The Wicked Problem of Obesity
current progress and future directions for prevention (and management)

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About ARCH

ARCH team Cancer childhood obesity Community Complexity Early childhood environment Economic environment Environmental sustainability evaluation Food environment Food industry Funding Health care health professional health utilization Knowledge translation obesity Obesity tax Physical Activity Physical activity environment Policy Pregnancy Psychology School environment School health program Weight bias
Focus of presentation

- Brief overview of obesity as it relates to maternal and child health
- Reflect on the latest evidence around causes, consequences and solutions
- Inspire you to act as change agents to support healthy eating and active living where you live and work
Key Points: Creating a “C” change

- **The Causes are Complex**
- It’s not about **Choices**, but about our **Conflicting Culture**
- **Change** requires **Commitment**
Obesity rates have tripled in last few decades (adults and children)

Children with obese parents are themselves more likely to be obese as adults

Cost of obesity and associated chronic disease = $190 billion (2010), from premature deaths due to heart disease, stroke and diabetes
Maternal obesity: A provincial problem

% women in NS classified as underweight (<55kg), normal weight (55-75kg), overweight (>75-90kg) and obese (>90kg) by time period

Obesity: a ‘wicked problem’
Gestational Diabetes

- Affects 1.1-25.5% of pregnancies in US
- Prevalence on increase in last decade
- Linked to short term and long term adverse health outcomes in women and their offspring

Stand up....

- Don’t smoke?
- Do 150 minutes or more of moderate to vigorous physical activity each week?
- Eat according to Canada’s Food Guide?
- Maintain a healthy body weight?
Are we practicing what we preach?

- Women adhering to all 4 factors had 83% lower risk of gestational diabetes
- In only 16% of pregnancies did mothers meet all 4 criteria
- Combination of 3 low risk behavioral factors associated with a 41% lower risk of gestational diabetes
- If BMI also in normal range before pregnancy - 52% lower risk of gestational diabetes

It’s not just about obesity...

- Society as a whole not eating healthily, sitting around too much, not being physically active enough
- Lack of investment in upstream actions to address the social determinants of health
- Culture that conflicts with the behaviors needed to reduce the burden of ill health in NS

Photo with permission: www.carlwarner.com/foodscapes/
Data sees N.S. at forefront of obesity trend

Study finds need for national strategy to tackle problem

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Most Nova Scotia adults are overweight than not and the problem is getting worse, says a new Memorial University of Newfoundland study.

It found that obesity has tripled across Canada from 1985 to 2011 and almost one in five Canadian adults are now obese.

But while the results are startling across the country, Atlantic Canada fares particularly poorly.

Nova Scotia men are among the largest in the country, but women in the province are rapidly catching up.

The number of overweight women in Nova Scotia rose 15 per cent from 2000 to 2011, the study said. One-third of women in the province reported they do not have to reveal what percentage of the recommended daily intake of sugar they contain, despite sugar being a major contributor to obesity.

Ogilvie is chairman of the Senate’s social affairs, science and technology committee, which will be launching a study into obesity this year, with the hopes of issuing a final report early next year. Food labelling will be one factor it will study.

NDP Leader Thomas Mulcair cast blame on the federal government Tuesday in the House of Commons. He told reporters Prime Minister Stephen Harper has been unwilling to sit down with the provinces and work out a co-ordinated plan.

The Public Health Agency of Canada says it is already working with the provinces and has launched several campaigns to encourage Canadians, especially young people, to be more physically active.

Volunteer server Sonya Beeler delivers some of the several hundred pancakes and sausage meals at the annual Shrove Tuesday all-you-can-eat supper at St. Mark’s Community Centre in Halifax.

Mmmmm, pancakes

Photo by TIM KROCHAK • Staff

Courtesy Ricky Gervais (Comedian) via Twitter
ENACT Study:

- Parents and youth reported being over-scheduled in ways that limited options for healthy meal preparation

- Ironically, healthy eating was often sacrificed due to the scheduling of leisure-time physical activities

Income-related food insecurity in Canada

Percentage of Households with Food Insecurity

- Canada: 7.7%
- Alberta: 6.4%
- Saskatchewan: 6.4%
- Manitoba: 9.1%
- Ontario: 8.2%
- Quebec: 6.8%
- New Brunswick: 9.6%
- Prince Edward Island: 10.4%
- Newfoundland: 9.4%
- Nova Scotia: 9.3%
- British Columbia: 7.8%

Canadian Community Health Survey, 2007–2008
Figure 8.4: The full obesity system map, which highlights how agents outside conventional mechanisms are key enablers of and barriers to change. Variables outside of coloured areas relate to social trends and interaction or human biology. Variables are represented by boxes, positive causal relationships are represented by solid arrows and negative relationships by dotted lines. The central engine is highlighted in orange at the centre of the map.
Children’s Lifestyle And School performance Study (CLASS)

- CLASS I (2003) and II (2011)
- Schools with Grade 5 students (10-11 years)
- Parents/guardians completed home survey
- Students completed survey and FFQ, had growth and development privately measured
- Schools completed audit of school environment, policies and practices (CLASS II only)
- Data linkage – health care use and academic attainment
Scope of CLASS

- Social environment
- Health care utilization
- Health outcomes
- Pregnancy/birth factors
- Academic performance
- Body weights
- Mental health
- Diet
- Physical activity

New in CLASS II
- Body image
- Food security
- Sleep

Perinatal data
CLASS
School performance data

Health care utilization/cost data

Birth 11y 12y 18y

www.nsclass.ca
Importance of early prevention

- Children of obese mothers had a 4-fold higher risk of obesity relative to children of normal weight mothers.

- Mothers who smoked during pregnancy had an 80% higher risk of having an obese child.

Prenatal/early childhood nutrition

From CLASS II:

- 34% of children were breastfed for <1 week or never
- 32% breastfed for at least 6m, 12% combination fed at 6m
- Breastfeeding conferred greatest protection against obesity
- Combination feeding conferred greater protection than formula only

Rossiter et al, Breast, formula and combination feeding in relation to childhood obesity in Nova Scotia, Canada Mat Child Health J, in press
Childhood obesity and health care use

By the age of 14, obese children have incurred $400 higher physician costs than normal weight children.

Data are for children age 10-14 years (2006 Dollar values)

Economic challenges prevent healthy eating

- 8.3% of children experienced marginal and 17.3% moderate to severe food insecurity
- Moderate to severe FI associated with poorer diet quality, higher BMI and poorer psychosocial outcomes
- Findings provide compelling case for actions to address poverty and ubiquity of cheap, energy dense, nutrient-poor foods

“Natural Experiment”

Increased government investment in health promotion policies

Changes in school environments (NS Nutrition Policy)

CLASS II
Potential opportunity to intervene

Implementing a free vegetable or fruit snack program could double the percentage of students meeting recommendations.

The opportunity for change

“Workplaces and Institutions are settings in which behaviour is at least to some extent constrained, and in which healthy choices can be encouraged…”

“Employers have a duty of care to their staff and also act as examples…”

www.Dietandcancerreport.org
Thrive! A Plan for a Healthier Nova Scotia

Policy and environmental approach to healthy eating and physical activity:

- Guiding principles - Healthy Public Policy, Best and Promising Practices, Shared Responsibility and Partnership, Comprehensiveness and Equity – to...
  - Support a Healthy Start for Children and Families
  - Equip People with Skills and Knowledge for Lifelong Health
  - Create More Opportunities to Eat Well and Be Active
  - Plan and Build Healthier Communities

www.thrive.novascotia.ca
Thrive! Action examples

- World Health Organization (WHO) growth charts for Canada included in provincial electronic medical records
- Nova Scotia Provincial Breastfeeding Policy actions
- Nutrition Standards for Regulated child care settings
- Healthy eating guidelines for public institutions

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Back to that “C” change...

- The **Causes** of obesity are **Complex** – not one cause and not one solution
- The **Choices** we make are dictated by the **Choices** we have
- We are surrounded by a **Culture** that **Conflicts** with health messages and is strongly influenced by the social determinants of health
- Be advocates - **Change** requires **Commitment** from us all
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