Health Promotion & Prevention

Participatory Research for the Primary Prevention of Type 2 Diabetes:

Kahnawake Schools Diabetes Prevention Project

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Child Health in the 21st Century:
The Role of the Paediatrician in an Inter-Professional Environment
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Outline of presentation

- Introduction to Participatory research (PR)
- Case study: Kahnawake Schools Diabetes Prevention Project
- Relevance to conference goals
Conventional Research…

researchers make the decisions

“outside research teams swooped down from the skies, swarmed all over town, asked nosey questions that were none of their business and then disappeared never to be heard of again”

Aboriginal physician

Dr Louis T. Montour 1987

Montour LT, Macaulay AC. Diabetes Mellitus and Arteriosclerosis: Returning research results to the Mohawk Community. CMAJ 1988;34:1591-93
Participatory Research (PR)

“Systematic enquiry,

with the collaboration of those affected by the issue being studied,

for the purpose of education and taking action or effecting social change.”

• Develop the question
• Within the partnership
• To make a difference

The Royal Society of Canada-
Study of Participatory Research in Health Promotion.
1995 Green LW et al.

PR guidelines available at http://lgreen.net/guidelines.html
More....

- Research **with** community, not ‘in’ or ‘about’ community

Is the purpose of the project to facilitate the empowerment of individuals, groups and the community?

Will the project help community participants (and others) to deal with factors that influence their health and that of their community?
Case study

Kahnawake Schools Diabetes Prevention Project (KSDPP)

Funded by: CIHR, NHRDP, CDA, SSHRC, Aboriginal Diabetes Initiative (Health Canada), Kateri Memorial Hospital Centre Kahnawake, Kahnawake community, and Private Foundations
Kahnawake is a Kanien’keha:ka (Mohawk) community


15 km from Montreal

Community control of education (1967) & health (1970)
Kahnawake Prevalence of Disease

Aged 45 to 64 years

1981
• 12% Type 2 diabetes (2x national average, reconfirmed in 2006)

1985
• Macro-vascular complications 6x higher for those with diabetes (matched for age and sex)

Montour LT, Macaulay AC. High prevalence rates of diabetes mellitus and hypertension on a North American Indian reservation. CMAJ 1985;132:1110-12
Macaulay AC, Montour LT, Adelson N. Prevalence of diabetic and athero-sclerotic complications among Mohawk Indians of Kahnawake. CMAJ 1988;139:221-224
Elders requested family MDs to “do something” to prevent diabetes, with focus on the children.

Guiding Principles of KSDPP 1994 - present

“Health promotion is the process of enabling people and communities to take control over their health and its’ determinants” WHO 1984

Use participatory research
- Community and researchers as equal partners
- Promote local traditions and values

Use health promotion models
- Promote community changes for diabetes prevention

Potvin LP, Cargo M, McComber AM, Delormier T, Macaulay AC. Implementing Participatory Intervention and Research in Communities:Lessons from the Kahnawake Schools Diabetes Prevention Project. Social Science and Medicine 2003;56(6):1295-1305
KSDPP Partnership

COMMUNITY
Community Advisory Board
Intervention staff
Research staff

NEW KNOWLEDGE

UNIVERSITIES
Researchers & students
Since 1994, 40 + volunteers aged 26 – 82 years

- Role-model healthy lifestyles
- Represent the community
- Protect community values
- Guide intervention, research and training
More explicitly, CAB ....

- Helps formulate the Research Question
- Advises on Data Collection
- Helps with Results Interpretation
- Disseminates Results at the community, regional, and national level at conferences and through publications
In 1994, joint development to outline obligations of all partners, for protection of individuals and the community.

Develop a written agreement - process as important as product.

2006 updated version coming soon.

KSDPP Objectives from 1994 to the present

- Short term goals to increase physical activity, healthy eating habits and a positive attitude
- Long term goal to reduce prevalence of Type 2 diabetes
- Capacity building and sustainability

OTTAWA CHARTER FOR HEALTH PROMOTION

Strengthen Community Action  Develop Personal Skills
Enable Mediate Advocate
Create Supportive Environments
Reorient Health Services

BUILD HEALTHY PUBLIC POLICY

Health Canada, Health Promotion and Programs Branch AB/NWT/Nunavut

World Health Organization, 1986
School Interventions

Health Education Program
- Grades 1-6
- developed by community
- delivered by teachers
- Mohawk and English

Teachers extra activities

Schools Nutrition Policy
- bans ‘junk food’


Community Interventions

- Partner with other organisations (builds on strengths, builds capacity, supports sustainability)
- Same messages as in the schools
- Physical activities and healthy meals - offer opportunities to ‘walk the talk’

Evaluation and Results
KSDPP Evaluation Design

Outcome Grades 1-6
Impact Grades 1-6
Process

Obesity
Physical Fitness
Healthy Eating Habits
Knowledge
Self-efficacy
Parental Support
School and Community Interventions
Outcome Evaluation Grades 1-6

**Anthropometric Measurements**
- Weight & height
- Skinfold thickness (subscapular, triceps)

**Fitness Test**
- 1994-1999
  - 1 mile Run / Walk
  - 1/2 mile Run / Walk
- 2002 - 2004
  - Shuttle run test

**Student Questionnaires**
- 24-Hour Food Recall
  - Grades 4-6
- 7 day recall
  - Food frequency
  - Activity frequency
  - Television watching
  - Video game playing
  - Organized sports
Baseline results 1994
Grades 1-6

• Weight similar to N. American counterparts, but heavier children are heavier and carry their weight centrally
  

• Girls watching excess TV are heavier (not true for boys)
  
  *Horn O. et al. Preventive Medicine 2001;33:274-281*
24-Hour Nutrition Recalls Grades 4-6

1994 Baseline:
• fat intake good (30%), high sucrose (16%), low fruits and vegetables

1998 and 2002:
• decreased sodas, french fries, chips and candy. Stable fat, decreased
  fruits and vegetables, switch from whole milk to lower fat milks,
  increased whole wheat bread
  Salmon L. Master’s Thesis. McGill University 2004

1994, ’98, 02:
• overweight (>95%ile) children consume more French fries. At risk of
  overweight (85-95%ile) consume more chips than normal weight
  children (5-85% tile)
  Receveur O, Morou M, Gray-Donald K, Macaulay AC. Submitted 2006
Physical Activity, Fitness and TV watching Grades 1-6

- 1994 - 1998: Statistically significant improvements
- 1998 - 2002: Back to baseline

Change in Weight in 6-8 Year Old Boys

**KSDPP 1994**
- Overweight: 18%
- At risk of overweight: 12%
- Average weight: 70%

**NHANES 1988-1994**
- Overweight: 13%
- At risk of overweight: 12%
- Average weight: 75%

**KSDPP 2002**
- Overweight: 28%
- At risk of overweight: 17%
- Average weight: 55%

**NHANES 1999-2000**
- Overweight: 18%
- At risk of overweight: 15%
- Average weight: 67%
Cochrane data base review 2005

- 22 RCT/QEx studies
- Only 4 reduced obesity or body fat index
Community Reactions Spring 2004

Presentations to 16 community organisations to discuss findings and to get community interpretation of results

“Message for parents to be a role model. Pay attention to your children - get involved!”

“We are fortunate to have 10 years of data, but they are discouraging results; don’t know how to reverse the trend.”

“What would be the results if the project didn’t exist?”
Other outcomes
Developing Physical Activity Interventions

Complex packages targeting multiple settings
Implemented in partnership with other organisations
(KSDPP - organisation or organisation - KSDPP)
- 47% in 1996-1997*
- 61% in 2003-2004**

Individual spin-offs (new recreation path, soccer and lacrosse teams, breast cancer walk, wampum belt walk, etc)

*Unpacking the Black Box: A Deconstruction of the Programming Approach and Physical Activity Interventions Implemented in the Kahnawake Schools Diabetes Prevention Project Lévesque L, Guilbault G, Delormier T, Potvin L. Health Promotion Practice 2005;6(1):64-71

More Positive Outcomes

Ecological changes – recreation path, health curriculum, nutrition policies

Capacity Building for individuals, families, community
• Teachers, Community Advisory Board
• Kahnawake researchers,
  summer & graduate students (Masters and PhD)
• KSDPP Training in Diabetes Prevention

New computer based tool to assess physical activity

Incidence/prevalence rates Type 2 diabetes lower than other Aboriginal communities

Impacting National & International Policy
Current activities

- Presenting to community leadership to promote more healthy community policies
- Using results to focus interventions
- Adding programs for children 0-5 years

www.ksdpp.org
KEY POINTS for PARTNERSHIPS

Process
• Ottawa Charter of Health Promotion
• Respond to community priorities
• Build on community strengths
• Develop the partnerships
• Requires community readiness

Sustainability
• Through ‘kitchen table’ discussions
• Capacity building
• Knowledge translation
Participatory Research at McGill (PRAM)
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Partnering with communities PRAM resources
- Consultations
- Workshops
- Speakers
- Postgraduate scholarships