing for research and education
- Initial projects in 46 Northern communities; international work

Treena

- Community research agreements, and research ethics then and now
- Methodologies that value Indigenous community knowledge
- Student and community capacity to do collaborative research with Indigenous Peoples
High levels of toxic waste threatening life in Arctic

Northerners left to live with poison

Worried mother won't feed child milk

Residents of this barren, far-flung community were told their local fish were contaminated by toxic PCBs, but nobody ever knew when or how they got there.

From: The Globe and Mail

By Brian Burman

Editorial Page

"We live in the Arctic and we don't understand the real pollution. The real danger, N.L. people need..."
Centre for Indigenous Peoples’ Nutrition and Environment (CINE), McGill University, Montreal
CINE Governing Board Members

- Assembly of First Nations
- Council of Yukon First Nations
- Dene Nation
- Inuit Circumpolar Conference
- Inuit Tapiriit Kanatami
- Métis Nation (NWT)
- Mohawk Council of Kahnawake (host)
Timeline in CINE’s development:

Late 1980’s – research showing contaminants in Arctic foods linked to transmission of contaminants from industries in the South. Is the food safe to eat?

Early 1990’s – government programs to deal with contaminants. Distrust by communities. Indigenous leaders call for independent research.

1992-93 – Grant applications from McGill for creation of CINE. Lobbying by Indigenous leaders for funding to CINE. CINE established!

1994-2004 – Research to identify extent of food contamination and health benefits of the traditional food.

Beyond 2005 – Continuing Canadian Indigenous research programs – International Polar Year, Cree Board of Health, KSDPP, etc.

2001-forward – Development of international Indigenous research though UN – FAO.

Continuing – McGill support for CINE for research and education.
Gwich'in- Arctic Canada
Winter Meals with Caribou meat

Healthy meals
FIRST NATIONS, NWT AND YUKON
INUIT
Major Activities:

Research:
• Research agreements, community teams
• Lab set up- contaminant analysis, nutrient analysis (400 samples from Yukon First Nations)
• Interview and dietary analysis

Community Education:
• Outreach coordinator

University:
• Grants, publications, teaching – undergraduate and graduate, contributions to scientific process
Nutrition education for market & traditional food
Videos produced by CINE
Sites of Early CINE Dietary Research in the Canadian Arctic
Methodology - Diet Analysis: Two Major Components

- Traditional Food
- Market Food

Total Diet
Percent Energy from Traditional Food from Yukon, Dene/Métis and Inuit Communities

Kuhnlein et al, 2001
Inuit whale muktuk or mattak – whale skin and blubber
Examples of Excellent, *UNEXPECTED* Sources of Micronutrients in Traditional Arctic Animal Foods

(per 100 g EP)

- Whale skin (*Monodon monoceros*) - 31.5 mg vitamin C
- *Delphinopterus leucas* - 36.0 mg vitamin C
- Seal liver (*Phoca hispida*) - 23.8 mg vitamin C
- Goose lung (*Branta canadensis*) - 46.3 mg iron
- Whale dried meat (*Monodon monoceros*) - 70 mg iron
- Whale blubber (*Monodon monoceros*) - 1700 ug retinol
- Loche liver (*Lota lota*) - 317 ug vitamin D

*Kuhnlein et al. 1992; 2002a; 2002b*
Nutrients Significantly Higher on Days WITH Traditional Food - Consistently for Yukon, Dene/Métis and Inuit

<table>
<thead>
<tr>
<th>Protein</th>
<th>Copper</th>
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<tbody>
<tr>
<td>Vitamin D</td>
<td>Magnesium</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>Manganese</td>
</tr>
<tr>
<td>Riboflavin</td>
<td>Phosphorus</td>
</tr>
<tr>
<td>Vitamin B6</td>
<td>Potassium</td>
</tr>
<tr>
<td>Iron</td>
<td>Selenium</td>
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<tr>
<td>Zinc</td>
<td></td>
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</tbody>
</table>

Nutrients Significantly Higher on Days WITHOUT Traditional Food

<table>
<thead>
<tr>
<th>Fat, Saturated Fat, Sucrose, Sodium</th>
</tr>
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<tbody>
<tr>
<td>For Inuit only: Vitamin C, Folate</td>
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</tbody>
</table>

*Kuhnlein et al. J Nutr 134, 2004*
Two Research Guides from CINE

www.mcgill.ca/cine/resources/

DOCUMENTING TRADITIONAL FOOD SYSTEMS OF INDIGENOUS PEOPLES: INTERNATIONAL CASE STUDIES
GUIDELINES FOR PROCEDURES

Horriet V. Kuhllein (McGill University, Canada), Suttida Smotsoi (Mahidol University, Thailand), Salome Yekudes (OSS, Hyderabad, India), Laksh Bhattacharjee (FAO, Bangkok, Thailand), Li Den (Institute of Nutrition and Food Hygiene, Beijing, China), and Salik Ahmed (UNICEF, Dhaka, Bangladesh)

and collaborators:
Sakol Khetre, Prapat Pawatanakul, Lakana Sooaramatongs, and Selom Phansavilai (Mahidol University, Thailand), Poonchi Zhai (Institute of Nutrition and Food Hygiene, Beijing, China), P. V. Ghatwala (OSS, Hyderabad, India), Gupta Ashwani (Child Eye Care Charitable Trust, Mumbai, India), and Farida Amna (UNICEF, Dhaka, Bangladesh)

July 2004

www.mcgill.ca/cine
Challenges

- Politics – Government vs. Indigenous vs. University
- Money – Travel; Competition for limited resources
- Sustainable funding
- Changing funder priorities
- Time - Research vs other university demands
- Coordinating meetings and discussions for busy people
What makes it work

- Demand that something be “done” about serious issues
- Good relationships among the CINE Board members
- CINE responds to communities
  - Research is interdisciplinary, participatory, values for food
  - Reporting back to communities; regular communications
- Mutual respect and trust on all sides
- Sharing methods and results
- University recognizes that CINE management speaks for the Board
Measures of Academic Success

- Numerous peer-reviewed publications (250+ publications)
- Cross-disciplinary research collaborations (public health; food science, nutrition, epidemiology, anthropology)
- Consistent, externally funded projects
- Welcomed in Indigenous communities where CINE has worked because of good relationships
- National recognition and support of addressing Indigenous health issues.
CINE Professors

- Guiding around 40 graduate students in any given year since 1997
- Teaching a variety of courses reaching hundreds of students
- Training students in respectful and ethical community based research with Indigenous communities
- Created a diaspora of CINE scholars across Canada doing food and nutrition research collaboratively with Indigenous communities
- Service to the academic process
Research Ethics Process

• Over time since the start of CINE, the process has been “complexified”
• Community level ethics protocols; research agreements and all that is implied, local colleges research license processes.
• National Research Ethics Guidelines in Canada for Indigenous Peoples’ research are unique in the world.
• First Nations Guidelines (OCAP®); Inuit Guidelines; Principles of Ethical Métis research
• McGill IRB considers these processes when granting approval required for release of funds
CINE set the strong foundations for collaborative research in addressing questions about the integrity of food systems in Indigenous communities in Canada and internationally.

Current and future research questions and challenges are focusing on climate change and implications for food security and well-being of Indigenous Peoples.
Thank You!

WWW.MCGILL.CA/CINE