

Appendix C



## **DISCUSSION PAPER - OBESITY**

Prepared for the CDHA Board of Directors  
Population Health Committee

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## Introduction

**Obesity** is being called a global epidemic and today's most neglected public health problem.

- Overweight and obesity are abnormal or excessive fat accumulation that presents **a risk to health**.
- Body mass index (BMI), a person's weight (in kilograms) divided by the square of his or her height (in metres). BMI of 30 or more is considered obese. BMI equal to or more than 25 is considered overweight.

Evidence suggests that **risk of chronic disease** in populations increases progressively from a **BMI of 21** (Stevens, 2008; WHO, 2006)

## Prevalence of Overweight and Obesity

- Over one billion people are overweight worldwide.
- Rates of overweight/obesity are increasing dramatically in developed and undeveloped countries
- Overweight/obesity is being recognized as a significant threat to public health in many countries. Ie. the UK has a dedicated strategy called "Tackling Obesity" (WHO; Foresight, 2007)

*The prevalence of overweight/obesity in Canadians is increasing dramatically, particularly in children.*

- Between 1981 and 1996, the prevalence of overweight in Canadian children aged 7-13 increased from 11% to 33% in boys and 13% to 27% in girls. Increases for obesity were from 2% to 10% in boys and 2% to 9% in girls.
- In 2004, Canada ranked 5<sup>th</sup> of 34 countries, for the highest prevalence of overweight and obese youth (aged 10-16 years).
- In 2004, 59% of Canadian adults and 26% of Canadian youth were classified as either overweight or obese (Tremblay, 2007).

## Prevalence in Nova Scotia and Capital Health

- 17.4% of CDHA youth age 12-17 are overweight are compared to 13.5% nationally (CCHS, 2005)
- Another 4.6% of Nova Scotia youth are obese (CCHS, 2005)
- 51.1% of adults 18+ are overweight or obese in CDHA compared to 48.9% nationally (CCHS, 2005)
- Nearly 40 % of all Nova Scotia inhabitants are heavier than what is considered a healthy body weight (Tjepkema, 2005).
- Maternal delivery trends in Nova Scotia analysis found deliveries in severely obese woman have more than tripled from 1988-2006 (Kirk, 2008)

- Maternal weights in Nova Scotia have increased by 8kg (~18lbs) from 1988-2006 (Kirk, 2008)

Changes in obesity are placing an increasing burden on medical care (Brien, Katzmarzyk, Craig, & Gauvin, 2007).

### Health Consequences of Overweight and Obesity

Overweight and obesity lead to serious health consequences. Risk increases progressively as BMI increases. Raised body mass index is a major risk factor for chronic diseases such as:

- Cardiovascular disease.
- Diabetes
- Musculoskeletal disorders – especially osteoarthritis.
- Some cancers (endometrial, breast, and colon)(WHO, 2006)

See **Appendix A** for comprehensive list of health risks.

A Statistics Canada analysis of the 1996-97 data found that Canadians with a BMI of greater than 30 were:

- 4 times as likely to have diabetes
- 3.3 times as likely to have high blood pressure
- 2.6 times as likely to report urinary incontinence
- 56% more likely to have heart disease
- 50% less likely to rate their health positively than Canadians with an acceptable weight (GPI, 2000)

Childhood obesity is associated with a higher chance of premature death and disability including:

- Hypertension, dyslipidemia, left ventricular hypertrophy, atherosclerosis, metabolic syndrome, type 2 diabetes, sleep disorders, and non-alcoholic fatty liver disease as well as psychological effects such as stigmatization, discrimination, depression and emotional trauma.
- Adults who were obese during childhood have higher risk of developing hypertension, dyslipidemia, metabolic syndrome, diabetes, and coronary heart disease than those who were not obese during childhood (Brien, Katzmarzyk, Craig, & Gauvin, 2007; Elliott, 2008; Hickling, Hung, Knuiiman, Divitini, & Beilby, 2008).
- High current adolescent overweight will have a substantial effect on public health far into the future including increased CVD incidence and events (Bibbins-Domingo, Coxson, Pletcher, Lightwood, & Goldman, 2007).

<i>Overweight children adolescents and adults are likely to become obese in future.</i>
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## Direct and Indirect Costs of Obesity

Obesity has been shown to reduce quality of life, increase morbidity and lead to premature death. Excess weight and obesity cost Nova Scotians:

- Possible one thousand unnecessary deaths a year
- More than \$140 million a year in productivity losses
- Estimated \$120 million in direct health costs (Coleman, 2000)

## Causes of Overweight and Obesity

- Essentially due to energy imbalance between calories consumed and calories expended.

The causes of obesity are extremely complex, and not wholly understood, and involve interactions among multiple factors including:

- **Personal** (e.g., beliefs, attitudes, cultural experiences, taste preferences, and dietary composition)
- **Environmental** (e.g., homes, schools, community, food availability and cost, built environment)
- **Societal** (e.g., cultural norms, advertising and food marketing, social networks, technological developments, economics, public policy)
- **Healthcare-related** (e.g., provider counseling and treatment, reimbursement)
- **Physiological** (e.g., intrauterine and early life “programming”, appetite and satiety mechanisms and regulation, adipose tissue metabolism, genetic predisposition) (Hickling, Hung, Knuiman, Divitini, & Beilby, 2008).

Global increases in overweight and obesity are attributable to a number of factors including:

- Increased intake of **energy-dense foods** that are high in fat and sugars but low in vitamins, minerals and other micronutrients;
- **Decreased physical activity** due to the increasingly sedentary nature of work, changing modes of transportation, and increasing urbanization (WHO)
- **Obesogenic Environment**: “the sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity in individuals or populations.” (Swinburn et al., 1999)

*Modern living ensures every generation is heavier than the last – ‘Passive Obesity’. (Foresight, 2007)*

## Obesity Prevention

*Overweight and obesity, as well as their related chronic diseases, are largely preventable.*

## Goals of Obesity Prevention

- Avoidance of weight gain to levels defined as overweight or obese
- Stabilization of weight in those who may already be overweight or obese or after weight loss

## Obesity prevention in childhood goals

- Preventing obesity during adolescence and adulthood
- Treatment of obese children to promote weight loss and to avoid tracking of obesity into adulthood (Kumanyika et al., 2008).

## Modifiable Risk Factors

- Unhealthy diets and physical inactivity are two of the main risk factors for raised blood pressure, raised blood glucose, abnormal blood lipids, overweight/obesity, and for the major chronic diseases such as cardiovascular diseases, cancer, and diabetes.
- Healthy diets and regular, adequate physical activity are major factors in the promotion and maintenance of good health throughout the entire life course (WHO, 2008).
- Research consistently demonstrates that lifestyle modifications can significantly reduce obesity and diabetes risk (Reimer, 2008).

*Weight loss recommendations to eat less and exercise more prove more challenging for food insecure adults who have less access to affordable, healthful food but easy access to cheap, calorie-dense food, and less access to safe, affordable outlets for physical activity. Adult prevention strategies need to keep in mind the cost of low-fat, low-calorie food and access to healthful food. (Martin & Ferris, 2007, p. 36)*

In children, some critical elements are:

- Inadequate consumption of **dairy products, vegetables and fruit**
- Consumption of too many **high fat**, salty snacks, and **sugar-sweetened** beverages
- Increased **portion sizes**
- Increased time watching television and other **screens** (ie computers)
- Lack of leisure time **activity**
- Obesogenic environment (Egger, Pearson, Pal, & Swinburn, 2007)

## High Risk/Intervention Target Groups

(Identified through research and key informant responses)

- Children and youth
- Young adults
- Maternal age and pregnant women
- Young families
- Menopausal age women
- Seniors
- Individuals/communities of low social position
- Individuals with mental and physical disabilities
- Sedentary workers
- Everyone



## Individual or Population Health Approach

Strategies that focus on high-risk individuals (ie. weight-loss clinics) may help these people reduce their risk of chronic disease, however, it may not impact on the total burden of disease at the population level.

- Population-wide policies intended to reduce energy intake while preserving nutritional sufficiency and increasing physical activity could result in significant population-wide weight loss (Franco, Orduñez, Caballero & Cooper, 2008).
- One study demonstrated a “middle road” (combination) approach would result in the greatest reduction of hypertension and diabetes associated with increasing BMI (Brown, Hockey, & Dobson, 2007).
- The 2006 **Canadian clinical guidelines on the management and prevention of obesity** in adults and children already recognize the need for population-wide strategies that will require the cooperation of policy-makers and other stakeholders (see **Appendix B**).

### **Population-wide interventions could directly affect total energy intake and physical activity include:**

- Promoting low-energy, nutritious foods ie. making fruits and vegetables more available and less expensive.
- Limiting the availability and increasing the prices of high-energy foods.
- Promoting walking and bicycling as means of transportation.
- Encourage urban planners, schools and workplace designers to prioritize physical activity in their plans (Franco, Orduñez, Caballero & Cooper, 2008).

Centers for Disease Control and Prevention [CDC] uses a uses the **Social-Ecological Model** to address obesity that incorporates:

- research, surveillance, training and education;
- intervention development;
- health promotion and leadership;
- policy and environmental change;
- communication and social marketing;
- and partnership development

across the intervention spectrums of individual, interpersonal, organization, community and society (CDC, 2007).

## Best and Promising Practices

Obesity causes and prevention methods are highly complex and research continues to refine the understanding of this phenomena (see **Appendix C** for most recent research findings). Some key findings include:

- Overweight and obesity are major public health concerns and need to be much more aggressively addressed than in the past.

- There is disagreement about whether nutrition or physical activity is the most important element in weight management, however, it is clear they are both critical and the focus should be on achieving a healthy weight.
- The main public health message needs to change from distinct messages to eat healthy and exercise to maintaining a healthy weight.
- Maternal age women are a critical intervention target group to reduce incidence of overweight and obesity in future generational cohorts.
- Health professionals and the public should be made aware of the contextual causes, and solutions, of obesity as there are misconceptions in both groups.
- Health professionals need to take a bigger role in obesity prevention and will need training and support to fulfill this role.
- Individual approaches are important, yet population health approaches will be needed for substantial impact.
- Need to view all overweight and obesity initiatives through a poverty lens.
- This public health threat is everyone's responsibility and efforts to address this issue should be collaborative when possible.
- Social marketing and media advocacy are two useful strategies but should be linked with policy and environmental initiatives for maximum impact.
- Making changes to the obesogenic environment are becoming the major focus of overweight and obesity prevention and management.
- Future research should be solution focused and linked to policy and practice.

*The implementation of these recommendations requires sustained political commitment and the collaboration of many stakeholders, public and private. Governments, international partners, civil society and nongovernmental organizations and the private sector have vital roles to play in shaping healthy environments and making healthier diet options affordable and easily accessible. This is especially important for the most vulnerable in society – the poor and children – who have limited choices about the food they eat and the environments in which they live. (WHO, 2006)*

#### Cost Effectiveness of Interventions

- cost effective across all intervention spectrums
- one study stated, based on very complicated statistical analysis, that efforts did not save healthcare resources due to increased usage related to increased longevity...essentially saying that costs are postponed (van Baal et al., 2008).
- bariatric surgery most cost effective for very obese
- Walking and cycling infrastructure benefits outweigh costs (Saelensminde, 2004).

## Challenges

Research suggests that weight control is not as successful as tobacco control. Exercise and dietary management will remain the cornerstone of weight control and obesity management. However the long-term success rates in obesity management are poor short of gastric surgery. Long-term pharmacological therapy may prove to be useful although if drug therapy is to be used in this manner the benefits versus risks will need to be monitored to alleviate long-term safety concerns. (Reid et al., 2008).

*Timeline: need sustained action over long timeframe: 30 year + timeline similar to tobacco*

*Will need to identify short, medium and long term objectives*

## Population Health Indicators

(related to obesity/overweight: See **Appendix D**)

- breast feeding
- food insecurity
- infants large for gestational age
- fruit/veg consumption
- physical inactivity
- workplace health

## Organizational Readiness

**Appendix E**

## Critical Success Factors for Change in Acute Care Settings

- Physician/clinical leadership
- Good working relationship with policy officials
- Board leadership
- Administrative leadership

Some caution against the over-emphasis of the role of clinical leaders and the heads of clinical units (Touati et al., 2006; Walsh, 2003)

## Structural Considerations

A structural element is needed to link individuals, develop expertise, integrate initiatives across the organization and ensure accountability.

- **WHO Health Promoting Hospitals:** possible umbrella framework for health promotion within the organization (see **Appendix F**).

- **Trillium Health Centre:** is an independent member of WHO Health Promoting Hospitals and supports a position of Health Promotion Coordinator.

### Community Intervention

- Hamilton, Ontario has completed and evaluated the first stage of a community social marketing intervention (see **Appendix G**).

### Evaluation/Surveillance

- Need expertise and human resource time to establish and maintain a surveillance system to monitor obesity related, and other, population health indicators.

### Final Thoughts

"There was a time when people thought it wasn't possible to change the type of fat people eat or that you couldn't change smoking habits, so you have to start somewhere with that conversation, to begin to shift the expectation that these things can't be changed. There are people who are out there, working on the ground with community coalitions fighting for this, and physicians need to help reinforce what those people are doing by lending their authority and helping to support their message." (Kumanyika et al., 2008)

(For starter list of potential partnerships see **Appendix H**)

## Analysis

Strengths	Weaknesses	Opportunities	Threats
Strong organizational readiness	Unknown community readiness	Strong potential for partnerships	Lack of healthcare provider engagement
Many of the components of the socio-ecological model already in place or under development	No system structure to link people, initiatives, results	Obesity researcher (Sara Kirk) open to exploring research partnership with Capital Health	Weight not shown to be as amenable to change as tobacco use
Canada already has clinical practice guidelines for obesity	Lack of dedicated resources	Value for Health vs. Value for Money	Length of time for positive results
Good potential to align across the system DoH, HPP, DHA, CHB, community	Lack of physician knowledge of behavior change	Direction fits with Capital Health Declaration of Health and Promise	Environmental changes may prove challenging
Health benefits accrue from healthy behaviours even without weight loss			Challenge of developing a new reporting structure that crosses a number of VP portfolios
			Challenge of shifting resources to population health

## Next Steps

1. Endorse overweight/obesity (and related indicators) as the priority population health directive for a designated timeframe and develop a plan based on this timeframe (5 years?).
2. Consider whether the organization should become a member of WHO Health Promoting Hospitals Network.
3. Institute an organizational body/person under the label of Health Promotion or Chronic Disease Prevention or Population Health. This should be a funded position with direction from an Advisory or Steering Committee and be responsible for such actions as facilitating the identification, implementation and evaluation of initiatives; coordination; ensuring adequate surveillance measures take place; reporting; identification and facilitation of training needs etc.
4. Encourage/implement communication tools among those are involved in the obesity work, directly or indirectly within CDHA and further with partners. One of the main issues that we found is, different people don't know what is going on within the organization and there are multiple initiatives. If those initiatives are coordinated and those involved communicated each other, it would contribute for organizational effectiveness
5. Establish a dedicated budget for health promotion/chronic disease/prevention/population health. Immediate action items include:
  - a. Define the categories, intervention target groups; participation level and scope of intersectoral action groups for physical activity; healthy eating and food insecurity; breast feeding; healthy maternal weights...
    - i. As compatible efforts are currently separated provincially and in non-profit organization, separate initiatives should be identified. However, it is necessary to link these efforts where possible, especially when taking key public health messages to the public (eg. through social marketing)
  - b. Establish dialogue with Healthy Workplace with the intent to align efforts and investigate research possibilities.
  - c. Connect with Doctors Nova Scotia to mutually develop a hospital site training program, for one event of the Bluenose Marathon, similar to the Youth Run school training program. This is a low or no cost initiative that can reach a large population of inactive staf
  - d. Set targets for select population health indicators. British Columbia's Act Now targets for overweight/obesity is:

“To reduce by 20% the proportion of the B.C. population (aged 18+) currently classified as overweight or obese from the current prevalence rate (2003) of 42.3% to 33.8% of the B.C. population by 2010.”
  - e. Provide necessary support for Obesity Bootcamp and related initiatives. (Measure # of sessions and track participant progress)

- f. Reinforce and fast track primary health care rejuvenation initiatives.(Measure # of Community Health Teams in communities)
  - g. Work with care providers to ensure height, weight, waist measurements become standard of care and a clinical pathway is established for those needing support. Establish baseline and measure % change.
  - h. Facilitate enhancement of behavior change methodologies knowledge and skills for care providers. (Measure % of uptake of educational opportunities).
  - i. Recruit an expert to track, analyze and report on population health indicators.
  - j. Revitalize Capital Health website to embody health and wellness and provide web-based health tools for general population use.
  - k. Implement a community scale social marketing campaign in the community selected for the community health team...possible research project. A scaled down version of the Hamilton project with intention of rapid deployment. Partnership funding should be actively sought.
6. Host an open space event to agree on an action plan for the CHBs to move forward.
7. Board of Directors Population Health Committee should reorganize. Select several Capital Health members to remain on the committee and actively recruit external partners (influential leaders) for individual and collective action. Focus on social and physical environments; policy and advocacy; corporate social responsibility etc. Action items include:
- a. Develop guidelines/criteria for partnerships and advocacy.
  - b. Collectively determine one or several key projects to support/advocate for.
  - c. Develop and deliver workshop on advocacy esp media advocacy to committee members.
  - d. Initiate a speakers' campaign whereby key organizational leaders take select key messages to other organizations to facilitate positive action.

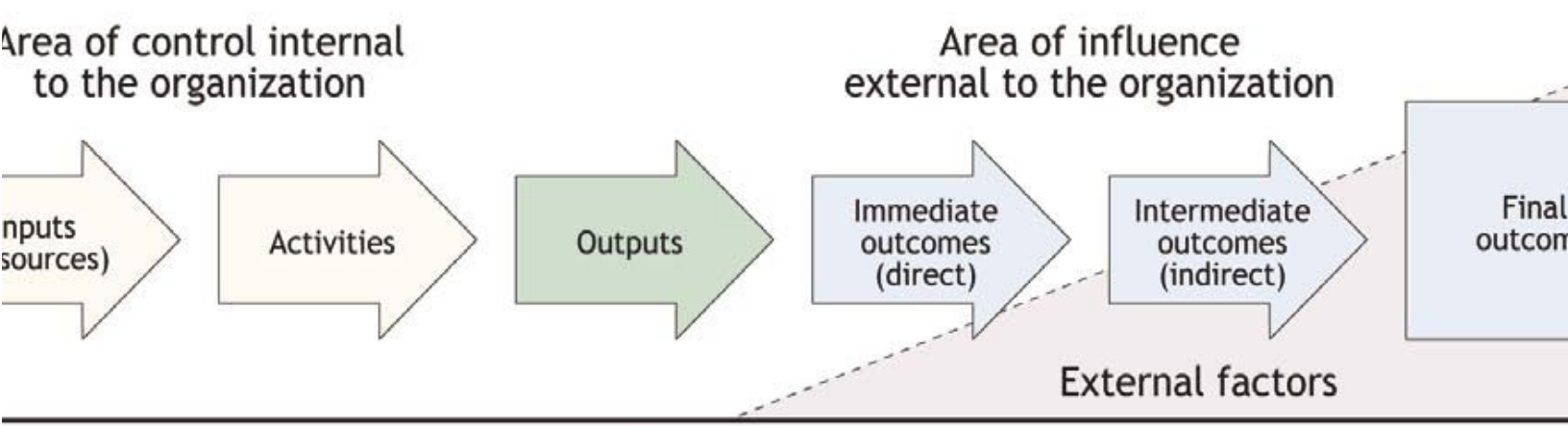
# Capital Health

## Capital Health Make Obesity A Priority

global epidemic, according to World Health Organization (WHO). The story is also the same in Canada; and especially, Nova Scotia has one of the highest rates of obesity in the country. This means, chronic diseases related to obesity is also high. The Capital District Health Authority has also the same alarm. The following are:

- Maternal weights have increased dramatically over the last 20 years in Nova Scotia
- In Nova Scotia, deliveries in severely obese women have more than tripled since 1988
- These trends have implications for population health and health care delivery
  - *Maternal and child health*
  - *Staffing*
  - *Resources*

As part of putting obesity in the forefront of population Health Strategy, the following idea puts the strategy in the descriptive logic framework:





Keep a healthy weight of CDHA residents

Use current baseline data, to decrease the percentage of obesity and obesity related disease

Inputs	Outputs		Outcomes – Impact	
	Activities	Participation	Short Term	Long Term
<p>Who are the players?</p> <ul style="list-style-type: none"> <li>• CDHA through its board/committee/leadership</li> <li>• Business</li> <li>• Educational Institutions</li> <li>• Government/Health Policy Makers</li> <li>• Community-Health Team</li> </ul>	<p>What is going to be done?</p> <ul style="list-style-type: none"> <li>• Mobilizing and engaging all partners</li> <li>• Involvement of decision makers, educational institutions (including schools), service sector, private sector, health care workers</li> <li>• Engagement of mass media</li> <li>• Involvement of Business (private) sector,</li> <li>• Regular Data and Surveillance</li> <li>• Aggressive Social Marketing</li> </ul>	<p><b>What the short term results are:</b></p> <ul style="list-style-type: none"> <li>• Change of Knowledge, Attitude and Practice towards healthy eating and physical activity</li> <li>• Availability of organizational policies, framework, Indicators</li> <li>• Monitoring Data and surveillance availability</li> </ul>	<p><b>That the ultimate results are:</b></p> <ul style="list-style-type: none"> <li>• Decrease high prevalence</li> <li>• Decrease chronic disease</li> <li>• Sustainable system</li> </ul>	

### **Assumptions**

und research done to highlight the seriousness of obesity in relation to  
izational readiness.

### **External Factors**

This initiative to prioritize obesity in CDHA success depends on a  
number of factors, mainly on the active participation of  
political will from policy makers.

### ***Evaluation - How will measure and report the outcomes?***

- Based Line Data
- Linking of Population Health/Obesity Indicators with the Dataset/Data
- Sample of BMI vs. age, BMI vs. Gender, BMI vs. socio demographic factors etc.
- Prevalence of Diabetes, Cancer, Cardiovascular Disease, High blood pressure, etc
- Periodical Monitoring/Surveillance:
  - *Knowledge*
  - *Attitude*
  - *Practice*

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## Appendix A

**Table 1. Adverse Outcomes for Which Obesity Increases Risk or Complications In Adulthood**

Cardiovascular diseases, diabetes, and related conditions
Coronary heart disease (CHD)
Type 2 diabetes
CHD risk factors
Type 2 diabetes
Hypertension
Dyslipidemia
Inflammation
Hypercoagulability
Autonomic nervous system dysfunction
Heart failure
Stroke
Deep venous thrombosis
Pulmonary disease (including obesity hypoventilation syndrome, obstructive sleep apnea)
Other outcomes*
Absenteeism from work
Alzheimer's disease
Asthma
Cancer (including breast [postmenopausal], endometrial, esophageal, colorectal, kidney, and prostate)
Disability, physical
Erectile dysfunction
Fertility and pregnancy complications
Gallstones/cholecystitis
Gastroesophageal reflux disease
Gout
Healthcare costs
Impaired quality of life
Kidney stones
Liver (spectrum of nonalcoholic fatty liver disease)
Mortality
Obesity-related glomerulopathy
Osteoarthritis
Psychological disorders (eg, depression, aggressive behaviors)
Surgical complications

**Population-Based Prevention of Obesity: The Need for Comprehensive Promotion of Healthful Eating, Physical Activity, and Energy Balance: A Scientific Statement From American Heart Association Council on Epidemiology and Prevention, Interdisciplinary Committee for Prevention (Formerly the Expert Panel on Population and Prevention Science)**

Shiriki K. Kumanyika, Eva Obarzanek, Nicolas Stettler, Ronny Bell, Alison E. Field, Stephen P. Fortmann, Barry A. Franklin, Matthew W. Gillman, Cora E. Lewis, Walker Carlos Poston, II, June Stevens, and Yuling Hong. *Circulation*. 2008;118:428-464;

## **Synopsis of the 2006 Canadian clinical practice guidelines on the management and prevention of obesity in adults and children**

Canada was one of the first countries to adopt body mass index (BMI) as a useful surrogate anthropometric measure of adiposity. The 2003 guide to healthy body weight in adults realigned the Canadian classification of overweight and obesity with those of the World Health Organization and International Obesity Taskforce and classifies overweight and obesity based on BMI. In addition to BMI, we recognize within these guidelines the importance of body fat distribution as a strong predictor of the obesity-related health risks, notably type 2 diabetes, atherogenic dyslipidemia, hypertension and cardiovascular disease. We now recommend waist circumference measurement in all adults and adolescents as a new vital sign and an integral component of client assessment for global cardiometabolic risks. Specific cutoff points for different ethnic backgrounds, as recommended by the International Diabetes Federation, will be used to assess health risks and determine intensity of management.

Synopsis of the 2006 Canadian clinical practice guidelines Recommendations:

- An assessment to determine the client's readiness to change behaviours, to identify barriers to weight loss and to screen for depression, eating and psychiatric disorders, in order to assist health professionals in successfully guiding their clients to initiate changes in lifestyle habits.
- Emphasize the role of a multidisciplinary health team and the importance of working together to create a nonjudgmental atmosphere that will ease the stigma and the feelings of blame and guilt experienced by many overweight and obese individuals.
- Developing an individualized, client-centred, comprehensive lifestyle modification program can help overweight and obese individuals achieve realistic weight loss or weight maintenance goals. Specific recommendations on nutrition and dietary therapy, physical activity and exercise therapy for weight loss are described. Positive reinforcement of behavioural changes through ongoing support and cognitive-behaviour therapy, when available, is encouraged.
- The increasingly important role of adjunctive pharmacotherapy and bariatric surgery constitute some of the key recommendations of the evidence-based clinical practice guidelines.
- Our guidelines stress the health benefits that could be derived from a modest 5%–10% loss of body weight. Long-term weight management should shift the focus from induction of weight loss to weight maintenance and prevention of relapse.
- Although the majority of the recommendations are directed at the management of obesity, we realize that population health approaches will probably be more effective in preventing and reducing the prevalence of obesity.
- We recommend that prevention efforts at the population level target all age groups and more specifically recommend decreasing "screen time" and increasing the opportunities for healthy active living within schools, workplaces, homes and communities.
- Finally, recommendations on the dissemination and implementation of clinical practice guidelines are vital if we are to succeed in improving the standards of care and achieving success in the management and prevention of obesity.

The 2006 Canadian clinical practice guidelines, when supported by a solid dissemination and implementation strategy, are the essential first steps to initiate successful changes in clinical practice on the management and prevention of a serious societal and public health problem that is reaching epidemic proportions. We hope the guidelines will be incorporated into daily clinical practice and form the basis of care maps and standards of care for overweight and obese individuals. We also hope that, by providing integrated clinical and public health

recommendations, these guidelines will serve to remind us that obesity is a societal and public health issue that urgently requires a call to action. Ideally, these guidelines will reach out to the public at large and interested parties beyond the health sector, including policy-makers at various levels of government, to bring about changes in the environment that are more conducive to healthy living and activity practices and ultimately to reduce the occurrence of obesity. We need to reinstate physical activity into the daily lives of all Canadians to optimize our health status. A healthier population will transform us into a wealthier and more productive nation. The serious personal and societal consequences of inaction on the obesity epidemic can no longer be ignored.

Synopsis of the 2006 Canadian clinical practice guidelines on the management and prevention of obesity in adults and children

(Lau, 2007)

## Appendix C

### Recent Research on Overweight and Obesity

#### Physical Activity

- Physical inactivity is associated with coronary heart disease, colon cancer, breast cancer, stroke, respiratory disease, and diabetes (Allison, Adlaf, Dwyer, Lysy, & Irving, 2007).
- Higher levels of physical fitness protect against premature mortality regardless of body weight status (Brien, Katzmarzyk, Craig, & Gauvin, 2007; Sui et al., 2007).

#### Nutrition

- Dairy foods are showing promise in preventing obesity and diabetes. (Reimer, 2008)
- Diets high in low-nutrient-dense foods and/or high in added sugars have been associated with higher energy intakes, lower intakes of vitamins and minerals and contribute to overweight and elevated blood cholesterol (Hanning, R.M., Woodruff, S.J., Lambraki, I., Jessup, L.et al., 2007).
- A large, longitudinal study found the diagnosis of Type 2 diabetes was 62 per cent less likely in people with the highest blood levels of vitamin C and 22 per cent less likely in those who ate the most fruit and vegetables (Harding et al, 2008).
- Initiatives by the food industry to reduce the fat, sugar and salt content of processed foods and portion sizes, to increase introduction of innovative, healthy, and nutritious choices, and to review current marketing practices could accelerate health gains worldwide (WHO, 2006).
- A ten year study of 59,000 African-American women found regular consumption of sugar-sweetened soft drinks and fruit drinks is associated with an increased risk of type 2 diabetes mellitus (Palmer et al. 2008).
- One study found over 25% of males claimed to eat vegetables rarely or never (Hanning, R.M., Woodruff, S.J., Lambraki, I., Jessup, L.et al., 2007).
- Sources other than juice should be emphasized to increase fibre intakes and benefits (Hanning, R.M., Woodruff, S.J., Lambraki, I., Jessup, L.et al., 2007).
- Majority of foods advertised are not healthful and advertising influence food preferences and purchases especially in children (Kumanyika et al., 2008).
- “until we have more information, we have to assume that calories trump everything else, and that our number 1 goal for the reduction of new cases of type 2 DM should be to reduce the intake of high-energy, low-benefit foods” (Feinglos & Totten, 2008)

#### Weight Trends

- An eight year study of almost 50,000 healthy postmenopausal women found that those who lost weight; regardless of level of fat, fruits and vegetables intake; had the lowest risk of Type 2 diabetes (Tinker et al, 2008).
- Rates of overall overweight show greater increases in the most recent birth cohorts than the older cohorts.

- Recent research suggests that nutrition may affect gene imprinting which entrains the newborn and potentially future generations to become progressively heavier and more susceptible to chronic disease (Allman-farinelli, Chey, Bauman, Gill, & James, 2008).
- Both the general public and many health professionals consider obesity to be more of a cosmetic issue than a health concern (Seiders and Petty, 2004).

### **Weight Loss Intervention**

- Parent's weight loss predicted child's weight loss in a family-based behavioral weight control study (National Heart, Lung, and Blood Institute, 2007).
- Individual targeted approaches to address obesity are more effective than generic approaches (Egger, Pearson, Pal, & Swinburn, 2007)
- Self-monitoring of target behaviors was positively associated with weight loss in adults (National Heart, Lung, and Blood Institute, 2007).
- Family and friends have been identified as key agents of change (Tannenbaum & Shatenstein, 2007).
- Reductions in energy intake may be achieved by an increase in the consumption of low-energy foods, such as fruits and vegetables, and a decrease in the consumption of high-energy foods (Brown, Hockey, & Dobson, 2007).
- The large body of research in the area of lifestyle interventions shows that behavioural changes need to happen on both sides of the energy balance and that maintenance of weight loss requires high levels of physical activity (Brown, Hockey, & Dobson, 2007).

### **Social and Physical Environment**

- Low-income households are more likely to consume calorie-dense, low-costing foods with little or no nutritional value (Tanumihardjo et al., 2007)
- In the UK, the cost of fresh produce grew by 160 percent between 1984 and 2002, while soft drinks prices only increased by 26 percent (Foresight, 2007b).
- Incentivization, reducing the price of healthier foods in school and worksite vending machines, and restaurants will reliably lead to increases in the purchase of those foods (Kumanyika et al., 2008).
- Environmental manipulations and policy changes are now a key focus to creating conditions conducive to obesity prevention (Kumanyika et al., 2008).

### **Sedentarism**

- Emerging evidence that prolonged periods of inactivity and absence of whole body movement (sedentarism) is distinctly related to risk of chronic disease independent of physical activity (Healy et al., 2008).
- More interruptions in sedentary time were beneficially associated with metabolic risk variables and may be feasible to implement across numerous settings, including the workplace (Healy et al., 2008).

### **Health Professionals**

- Encouragement and written instruction from health professionals have been identified as important to facilitate healthy change (Tannenbaum & Shatenstein, 2007).

- Adult patients who are counseled by their physician to lose weight are three times more likely to attempt weight loss. (National Children's Hospital, 2007)
- Many health care providers are reluctant to diagnose (ie BMI measurements) or treat overweight patients due to:
  - inadequate knowledge and skills needed to counsel patients on weight loss.
  - sense of the futility in regards to interventions
  - little reimbursement for obesity-related services by insurance carriers (National Children's Hospital, 2007; Woolford, Clark, Strecher, Gebremariam, & Davis, 2008).
- Color-coded charts with management recommendations, and behaviour management training (online, DVD or short training module) on BMI were identified as potential strategies to increase compliance with BMI monitoring (Woolford, Clark, Strecher, Gebremariam, & Davis, 2008).
- Measures of centralized obesity, especially WHtR, are more effective for detecting cardiovascular risk factors in both men and women and only requires a tape measure (Man & Leea, 2008)
- Physicians need to go beyond clinical prevention and treatments for obesity and use influence and advocacy to effect social and environmental change (Kumanyika et al., 2008).

### **Social Marketing and Media**

- Social marketing and media advocacy are two public health strategies that use the media and may be important for obesity prevention.
  - Social marketing has proven more successful for children than adults and when focused on environmental influences
  - social marketing campaigns should be of substantial duration and complemented with policy approaches to maximize the possible impact and benefits.
  - media advocacy should target policy makers and reframe public debate on key public health issues (Kumanyika & , 2008).
- Balance of studies that used mass media and social marketing approaches as the primary strategy to change behavior and improve weight control appeared to have little effect on weight gain prevention (Kumanyika et al., 2008).
- Uniform strategies aimed at the whole population level may be less effective than a targeted approach with different messages for different groups (Butler, Orpana, & Wiens, 2007).

### **Active Transportation**

- Walking and cycling to work, school or errands are increasingly recognized as beneficial to individuals and society. (Butler, Orpana, & Wiens, 2007).
- Attractive open space increased the likelihood of walking at least 6 times per week totaling >180 minutes by 50
- Associations between cycling and walking with lower incomes suggests that money spent on pedestrian and cycling infrastructure is particularly important in supporting the mobility and participation of lower-income individuals in work and community life (Butler, Orpana, & Wiens, 2007).

### **Research**

- Need new solution-oriented research paradigm focused on innovative experimental solutions with links to policy/practice (Robinson & Sirard, 2005).

### **Public Readiness**

- High public readiness for obesity prevention with a focus on individual behavioural change, but not for regulations...need to increase public's understanding of obesity prevalence and causes (Hilbert, Rief, & Braehler, 2007).
- Strong support for healthcare and employment policies in obesity prevention and treatment (Fuemmeler, Baffi, Mâsse, Atienza, & Evans, 2007).

## Going Forward

- **Bold whole system approach is critical** – promotion of healthy diets, redesigning the built environment, wider cultural changes to shift societal values around food and activity (Foresight, 2007).
- Major grassroots and community-based initiatives are already making headway in pockets around the US. (Kumanyik et al., 2008).
- Promotion of increased physical activity and decreased screen time should be the focus of strategies aimed at preventing and treating overweight and obesity in youth.” (Allison, Adlaf, Dwyer, Lysy, & Irving, 2007)
- Evidence suggests a comprehensive, whole setting approach should be taken for effectiveness (Rideout., Levy-Milne, Martin, & Ostry, 2007).
- Strategies to identify individuals at an increased risk of weight gain and obesity should include measurements of both body weight status and physical fitness (Brien, Katzmarzyk, Craig, & Gauvin, 2007).
- Programs to combat overweight in women of child-bearing age and young girls may prove pivotal in curbing the birth cohort and period increases in overweight and obesity.
- Targeting overweight individuals for obesity prevention programs may have added value (Brien, Katzmarzyk, Craig, & Gauvin, 2007).

## Children

- Canadian children consume upwards of 25% of daily energy from foods of low nutritional value [LNV] such as pop and sweet or salty snacks
- Students with access to foods LNV foods had lower intakes of fruits, vegetables, and milk, and consumed more sweetened drinks and fried foods.
- Healthy foods, such as fresh fruit or baby carrots, are selected more often when competitively priced over traditional high-fat snack foods (Rideout, Levy-Milne, Martin, & Ostry, 2007).
- Canadian study found 89 percent of supermarket food products for children, which excluded confectionery, soft drinks and bakery items, provide poor nutritional quality [PNQ].
  - Same study found that 63% of these PNQ food products make one or more nutrition claims (Elliott, 2008).
- Access to physical activity equipment and playgrounds increased physical activity of school students
- Proximity to recreational facilities and programs was associated with higher total daily physical activity in children



- Active commuting (i.e., walking or bicycling) to school was higher in more walkable neighborhoods compared to less walkable neighborhoods (25% vs. 11%) (National Heart, Lung, and Blood Institute, 2007).
- Adolescents reporting screen times of 3 h/day were two- to threefold more likely to have Metabolic S than were adolescents with daily screen time levels of 1 h or less (Mark & Janssen, 2008)
- A large retrospective cohort study found the odds of overweight offspring at age seven years was 48% greater for children of mothers who gained more than the weight gain recommendations than for children of mothers who met the weight gain guidelines (Wrotniak, Shults, Butts & Stettler, 2008).

## Appendix D

### Organizational Readiness: Status and Comments

**There is general consensus that obesity is a critical issue and that it is time to take serious action. Addressing obesity is an opportunity to reduce risk factors for many chronic diseases simultaneously.**

- **Behaviour Change Institute:**
  - Psychologist Michael Vallis is shifting his role from one of individual diabetes counsellor to consultant/trainer and given go ahead
  - Problem is that the team does not have easy ability to shift away from their traditional model of work to new model.
  - Want expression of interest or organized plan to connect with primary care
  - Try to reach a practice group to enhance their behavioural modification skill set
  - Three streams of training
  - Need funding for support
  - Need to empower the system with core clinical competencies... organization currently woefully inadequate in meeting obesity clinical guidelines
  - Anchor project demonstrates effectiveness of concept
- **Obesity Network** established 4 years ago is floundering due to lack of technical support and resources
- **Obesity Bootcamp** (Michael Vallis)
  - Completed 1 of 4 sessions; session 2 scheduled for Oct.
  - No resources
  - No IT supports
  - Tentative low resource communication plan
  - “Walking on thin air”
  - Dietitian threatening to leave due to being overwhelmed with dual responsibilities
  - Want to establish link with primary care with referrals to boot camp
  - Dream of having a big bootcamp in a large venue (perhaps donated space)
- **Bariatric Surgery Clinic:** huge wait list
  - Back up of candidates due to relisting of surgery coverage
  - 1100 on wait list with letter of approval
  - goal is to do 200 surgeries per year
  - currently have done 20?
  - Surgical folks very supportive
  - Post surgical patients require specialized follow up
  - Gap is not surgical but in the support team
  - Need .5 psychologist, .5 kinesiologist, full time dietitian
- **Community Health Team:**
  - At the site selection stage for the introduction of the first community health team in Capital Health.
  - Once site is selected, citizens will be engaged to determine community health priorities.
  - Obesity would need to be identified as a priority in order to aggressively address through the health team.
  - Community may need information and consciousness raising on health status and health issues.
- **Healthy Workplace:**

- Committee to address Healthy Eating in Capital Health has convened and is moving forward.
  - Sensing regarding attitudes of shifting to a chronic disease prevention model for Healthy Workplace initiatives is underway
- **Obesity Research:**
  - Dalhousie professor and obesity researcher (Sara Kirk) willing to explore potential partnership with Capital Health
- **Physical Activity Strategy:**
  - Partnership physical activity strategy well developed.
  - All partners have agreed to input equal funding to hire a coordinator and administrative support to move the strategy forward.
  - Student research on decision prompts to use the stairs at Cobequid and Centennial showed increases in stair use of 10 and 13% respectively.
- **Community Health Boards:**
  - Some boards already doing significant work on obesity prevention and all are doing some work.
  - May be some resistance to direction...key is in how they are engaged
  - Provide opportunities for CHBs to link to organizational wide strategy to address overweight/obesity.
  - Prefer an open space technology event with all coordinators, as many members as possible and perhaps administrative staff and a highly effective facilitator.
  - Prefer a session that results in clear action items and not something that goes off to go through numerous channels and then resurfaces again much later.
  - Belief that the CHBs best work is through the CDF grants which already support many overweight/obesity related initiatives.
  - Coordinating body which includes vertical and horizontal communication and allows for easy linking
  - Agree on what is already known and move forward from there..focus on action, not research
  - Need to look at obesity through a poverty lens and target resources to the most needy and vulnerable.
  - Need to disseminate and develop an accountability framework for population health indicators
  - Open to exploring new ways to measure, but needs to be easy/non-alienating for participants.
  - Need help to develop a data collection system...possible career starts position for IT
  - CHBs are being recognized as strong partners and change facilitators in the community...this should be measured.
  - CHBs need to partnering better across the district...Council of Chairs could be accomplishing more.
  - Leaders (CEO, COO, VPs and Board members) need to be more vocal about obesity issue and “speak from the highest mountain”

Comments on what Capital Health should be doing to better address overweight and obesity

Organization:

- Lack of CDHA website focused on health and wellness
- Need to have care pathway identified when weight is an issue
- Social marketing campaign- both widespread and targeted
- Blog or electronic newsletter like mayo clinic
- Focused community intervention (pilot?)
- Self help: ie. Smoker’s helpline; social marketing tools
- Need to identify key champions in the organization
- Need to support the staff: local food markets, Bluenose Run weekly training...

- Need to link people/initiatives
- Need to promote the concept of energy balance: energy in; energy out
- Need to measure height, weight, waist in healthcare and school settings
- Need to link data to action
- Physician training in obesity management
- Expectation that it is everyone's responsibility
- Need to increase advocacy efforts
- Research: next step might be assessing community readiness in order to tailor message
- Need to agree on key messages from research
- Organization currently a "dreamer"...need to take action **and** "walk the walk"

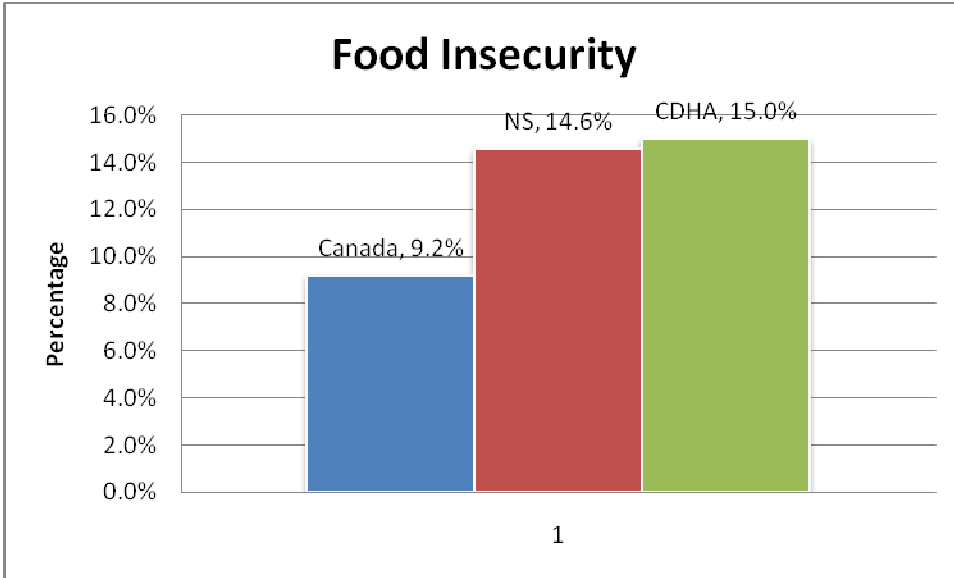
#### System/Intersectoral

- Need to align across the system
- Need to streamline structure at higher level so as to minimize meetings: problem-based (obesity); not risk factor or discipline based; separated out more at the program level
- Need health voice at all policy tables
- Need to be more outward thinking
- Need to work intersectorally
- Need to identify key stakeholders including food industry, marketing, agriculture etc.
- Need to stop preaching to the converted
- Need to target decision-makers
- Need to better understand the environment
- Need to engage vulnerable populations
- Need to provide supports to the public
- Need to use media more effectively: do interviews; approach health reporter; opinion editorial; evaluation could be number of media stories?...need to create a sense of public urgency
- Need to explore crossover rationales for environmental protection
- Need to apply lessons learned from Tobacco Strategy
- Need to address obesogenic environment: both social and physical

## Appendix E

### Capital District Health Authority Population Health Indicators with graphs

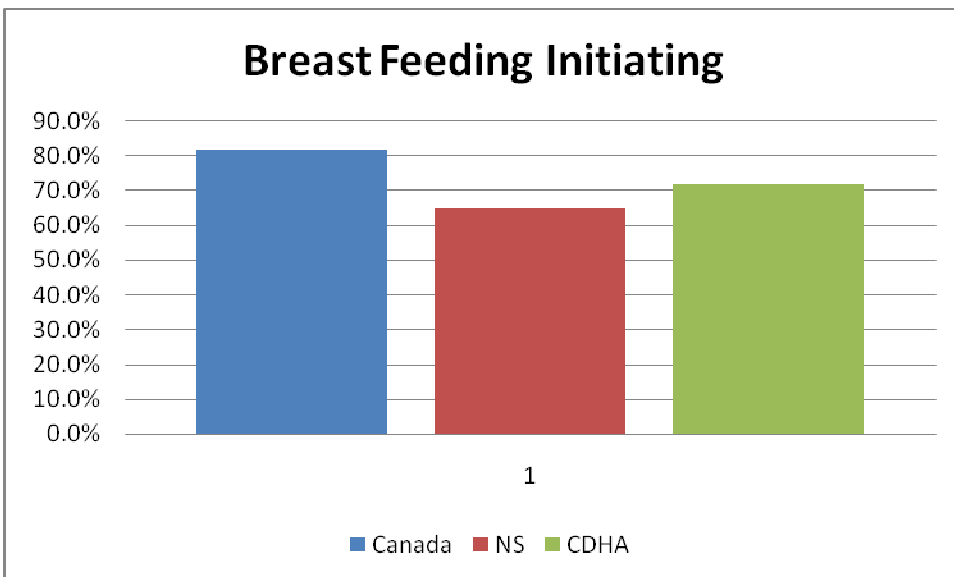
#### 1. food insecurity



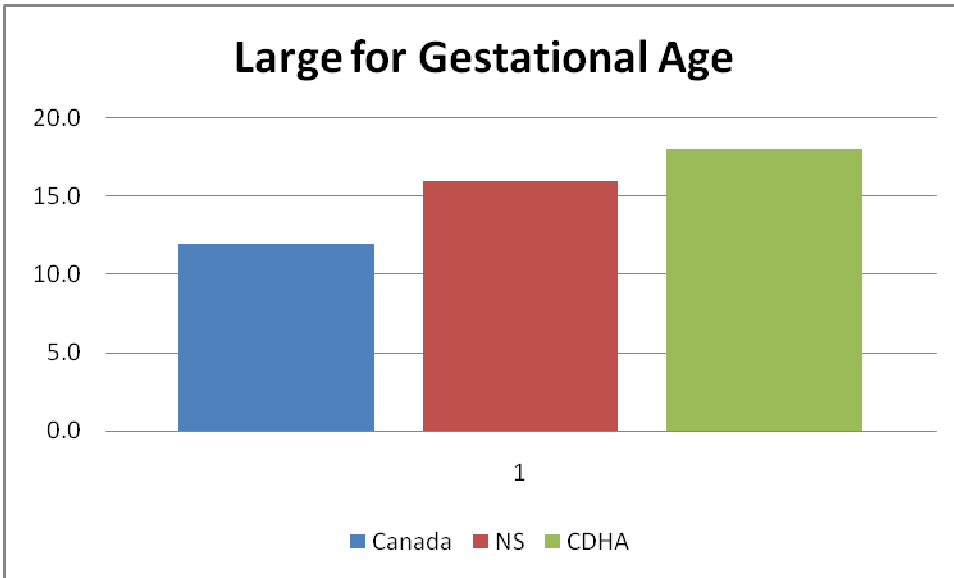
#### 2. asthma?

- *Data is not available*

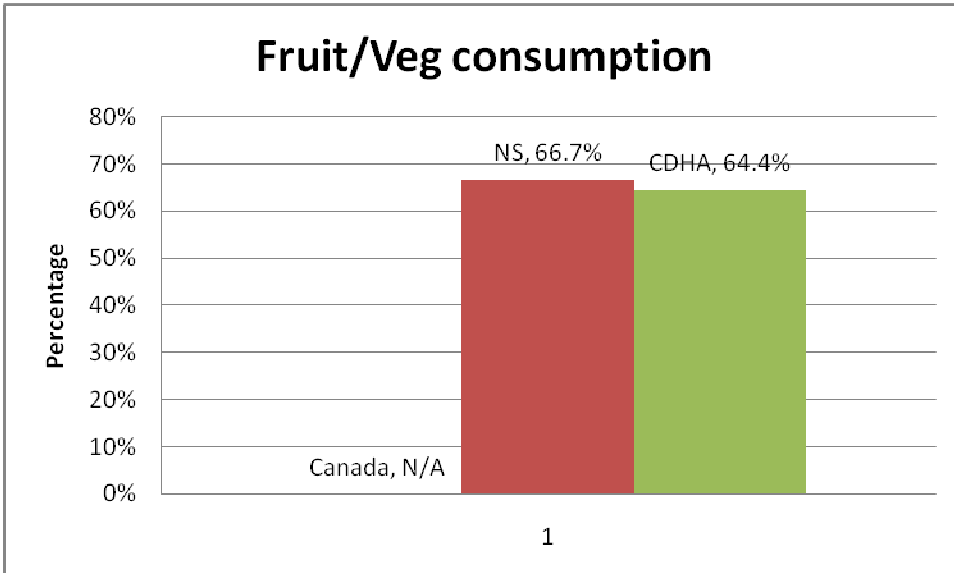
#### 3. breastfeeding



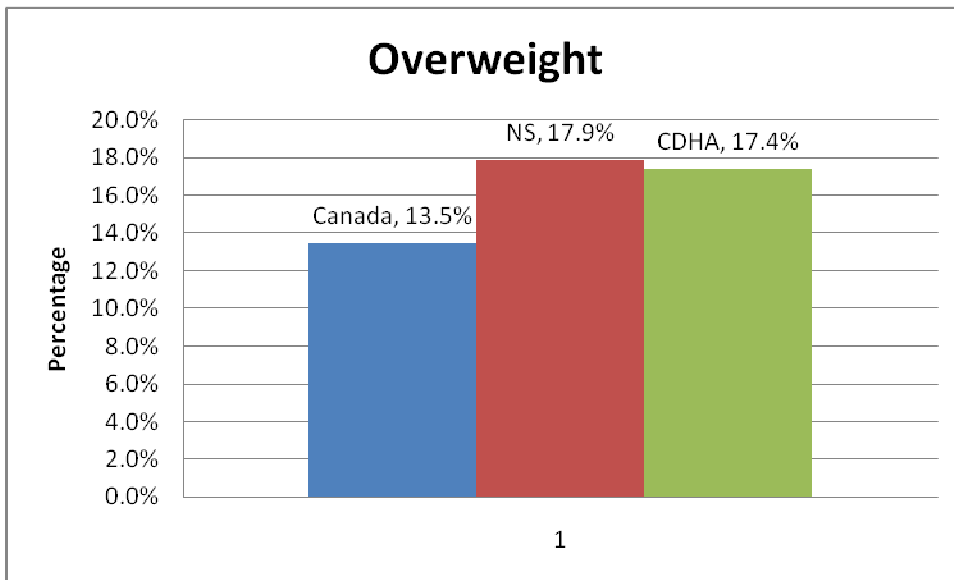
#### 4. large for gestational age



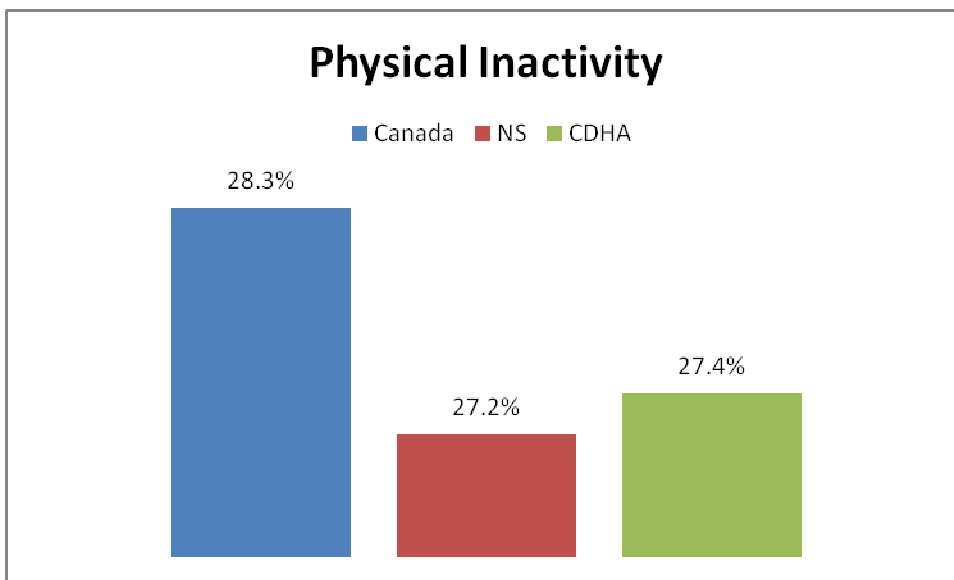
#### 5. fruit/veg consumption



## 6. overweight



## 8. physical inactivity



## 9. Workplace health

- Data is not available

## Appendix F

Copy of Health Promoting Hospitals Presentation



## Appendix G

### Potential Partners:

- Other DHA's
- IWK
- Health Promotion and Protection: Health Eating., Physical Activity, Food Insecurity, Breast Feeding Initiatives
- Dept of Health
- Doctors Nova Scotia: investigate possibility of bringing Bluenose Run training to workplace
- HRM
- Heart and Stroke: walking initiative
- Arthritis Society
- Ecology Action Centre: pace car, walk to school
- Halifax Regional School Board : Health Promoting Schools (CDHA Public Health)
- IWK : Anne Cogden; Cathie Walsh; Sylvia Wist
- Universities
- Spiritual communities
- Chamber of Commerce
- Nova Scotia Community College
- Agriculture stakeholders
- Influential professionals and community leaders

## Appendix H

### Hamilton, Ontario: Social Marketing Obesity Campaign

#### Stop Playing Games with Childhood Obesity--Part I: Communication Campaign Ad Development

Friday, 18 July 2008

#### Contents

##### I Introduction

##### II Creating the Campaign

##### III Testing the Campaign

##### IV Challenges and Recommendations

##### V Revisions to the Ads

-- submitted by Sandy Skrzypczyk, RD, Health Promotion Specialist, City of Hamilton Public Health Services, and Jodi Thesenvitz, The Health Communication Unit

#### I Introduction

In December 2005, City of Hamilton Public Health Services hosted the first of three community forums to engage key stakeholders in developing a made-in-Hamilton obesity strategy. As a result of the forums, four key priorities were identified by the stakeholders, including the creation of a communication campaign to raise awareness and offer solutions to the rise in obesity rates. Community partners stepped forward to work collaboratively on the priorities. In September 2006, the Communication Campaign Subcommittee held its first meeting, and in October 2007, the campaign was launched. This article focuses on the development of the campaign ads.

#### II Creating the Campaign

##### A Audience

Starting with the loosely defined task of creating a communication campaign, the subcommittee chose parents with children ages 4 to 12 years old as their audience. The overall goal was to help prevent future problems by increasing parents' awareness of their child's weight status and risk factors. Research indicates that many parents have poor awareness of their child's weight status.

##### B Objectives

Based on literature and available community information, the subcommittee identified target nutrition and physical activity behaviours and focused on how small changes and daily actions can make a difference with obesity.

These behaviours formed the foundation upon which carefully crafted objectives were developed. Significant committee discussion focused on creating realistic, specific, measurable outcome objectives that could be impacted on with a communication campaign. The group made particular effort to avoid broad objectives that focused on overwhelming behaviours not likely to be achieved with simple communication. Efforts were also made to focus on specific parts or angles of the topics that had not already been heavily covered in the media.

The specific recommendations discussed in the campaign include:

- Eating dinner at home together as a complete family at least three times a week,
  - Serving vegetables or fruit to their children at every meal and every snack time,
  - Giving their children water or milk instead of pop or other sugar-sweetened beverages most of the time,
  - Replacing some daily screen time with time together as a family doing something active outside, and
  - Replacing some of their child/ren's sedentary activity time with active time spent together as a family. The final objectives included
1. To increase the number of parents who are actively thinking about the ways that their current family nutrition and physical activity behaviours may affect the chance that their child/ren will be one of the many who will have a problem with weight now or in the near future;
  2. To increase the number of parents who believe that their own children's risk of childhood obesity could be reduced by parents following these recommendations themselves;
  3. To increase the number of parents who believe that it is realistic for them to follow these recommendations;
  4. To increase the number of parents who are considering trying the recommendations in the next 30 days; and
  5. To increase the number of parents who go to <http://www.dailythingscount.ca> for more information about
    - Their child's current/future risk of weight problem;
    - The potential health problems that children/adults who are overweight may experience;
    - The things that can reduce/prevent their children's problem/potential problem with weight; and
    - Small, easy things they can do to reduce/prevent their children's problem/potential problem with weight.

## C Dissemination plan

Dissemination of the campaign message included eight weeks of paid advertising in local newspapers, pre-movie screening in two theatres, bus shelters, and back-of-the-bus ads. In addition, posters were placed in public spaces such as recreation centres, doctor offices, and schools. Postcards were distributed to parents via elementary school students. Resources were also allocated for the creation of a website.

## D Initial ad concept

The eight-person subcommittee developed the original concepts. Although assisted by a graphic designer, copywriter, and a health communication consultant, the subcommittee had difficulty relinquishing control, and thus initially used the support people in limited and prescriptive ways.

In the original concept, there were two slogans on each poster/ad: "It's the Daily Things that Count" and "Stop Playing Games with Obesity."

As a part of the "Stop Playing Games..." theme, each poster was purposefully ironic by linking one of the target behaviours with an 'old fashioned' game. For example "Kick the Can" was the focus of a pop reduction ad; "What time is it, Mr. Wolf?" was the focus of a screen time ad.

Each poster/ad also contained a visual with a child demonstrating the undesirable activity, a fact or statistic demonstrating the extent of the problem, a link to the website and other information about recommended

behaviours.

Although there was debate about the multiple themes on the ads, the amount of text and visual content overall, and the number of "calls to action" on each poster, it was difficult to reach consensus among subcommittee members. Thus the ads went forward in this way to focus testing.

### III Testing the Campaign

#### A Focus testing

The subcommittee hired a consultant to conduct focus testing on the initial ads. Four, one-hour focus groups were held. Each group consisted of individuals in the target audience that knew each other as neighbours. This approach was taken to see what kind of "buzz" (or real-life conversation with real friends or acquaintances) would be generated by the ads.

Participants were asked a series of questions to determine their reactions to the draft posters after both short (10 second) and longer viewing times. Questions were designed to determine whether campaign objectives were likely to be met in real-life viewing conditions. The Health Communication Unit's Message Review Tool was used in conjunction with campaign objectives to construct the focus questions.

#### B Findings and recommendations

Reactions to individual posters were mixed; however, the overall reaction was very positive. "Clever," "catchy," and "surprising" were words frequently used to describe individual posters.

The statistics, though presented in small text near the bottom of the ads, turned out to be of great interest to participants, generating surprise, dismay, and frequent comments such as "I can't believe it, I am going to add up my children's time/amount/etc."

Response to visuals was generally very positive, though some comments focused on situations when:

- children looked "too happy" doing the undesirable behaviour;
- it was not clear what the visual was trying to communicate (e.g., child reaching for a bowl of candy that was intended to be a "candy salad");
- the visual seemed to conflict with the text;
- the visual was not believable (e.g., one visual of a child sitting and listening to an iPod was not believable because a number of parents said their children are more likely to be dancing/bopping around when listening to their iPod); and
- the visual pitted one good behaviour against another (e.g., some parents did not want listening to music or other sedentary activities with benefits (such as reading or sitting around together as a family) villainized).

### IV Challenges and Recommendations

Key challenges identified across all concepts are shown with consultant recommendations below.

#### 1 Length of time required to fully understand each message

At first glance (10-15 second preview), many details of the visual and messaging were missed. Longer examinations resulted in the desired "a-ha" moments and many more positive reactions.

## Reason

There were many competing elements in each poster. While each poster was filled with valuable visual or textual information that interested the focus group participants, this dramatically increased the amount of time it took people to fully process the poster. In real-world communication situations, time is often the enemy, where health communication messages compete with big business for audience attention.

## Recommendations

- Substantially cut down text of most posters by using the "What," "So What," "Now What" health communication guideline. This guideline indicates that the most effective health communication messages include
  - one fact (What?);
  - one incentive (So what?, Why should I care?); and
  - one call to action (Now what do I do?).
- The overall campaign theme should be limited to one concept, including only one slogan. This will significantly decrease the amount of time required to understand the main message of each poster. Many of the posters had potentially several calls to action, including two campaign slogans. However valuable, the presence of so many audience "requests" diluted the overall impact. Prioritizing among a series of very good ideas is the most challenging part of message development. However, it is very rewarding in terms of overall campaign effectiveness.

## 2 Specificity of call to action (the "Now What")

Some posters provided general recommendations that left focus group participants wondering how they might make that happen in their lives. Some focus group participants doubted that they could take such action in their lives.

## Reason

Some of the calls to action were too general or too ambitious (unrealistic) for the audience. For example, a statement such as "Make dinner time quality time" is very ambiguous. Audience members sometimes wondered, "What does quality time mean?" or "How could I do that?"

## Recommendations

- Make sure that each call to action is specific and realistic.
- When accompanied with startling or alarming statements that catch attention, a recommended action that is too vague or overly ambitious usually results in the audience ignoring the statement or going into denial about their own current behaviour. This decreases the effectiveness of the communication.

## 3 Lack of awareness (or possible denial) about the relevance of obesity to their own family

Focus group participants were not open about their struggles with their own children's weight. They tended to focus on obesity as other parent's problems - namely those "bad parents" who feed their kids bad things. Only because focus group members knew each other were facts about weight struggles about their neighbours' children revealed. Even when weight struggles were revealed, the term obesity was vigorously avoided in place of euphemisms such as "heavy," "solid," etc.

## Reason

Parents often think of obesity as a parenting problem. They do not want to be cast as bad parents. In addition, many simply appear to be in denial about the degree to which their children may have a weight problem.

## Recommendation

- Develop a poster that emphasizes the difficulty most parents have in identifying their own children's potential weight problem and give them the tools to both assess their own child and help their child.

## V Revisions to the Ads

The focus testing findings mirrored information in the literature showing that parents think that their children are already eating well and are physically active, and regularly underestimate their own children's risk for obesity.

Confirmation of this literature caused the subcommittee to further refine the ad foci so that the most significant call to action on each poster was to "assess your own child objectively," by getting the tools on the website.

Some ads were completely reworked.

Many were slightly refined, with substantial culling of text, and greater focus on the "buzz"-generating statistics.

One tagline and a standard formula (statistic, incentive/so what, now what) were applied to the entire set of ads.

The final ads appear at <http://www.dailythingscount.ca>.

## Stop Playing Games with Childhood Obesity, Part II: Communication Campaign Evaluation Results



Monday, 28 July 2008

I Introduction

II Randomized Telephone Survey

III Online Survey

IV Web Statistics

V Next Steps

Submitted by Sandy Skrzypczyk, RD, Health Promotion Specialist, City of Hamilton Public Health Services, and Jodi Thesenvitz, The Health Communication Unit

### I Introduction

In October 2007, the "Stop Playing Games with Childhood Obesity" campaign was launched in the City of Hamilton. Campaign objectives and details about the campaign design were presented in Part I of this article, which ran in the OHPE-bulletin on July 18, 2008. Part II focuses on the evaluation of the campaign that included: a randomized telephone survey, an online survey for visitors to the campaign website, and web statistics tracking.

## II Randomized Telephone Survey

A marketing research consultant conducted a randomized telephone survey to determine awareness of the campaign. A total of 300 telephone interviews were completed with residents of the City of Hamilton. Participants of the survey were first screened to ensure that there were children in their household between 3 and 14 years of age. Respondents were asked about their awareness of the campaign and some general questions about obesity.

### Overall campaign awareness

When asked whether they had seen any advertisements from Hamilton Partners for Healthy Weights within the past month (unaided awareness), 9.3% of respondents indicated they had seen an advertisement. Of these respondents, the largest majority (39.3%) saw it on a poster at a recreation centre.

Respondents were then asked whether they had seen an advertisement about childhood obesity with the tagline "Stop Playing Games with Childhood Obesity" (aided awareness). The unaided and aided awareness percentages were later combined to determine total awareness of the campaign ads. Overall, 34.0% of respondents indicated that they had seen at least one of the advertisements. When these respondents were asked where they had seen the posters, the highest total percentage reported a recreation centre (15%).

The local newspaper was the second-most mentioned source where respondents commonly saw the ads. Posters in doctor's offices and schools were mentioned less often. The lowest percentages reported were back-of-bus ads, weekly community newspapers, bus shelters, and pre-movie screenings.

Total advertising awareness increased with age, and females were more likely than males to have seen the campaign ads.

### Recall of campaign details

The main aspects recalled about the advertisements were that they included information about:

- obesity in children
- participation/ being active/ exercise
- kids drinking too much sugar
- sitting at the TV/ games
- kids eating fast food/ healthy eating

Of the respondents who saw at least one of the advertisements, 6.9% indicated that they recalled the actual name of the website, "dailythingscount.ca." This was an important evaluation indicator because driving traffic to the website where visitors could download a self or family assessment tool was a key objective of the campaign.

### Opinions about the campaign

Respondents were asked whether they strongly agreed, somewhat agreed, somewhat disagreed, or strongly disagreed with six statements. When percentages were combined for those who indicated that they "strongly agreed" or "somewhat agreed," the level of agreement with the statements was as follows (listed from most agreement to least):

1. "I feel this ad helped to raise public awareness about childhood obesity."

2. "The ad itself was eye-catching and informative."
3. "It made me think about my own children's risk for obesity."
4. "The ad increased my level of interest to visit the website."
5. "The information in the ad motivated me to consider talking to others about this issue."
6. "The issue of childhood obesity is relevant to me right now."

Many respondents felt the campaign was beneficial and should be continued.

#### Perception of own risk

Most respondents (93%) did not think they had a child with obesity issues. The majority (52.3%), however, indicated that they knew of another child who was at risk for being overweight. For one-third of these respondents, that child was a relative.

#### III Online Survey

All of the campaign posters encourage parents to visit the campaign website, <http://www.dailythingscount.ca>, to assess their child's risk for obesity. A consultant was hired to develop and implement an evaluation of the website, which included an online user survey and tracking of web statistics.

Links to the online survey were posted on the campaign website with an incentive to complete the survey. The main results of the website survey are outlined below.

#### Survey respondents

There were 128 respondents in total; however, 29 were removed from the sample because of invalid responses (e.g., numerous "I don't know," "my teacher made me do it," etc.). This resulted in a total of 99 valid respondents.

Of the valid respondents, approximately half visited for professional reasons and half visited for personal reasons.

#### Where visitors heard about the site

Top responses where visitors learned about the website included

1. Colleague (20.8%)
2. Newspaper ad (20%)
3. Child's school/teacher (14.6%)
4. Postcard (12.5%)
5. Another website (10.4%)

#### Why visitors came to the site

Top reasons for visiting the website included

1. For professional reasons (36.7%)
2. To find out more about my child/children's risk of being overweight (35.7%)
3. To find out more about my own risk of being overweight (35.7%)



#### 4. To find out more about healthy habits for my family (21%)

When the responses of those who visited the website for professional reasons were removed from the analysis, this proportion shifted dramatically. Of people who visited primarily for personal reasons, over 70% visited to find out more about healthy habits for their family.

#### Site impact

Of all visitors, 46.8% said their knowledge about raising children with a healthy weight was high or very high before visiting the website and 74.1% reported the same after visiting the site. Thus, 26.3% of respondents felt the website increased their knowledge.

Over 50% of respondents claimed to learn "quite a bit" or "a great deal" about various weight, healthy eating and physical activity topics (a list of 22 topics was presented).

Survey respondents reported high levels of confidence in taking action on healthy habits and healthy weights upon leaving the site. Between 75-80% felt confident that they would be able to

- Build more healthy habits in the future,
- Help children build more healthy habits,
- Reduce own risk of being overweight, or
- Reduce children's risk of being overweight.

The qualitative comments about how visitors were planning on using the information from the site were informative, useful, and confirmed the utility of the site. Some examples of the comments include

1. Initiate a poster campaign then a pop ban at our school.
2. As a parent I am going to cook healthier, pack healthier lunches (no pop), be more active as family (like playing more with my children at the park), walking instead of driving our car for short distances, drinking water instead of pop.
3. I intend to have the kids work with me to make a plan that is better for everyone. They need to feel a sense of ownership of the choices they make for their bodies.
4. As my daughter is very overweight this will help with keeping us focused - printing the activity posters and food guide. It confirms that we have put many of the suggestions into place and we are doing everything we can to help lose the weight. We don't have a lot of screen time, but we don't have a lot of physical activity in our daily lives. There are some really great ideas at the various websites.
5. Changing some of our family routines to include more active activities that we can do together as a family.
6. Set better examples myself, like eating breakfast.
7. I learned what a can of pop a day equals and how bad fast food really is. With this information I will now change those couple of things in my household.
8. To discuss with my husband and make a family plan.
9. To implement the info into what I buy for food, the level of activities for our family and how I can make a huge impact on changing myself as well as my family.
10. To improve my family's physical activity and to encourage hobbies other than computer/television.
11. We plan on dancing together as a family every evening.
12. Making better choices for our lunches and including more physical activity in our day.
13. Plan weekly meals so we know what we are eating in advance and that we are getting enough of the

good foods we need.

#### In general

- 92.2% of respondents said overall quality of website was "high" or "very high."
- 84.1% said overall usefulness of website was "high" or "very high."

#### IV Web Statistics

Between mid-October 2007 (campaign launch) and February 2008 (survey close), 4720 people visited <http://www.dailythingscount.ca>. Traffic was fairly consistent throughout this time period, averaging around 900 visitors per month. Most people visited the entry page, plus only one other page, during their time on the site. One hundred forty-two people entered the site directly to the Healthy Habits quiz, indicating that once out in the public domain, people were promoting that sub-page of the website directly.

Users stayed, on average, for approximately 1.5 minutes per visit. This too was quite consistent throughout the five months, fluctuating only slightly each month.

The top sub pages (not including the index page) visited on the site were:

1. The "Eat Together" poster (reads: "The average fast food meal supplies over 60% of a child's daily calorie needs."), with 3656 visits over five months, heavily concentrated in the first two months.
2. The "Reality Check" poster (reads: "Only 9% of parents think their children are overweight; 25% are."), with 2929 visits over five months, heavily concentrated in the first month.
3. The Healthy Habits quiz, with 433 visits over five months, heavily concentrated in the last month.

In considering these trends, it is important to note that survey respondents who reported that they visited the site for professional reasons were very heavily weighted in the first month of launching the campaign (i.e., representing 40 of the 43 survey responses that were received before December 1st). People visiting for personal reasons represented more of the respondents completing surveys after December 1st.

#### V Next Steps

Based on evaluation results, future plans include

- Running the ads again in the local newspaper.
- Designing one or two more posters that will focus on the environmental impact on weight, while keeping the same branding.
- Discontinuing use of certain vehicles such as, back-of-bus ads, bus shelters and pre-movie screenings, given the low level of awareness resulting from them in the first wave of promotion.
- Adding more interactive pieces to the website, such as a physical activity tracker for kids and neighbourhood assessment tools.
- Further development of the professional section of the website, since many people visited the website for this reason.
- Enhancement of website promotion, as the telephone survey indicated there was a low level of awareness about the name of the website, though the site was reported to be very useful for those who visited.

Further details about the evaluation report and the "Stop Playing Games with Childhood Obesity" campaign can be accessed by contacting Sandy Skrzypczyk at [sskrzypc@hamilton.ca](mailto:sskrzypc@hamilton.ca).

## Appendix I

# CDHA Obesity Action Logic Model (Description)

## ACKNOWLEDGEMENTS

By definition, logic model is the product of consensus agreement among stake holders. However, before it goes to population health committee and discussed for deeper and much detailed discussion and endorsement, we consulted different professionals and who are working in the issue of obesity and related area. We would like to thank these professionals, who we are consulting before and during designing this CDHA Draft Logic Model are:

Dawn Burstall

Caroline Carr

Susan Dunn

Mark Embrett

Dr. Sara Kirk

Tarra Penney

Monique Mullin -Roberts

Dr. Michael Vallis

Geoff Wilson

## INTRODUCTION

Obesity is a global epidemic, according to World Health Organization (WHO). The story is also the same in Canada; and especially, Nova Scotia has one of the highest obesity rates in the country. This means, chronic diseases related to obesity is also high. The Capital District Health Authority has also the same alarming trend. Some of the facts are:

Maternal weights have increased dramatically over the last 20 years in Nova Scotia

In Nova Scotia, deliveries in severely obese women have more than **tripled** since 1988

These trends have implications for population health and health care delivery

- Maternal and child health
- Staffing

- Resources

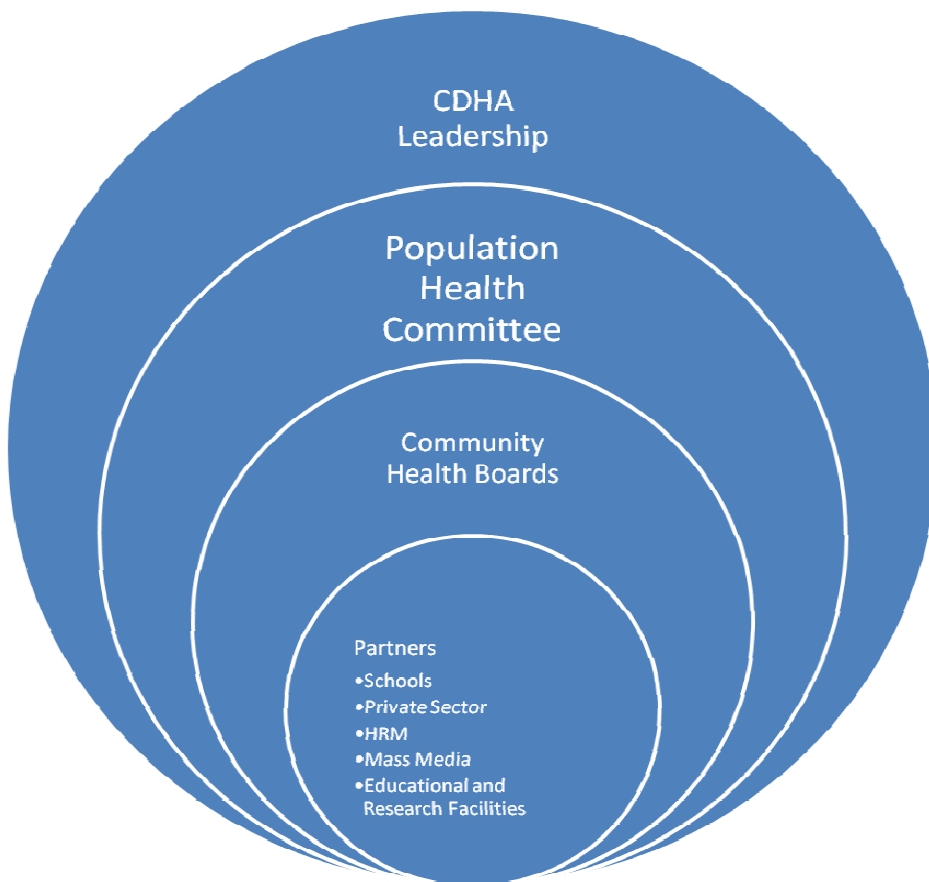
Therefore, as part of putting obesity in the forefront of population Health Strategy, the following idea puts the strategy in the descriptive logic framework model.

### **Vision**

Attain and keep a healthy weigh of CDHA residents

### **Mission**

Based on the current baseline data, to decrease the percentage of obesity and obesity related disease.



### **Input**

#### *Organizational Initiative*

- Endorsement of Collaborative Action Plan
- Design partnership Framework

- Leadership Level Initiative

#### *Financial resources*

- Allocate Budget

#### *Material resources*

- Introduce and encourage target group oriented educational channels

#### *Human resources*

- Hiring Obesity Coordinator/Focal Person
- CDHA staff awareness
- Restructure Existing Obesity Initiatives within CDHA
- Data and Surveillance

### **Activities**

#### *CDHA through its board/committee/leadership*

- Develop programs to encourage nutritional eating habits in communities
- Implement social marketing campaigns on the importance of nutritional eating to combat obesity
- Participate in development of and legislative campaign for a physical activity and obesity reduction initiative

#### *Government/Health Policy Makers*

- Develop policies that support healthy food and beverage choices in the city

#### *Community-Health Teams*

- Prioritize obesity and Develop programs to encourage nutritional eating habits in communities
- Promote awareness of obesity and implications on well being

#### *Business*

- Promote weight loss programs in the workplace
- Establish policies that promote appropriate food choices
- Develop nutritional education programs for employees
- Provide healthy food choices in the workplace

#### *Educational institutions*

- Eliminate unhealthy food from schools
- Universities: participate in data collection/researching

### *Health care providers*

- Empower patients on the chronic problems of obesity and healthy eating
- Participate in development of and legislative campaign for a physical activity and obesity reduction initiative

### **Outputs**

- Mobilizing and engaging all partners
- Involvement of decision makers, educational institutions (including schools), service sector, private sector, health care workers
- Engagement of mass media
- Involvement of Business (private) sector,
- Regular Data and Surveillance
- Aggressive Social Marketing

### **Short Term Outcomes**

- Change of Knowledge, Attitude and Practice towards healthy eating and physical activity
- Availability of organizational policies, framework, Indicators
- Monitoring Data and surveillance availability

### **Long Term Outcomes**

- Decrease high BMI prevalence
- Decrease chronic diseases
- Sustainable health care system

### **Evaluation**

- Based Line Data
- Linking of Population Health/Obesity Indicators with the Dataset/Data
- Sample of BMI vs. age, BMI vs. Gender, BMI vs. socio demographic factors etc.
- Prevalence of Diabetes, Cancer, Cardiovascular Disease, High blood pressure, etc
- Periodical Monitoring/Surveillance:
  - Knowledge
  - Attitude
  - Practice