Technical Report:

From Weight to Well-Being: Time for a Shift in Paradigms?

A discussion paper on the inter-relationships among obesity, overweight, weight bias and mental well-being

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This Technical Report and a Summary Report can be found at: www.phsa.ca/populationhealth

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1.0 Executive Summary

More than half of Canadians are overweight or obese. In British Columbia, 44 per cent of adults and 16 per cent of youth aged 12 to 17 are overweight or obese. As the prevalence of obesity in the population has risen, so too have concerns about an obesity epidemic and its impact on the incidence of chronic disease, health of the population and associated costs to health care. Yet, despite decades of research and interventions, overweight and obesity in affluent societies has continued to rise. Traditional approaches to tackling weight-related issues have not worked, and at times have resulted in unintended consequences. It is increasingly clear that obesity is a complex phenomenon deeply entrenched in our social and cultural fabric, and that new approaches and thinking are required.

The British Columbia Provincial Health Services Authority (PHSA) commissioned a review of research into the interrelationships among obesity, overweight, weight bias and mental well-being. It is not a systematic review of all the research literature on the subject. Rather, it summarizes new and emerging research which may challenge our traditional approaches to weight-reduction. It has been written to generate an informed discussion on health practice and policy to promote healthy weights, while protecting and promoting the mental well-being of British Columbians. The paper addresses three key questions:

1. What is weight bias and stigma? What is the relationship between current approaches to promoting healthy weights and body image, weight bias, stigma and discrimination and mental health?
2. What are the linkages and relationships across the life course among overweight, obesity and mental health, mental illness, and the social determinants of health?
3. What practices are conducive to promoting healthy weights and mental well-being?

This summary report includes highlights and key findings of the review completed. The paper contains three parts that explore various weight related issues: Part 1 of the paper reviews the evidence; Part 2 explains four paradigms of thought and Part 3 provides recommendations on how to approach the issues in ways that protect and promote mental well-being. The paper concludes with a summary of the findings and suggestions for next steps.

PART I: Physical and Mental Consequences of Obesity

Obesity is strongly associated with many serious and costly chronic health conditions, but the relationships are complex. The links between obesity and the development of numerous medical conditions and chronic diseases are well-established. Obesity is associated with sleep apnea, type 2 diabetes, asthma, gallbladder disease, osteoarthritis, chronic back pain, several types of cancers, cardiovascular diseases and depression. Severe obesity is associated with premature mortality. Childhood obesity increases the risk of obesity in later life and can contribute to development of type 2 diabetes, heart disease and high blood pressure.

Ongoing research has demonstrated, however, that the relationships between obesity, health and disease are complex and not entirely understood. Some people who are obese are metabolically healthy, while others of normal weight are metabolically unhealthy, as indicated, for example, by levels of insulin sensitivity, blood lipid profiles and blood pressure. Overweight and mild obesity have been found in some studies to be protective of health. Also, small amounts of weight loss can produce improvements in metabolic health without achieving an "ideal" weight. Indeed, improvements to physical health can be made through changes in physical activity and diet in the absence of weight loss.

Harm is generated through the perpetuation of weight bias, stigma, bullying and discrimination. Alongside the obesity epidemic is a "shadow epidemic" of weight bias. Weight bias is negative weight-related attitudes, beliefs, assumptions and judgments toward individuals who are overweight and obese (Puhl, 2011; Ciao &Latner, 2011). Ironically, as obesity rates have increased, so have rates of weight bias, stigmatization and discrimination. There is extensive evidence demonstrating strong links between weight bias and harm to mental health and well-being, including poor body image, low self-esteem, depression, anxiety and other psychological disorders, and suicidal thoughts and actions. Physical harm comes from the resulting unhealthy weight control practices which in turn can contribute to obesity, disordered eating and eating disorders. In addition, weight bias may cause obese and overweight people to avoid physical activity and medical care.

As weight bias and societal pressures to be thin have increased, so has the incidence of disordered eating and eating disorders. Given that approximately half of Canadians are overweight or obese and that most of them, including children and youth, will experience some form of weight bias, this shadow epidemic poses a significant threat to population health and well-being.

Obesity and other weight-related issues are shaped by an "obesogenic environment" and the broader social, cultural, economic, political and environmental contexts in which we live, learn, work and play. Growing attention is being given to the "obesogenic" environment – the sum of influences that living conditions have on promoting obesity in individuals and populations. These influences include, for example, sedentary work, transport, food production, food marketing, opportunities for recreation and physical activity.

Beyond the obesogenic environment are the social determinants of health such as equity, income, education, gender and healthy child development that influence opportunities for mental and physical well-being. Obesity follows the social gradient, so that, just as people tend to be less healthy than those the next step above them on the income ladder, so too is there more obesity as income drops. Efforts to promote healthy weights and mental well-being need to ensure that they do not inadvertently increase disparities in health status or behaviours.

PART II: Weight Related Paradigms

The review of evidence regarding the interrelationships of overweight, obesity, weight bias, stigma and discrimination, and mental well-being revealed four major paradigms of thought around weight-related issues.

Paradigm One approaches to overweight and obesity promote a "normal" weight and body mass index (BMI) by reducing caloric intake and increasing energy expenditure. Unfortunately, after five decades of attempting to address obesity this way, rates of overweight and obesity have continued to rise.

Also, research shows that this approach can cause mental and physical harm, stemming from the unrealistic expectation that weight loss is simple and that people who cannot achieve and sustain weight loss are "failures". In reality, significant and sustained weight loss is difficult to achieve. While there are exceptions, most people who lose weight through dieting regain the weight they lost and often more, resulting in possible increased risk for cardiovascular disease. Self-recrimination and psychological harm may accompany repeated failures to achieve and sustain an "ideal" weight.

Clearly, obesity is a serious issue that cannot be ignored. However, experience has shown that a focus on weight and weight loss is not particularly effective and can, in many cases, cause harm to health. Perhaps a more effective approach would emphasize improved metabolic health through healthful eating and physical activity, rather than significant weight loss.

Paradigm Two approaches overweight and obesity through an ecological approach that addresses the "obesogenic" environment. As such, it extensively broadens the range, number and levels of options available to stem the obesity tide. Unfortunately, approaches based on Paradigm Two are extremely difficult to accomplish, as they require coordinated action across multiple sectors and settings. In addition, Paradigm Two is almost completely focused on issues of weight, obesity and poor physical health, with limited protection and promotion of mental well-being.

Paradigm Three approaches to weight-related issues emphasize attaining the best weight possible while optimizing psychological and physical health for adults. They are based on the increasing body of evidence that, for some adults, health can be improved through healthy eating and exercise, with little or no weight loss. The approach is often characterized as "weight neutral" and "non-dieting", and actions are grounded in health promotion principles that are oriented towards well-being and empowerment, promoting mental well-being for people no matter their weight, size or shape. Sustainable health behaviours are emphasized, including intuitive eating and enjoyable leisure and physical activity.

Paradigm Four moves beyond the individual level to act on the broader socio-environmental context to promote positive mental health and physical well-being. The goal is to promote flourishing in mind and body for all. This approach opens opportunities to address a number of pressing health and social issues, including but well beyond weight-related issues. While it is challenging to mobilize and coordinate the many resources required to tackle the obesogenic environment, this is recognized as a promising way to improve the health of the population.

PART III: Shifting from Weight to Well-Being in Practice and Policy

The final part of this paper highlights practical health policies and practices that address issues of weight in ways that protect and promote mental well-being, grounded primarily in Paradigms Three and Four. It recommends actions in three areas:

- Tackle weight bias, stigma, bullying and discrimination among professionals and in the public sphere.
- Support individuals and families to prevent or address weight-related issues.
- Address the determinants of mental and physical well-being for all, through five areas of particular relevance to weight-related issues:

    1. Promote healthy child and youth development.
    2. Develop vibrant, inclusive communities.
    3. Shift cultural norms and promote respect for size diversity.
    4. Implement healthy public policy.
    5. Adopt a whole-of-government approach.

To evaluate this shift in approach, the paper lists ways to measure mental well-being, flourishing and weight-related issues. It also suggests areas for future inquiry, research and evaluation.

Conclusion

From *Weight to Well-Being* challenges current approaches to addressing overweight and obesity. It makes the case that:

- The simple "cure" of weight loss can harm mental and physical health.
- Improvements to physical health can be made through changes in physical activity and diet, with little or no weight loss.
- The "shadow epidemic" of weight bias poses a significant threat to population health. Any solutions to the obesity crisis need to integrate mental and physical health and well-being.
- There is significant potential in shifting to an even broader approach that addresses the determinants of mental and physical well-being - flourishing.

Further, the paper suggests that health professionals should review their concepts of healthy weight, including:

- What *is* a "healthy" weight?
- What is the best way for each individual to achieve and maintain a "healthy" weight?
- What psychological harm can be caused by repeated failures to do so?
- Should the focus be on *weight loss*, or should it be on assessing and improving *metabolic health* through healthful eating and physical activity?

Obesity, alongside other pressing issues such as poverty, homelessness and the growing gap between rich and poor, is a complex problem. A growing body of evidence has demonstrated the importance of addressing the underlying conditions that predispose people to poor health. Five approaches to addressing this long-term solution are provided, including supporting communities and societies to foster health and well-being for all. In the meantime, approaches to overweight and obesity should be adapted to reduce any inherent harm, by integrating mental and physical health and well-being.

2.0 Introduction

More than half of Canadians are overweight or obese (Statistics Canada, Online). As the prevalence of obesity in the population has risen, so too have concerns about an "obesity epidemic" and its impact on the incidence of chronic disease, health of the population and associated costs to the health care system. For many, particularly young girls and women (but increasingly, young men), pressure to be thin can lead to disordered eating, unhealthy weight-control practices, eating disorders or other concerns within the "spectrum of weight-related issues."

Obesity is a complex phenomenon deeply entrenched in our social and cultural fabric. Despite decades of research and interventions, overweight and obesity in affluent societies around the globe has continued to rise. It is increasingly clear that traditional approaches to tackling weight-related issues have not worked.

There is no question that obesity and other weight-related issues can pose serious threats to health. However, mounting evidence has linked many current obesity reduction approaches with harm to mental and physical health and well-being. Facile "energy in = energy out" equations, that ignore mental health and well-being and the broad socio-environmental determinants of health that powerfully influence individual behaviours, can result in unintended negative consequences, particularly weight-bias.

In British Columbia, 44 per cent of adults and 16 per cent of youth aged 12 to 17 are overweight or obese (Statistics Canada, Online). Current research suggests that, depending on the situation and setting, most overweight and obese people, including children and youth, face stigma of some sort (Puhl & Heuer, 2009; Friedman et al., 2005). Weight bias, stigma, bullying and discrimination can seriously harm mental (and, eventually, physical) well-being (Puhl & Heuer, 2009; Rudd Center for Food Policy and Obesity, 2012; Friedman et al, 2005).

It is often said that there is no health without mental health. Physical and mental health and well-being cannot be disentangled – each affects the other in myriad ways. Yet, this notion is neglected in most responses to issues of overweight and obesity. All people, no matter their weight or size, should have the opportunity to flourish – to live full, enjoyable and productive lives, to have a sense of purpose in life, to be connected in caring relationships, to be respected and valued by others, and to make meaningful contributions to society. Thus, to neglect mental well-being in conversations about weight is folly.

In this paper, mental well-being is brought to the fore in a review of current approaches to addressing overweight and obesity. The focus is on mental well-being, or what is often referred to as positive mental health (Canadian Institute for Health Information, 2009). Mental well-being has little to do with mental illness. Rather, it is the presence of what Keyes (2002) calls the "symptoms of flourishing": emotional well-being (e.g., happiness, life satisfaction), psychological well-being (e.g., self-acceptance, personal growth, meaning in life), and social well-being (e.g., social acceptance). The Public Health Agency of Canada (PHAC) defines positive mental health as:

> The capacity of each and all of us to feel, think and act in ways that enhance our ability to enjoy life and deal with the challenges we face. It is the positive sense of emotional and spiritual well-being that respects the importance of culture, equity, social justice, interconnections and personal dignity (Public Health Agency of Canada, Online).

This brings us to a core question for health professionals and the question that this discussion paper informs: "How can healthy weights be promoted while also protecting and promoting mental (and physical) well-being?"

The British Columbia Provincial Health Services Authority (PHSA) commissioned this review of evidence regarding the interrelationships among obesity, overweight, weight bias and mental well-being. **It is not a systematic review of all the research literature on the subject.** Rather, it summarizes some new and emerging research which may challenge our traditional approaches to weight-reduction. It has been written to generate an informed discussion on health practice and policy to promote healthy weights, while protecting and promoting the mental well-being of British Columbians. Continued monitoring of the research evidence is required to ensure that practice and policy remains informed by this evolving knowledge base.

This paper addresses three particular questions: *[See Appendix 3 on page 111 for the detailed list of questions.]*

1. What is weight bias and stigma? What is the evidence regarding the relationship between current approaches to promoting healthy weights and body image, weight bias, stigma and discrimination and mental health?
2. What are the linkages and relationships across the life course among overweight, obesity and mental health, mental illness, and the social determinants of health?
3. What practices are conducive to promoting healthy weights *and* mental well-being?

The review also highlights promising public health policies and practices that address issues of weight and mental well-being. In addition, it identifies current issues and practices in promoting healthy weights in other Canadian provinces and territories, and internationally. Finally, the review identifies innovative or emerging new public health policies and practices that show promise for addressing issues of weight and promoting mental well-being, and identifies considerations for their implementation.

3.0 Methodology

To provide guidance and assistance in shaping the scope and content of this paper, a small reference group of people representing various agencies across the PHSA worked with the consultants throughout its development. The group was instrumental in providing ideas, direction and linkages to possible key informants.

A search of the peer reviewed literature was conducted on published papers from North America, Europe, Australia and New Zealand related to the inter-relationships between positive mental health, obesity and weight bias across the life course. The search strategy was developed and executed in MEDLINE, then adapted as required to match the thesauri of three other databases: PubMed, PsycINFO and the social sciences databases within CSA Illumina, including Sociological Abstracts and Social Services Abstracts.

A combination of keywords was used across four main themes: obesity; determinants of obesity and cultural attitudes towards obesity; approaches to the promotion of healthy weight; and the impact or harms resulting from current strategies to addressing obesity. A quick survey of the literature revealed an exponential growth of research articles related to obesity, particularly those linked to mental health, in the past several years.[1] Because of the extremely high number of journal articles related to obesity and overweight, the search was limited to English language literature from 2007 to 2012. A total of 1,625 abstracts were retrieved. A preliminary review of titles and abstracts narrowed this list down to 963 citations; these were subsequently screened for relevance.

Reference lists of key articles were used to locate additional articles of relevance, many of which dated to the 1990s and early 2000s. This generated many more articles which further informed the authors' understanding and conceptualization of the complex interrelationships among overweight, obesity, weight bias, stigma and discrimination, and positive mental health. A scan of the gray literature was also conducted, focusing primarily on Canadian approaches to addressing weight issues, and secondarily on those of other countries known to be active in this area. Additional details of the search strategy are provided in Appendix 4 on page 112.

In addition, twelve key informant interviews were conducted with fourteen experts in the field, identified through the literature review and/or discussions with reference group members. In particular, Canadian obesity researchers and international researchers with expertise in the fields of weight stigma and bias were sought out. Interviews were also conducted with people who have successfully promoted healthy weights and positive mental health, to bring a contextualized practice and policy lens to this work. The list of key informants is attached as Appendix 2 on page 109 and the interview guide is attached as Appendix 5 on page 115.

A critical review of the evidence from these three sources (i.e., peer-reviewed literature, gray literature, key informant interviews) was conducted to inform the questions set forth by the PHSA.

1 Dorfman and Wallack (2007) note that a search of the word "obesity" in scholarly journals in 1995 returned 3600 citations in Google's Scholar database. The same search returned 20,300 citations in 2004, an increase of 464%. When the authors inserted the term "obesity" into Google Scholar, there was a return of 1,550,000 citations.

Limitations

A systematic review of the academic literature pertaining to all of the topics of interest to PHSA was not within the scope of this project. Also, given the broad scope of questions to be addressed, a comprehensive environmental scan was not possible. Rather, every attempt was made to identify key issues and the most salient documents and resources to develop a solid understanding of the issues. Key informants augmented written knowledge and often contributed suggestions of additional literature for exploration. This review is thus heavily reliant upon key informant interview findings, a broad, but not exhaustive selection of the published research literature, and on gray literature that could easily be accessed through the Internet. As such, this report is best viewed as an initial step in gathering knowledge to inform British Columbia's public health efforts to address weight-related issues in ways that protect and promote mental well-being.

Overview of the Paper

Part I of this paper reviews the evidence surrounding obesity and weight-related issues. Part II explains four paradigms of thought that shape thinking around weight-related issues. Long-standing "weight-focused" approaches to addressing issues of overweight and obesity – Paradigms One and Two – are described, including emerging debates in the literature about the effectiveness of these approaches and some of their limitations. Paradigms Three and Four, which focus on well-being, are then detailed. Part III of the report provides recommendations on how to approach weight-related issues in ways that protect and promote of mental well-being, grounded primarily in Paradigms Three and Four. Recommendations include improving current methods and expanding the repertoire of approaches to addressing weight-related issues. The paper concludes with a summary of findings and suggestions for next steps.

4.0 PART I: Physical and Mental Consequences of Obesity

Growing alarm over the increasing prevalence of obesity has spurred multiple avenues of research that are generating new evidence and insights into weight-related issues. A growing body of evidence suggests that the links between weight loss and health improvements are more complex than originally understood. Before delving into approaches to addressing overweight and obesity, Part I of this paper reviews evidence about the physical and mental consequences of obesity. Specifically, three broad questions are investigated:

1. What is the relationship between overweight, obesity, mortality and morbidity; and are weight and body mass index (BMI) the most appropriate measures of physical health for individuals?
2. Is significant, long term weight loss to achieve an "ideal weight" a practical goal for individuals and will it improve their health?
3. What is all the focus on weight, and the pressure to lose weight and be thin doing to our mental well-being?

The "Obesity Epidemic"

Overweight and obesity are defined by the World Health Organization (WHO, Online) as "abnormal or excessive fat accumulation that may impair health". Overweight and obesity is commonly calculated using body mass index (BMI), by dividing a person's weight (in kilograms/pounds) by height (in metres/feet-inches) squared. The Public Health Agency of Canada (2011) defines *overweight* as a BMI between 25 and 29.9 and obesity as a BMI over 30.

Worldwide, obesity has more than doubled since 1980. In 2008, more than one and a half billion adults worldwide were overweight and more than half a billion were obese. Nearly 43 million children worldwide under the age of five were overweight in 2010 (WHO, Online). An "obesity epidemic" could threaten public health and the public health system – a great concern for governments and health organizations, particularly in more affluent countries(Government Office for Science, 2007).

These concerns are grounded in the strong links that have been found between obesity and sleep apnea, type 2 diabetes, asthma, gallbladder disease, osteoarthritis, chronic back pain, several types of cancers, cardiovascular diseases (i.e., hypertension, stroke, congestive heart failure and coronary artery disease) and depression (PHAC, 2011). Severe obesity is associated with premature mortality (PHAC, 2011). Childhood obesity increases the risk of obesity in later life and can contribute to development of type 2 diabetes, atherosclerotic heart disease and high blood pressure (PHAC, 2011).

Consistent with global trends, rates of overweight and obesity in Canada have been steadily increasing over the past three decades, particularly among children and youth, as noted in Table 1.

Table 1: Prevalence of overweight and obesity in Canada and British Columbia

Adults (Canada)

- Over the past three decades, the prevalence of obesity has nearly doubled among Canadian adults (PHAC, 2011).
- Over one in four adults are obese (PHAC, 2011).
- In 2010, almost 61 per cent of males and 44 per cent of females were overweight or obese; combined, ***52.3 per cent of Canadian adults were overweight or obese***[ii] (Statistics Canada, Online).
- Obesity rates for both men and women increase with age, starting at age 20 and continuing until age 65. After age 65, obesity rates decline (PHAC, 2011).

Children and Youth (Canada)

- 6.3% of children aged 2 to 5 are obese (PHAC, 2011)
- 8.6% of children and youth aged 6 to 17 are obese (PHAC, 2011)
- In 2010, almost 24 per cent of males and 16 per cent of females aged 12-17 were overweight or obese; combined, ***20 per cent of Canadian youth aged 12 -17 were overweight or obese***[ii] (Statistics Canada, Online).

British Columbia (BC)

- In 2009, British Columbia reported the lowest levels of adult overweight and obesity among the provinces (Woodland & Drasic, 2011).
- In 2010, almost 55 per cent of male and 34 per cent of female adults were overweight or obese; ***combined, 44.4 per cent of British Columbian adults were overweight or obese,*** compared to the national figure of 52.3 per cent.[ii]
- In 2010, almost 20 per cent of male and 13 per cent of female youth aged 12-17 were overweight or obese; combined, ***16.4 per cent of BC youth aged 12-17 were overweight or obese***[ii] compared to the national figure of 20 per cent (Statistics Canada, Online).

ii Based on self-reported data

Finally, there is an emerging debate in the literature about whether prevalence of obesity is continuing to increase, slow appreciably or even plateau. Two recent reviews of international data suggest that the prevalence of obesity worldwide is beginning to slow or plateau in both children and the population at large, although this is less evident in groups with lower socioeconomic status (Olds, et al., 2011; Rokholm, et al., 2010).

The Relationship Between Overweight, Obesity, Mortality and Morbidity

The WHO (2011, Online) states that overweight/obesity is the fifth leading risk factor for global deaths, resulting in the deaths of at least 2.8 million adults each year. In addition, overweight and obesity account for 44 per cent of the diabetes burden, 23 per cent of ischaemic heart disease and between 7 and 41 per cent of certain cancer burdens.

Overweight and obesity is prevalent in the Western world, and there are strong associations between overweight, obesity and adverse health outcomes; however, research suggests that the relationships among these phenomena are more complex than originally thought (Sharma, personal communication, 2012; PHAC 2011; Flegal, et al., 2007, 2005; Government Office For Science, 2007; Perez, et al., 2007).

Some researchers, for example, have identified a J- or U-shaped relationship between body weight and mortality (PHAC, 2011; Childers & Allison, 2010; Orpana, et al., 2010; Reis, et al., 2009; Flegal, et al., 2007, 2005). That is, a number of studies show that those who are excessively thin and excessively overweight have significantly increased all-cause mortality, while those who are overweight have significantly decreased all-cause mortality (Flegal, et al., 2007, 2005). Consensus about this U-shaped relationship between weight and mortality has not been achieved in the research community. However, some researchers report a parallel progression (i.e., as weight increases so do physical health concerns) and yet others report little correlation (Ernsberger & Koletsky, 1999).

Researchers are also trying to understand a robust pattern in the epidemiological literature that has been named the "obesity paradox", in which obesity may be associated with longer survival in some diseases (Bacon & Aphramor, 2011; Amundson, et al., 2010; Harrington, Gibson & Cottrell, 2009; Campos, et al., 2006). For example, some obese persons with type 2 diabetes, hypertension, cardiovascular disease and chronic kidney disease may live longer than thinner people with these conditions. Also, it appears that obese people who have had heart attacks, coronary bypass, angioplasty or haemodialysis may live longer than thinner people with these histories. This evidence, which suggests that obesity may confer a survival benefit, has some researchers asking whether perhaps the definition of obesity needs to be examined, and if perhaps not all fat is equal (Amundson, et al., 2010).

Another body of evidence suggests that the impact of obesity on physical health outcomes, where there are no other risk factors present (e.g., high blood glucose, high blood lipids, high blood pressure, physical inactivity), is unclear. It has been observed since the 1980s that there is a subset of the obese population, perhaps 20 to 30 per cent, who, despite carrying excessive weight, are metabolically normal or healthy (Hayes, et al., 2010; Stefan, et al., 2008; Wildman, et al., 2008; Karelis, et al. 2005; Karelis, et al., 2004; Brochu, et al., 2001; Sims, 2001; Dvorak, DeNino, Ades & Poehlman, 1999). There is debate in the literature about the merit of weight reduction for this group. Some studies have shown that obese but metabolically normal individuals may still be at increased risk for mortality (e.g., Kuk &Arden, 2009) and that lifestyle-induced weight loss is still beneficial for improving selected cardio-metabolic risk factors (Janiszewski & Ross, 2010). It is important to note that these studies have focused on metabolic health in relation to risk for diabetes and heart disease, but not necessarily the impact of obesity on other health problems and diseases such as sleep apnea, osteoarthritis, back pain and cancer.

It is also possible to be of *normal* weight and BMI but metabolically *unhealthy* (Romero-Corral, et al., 2010; Wildman, et al., 2008; Karelis et al., 2004; Ruderman, et al., 1998; Ruderman, et al., 1981). For this non-obese population, lifestyle interventions are recommended to reduce risks for development of chronic disease.

More clinical research is required to fully understand these phenomena. Further, since it was not within the scope of this project to conduct a systematic review of these studies, such a review is recommended in order to determine implications for clinical practice. Nevertheless, taken together, the findings reported above appear to belie the simple assumption that all overweight people are unhealthy and that all normal weight people are healthy and not at risk for development of health problems. Two important messages are implied. First, at the individual level, weight and BMI are, at best, markers of potential health problems. They signify a need for further investigation regarding metabolic health, but they do not equate to health or disease in and of themselves. There are more accurate and appropriate measures of health and pathology (i.e., blood pressure, lipid profiles, insulin sensitivity and so on). The second message is that healthy eating and physical activity to promote metabolic health are important for everyone, no matter their weight, size or shape.

Assessing Overweight and Obesity

Given the complex relationship between obesity and health, BMI may be a useful indicator for tracking obesity at a population level, but its use as a health indicator at an individual level is limited (Sharma & Kushner, 2009; Government Office For Science, 2007). BMI may work best as a "first screen," indicating the need for further assessment regarding risks to health, taking into account the distribution of fat and muscle (Shea, Randall & Sun, 2011), and waist circumference, which has a closer association with morbidity and mortality than BMI (Government Office For Science, 2007).

A new strategy for clinical practitioners that considers both weight and metabolic health is the Edmonton Obesity Staging System designed by Sharma and Kushner (2009). This system is used to complement the BMI when describing the severity of obesity for individuals, and to determine the need for treatment. It is outlined in Table 2. The Edmonton Obesity Staging System is currently only being used to assess adults, though a similar model for children is in development.

Table 2: The Edmonton Obesity Staging System

Stage 0: Patient has no apparent obesity-related risk factors (e.g., blood pressure, serum lipids, fasting glucose, etc. within normal range), no physical symptoms, no psychopathology, no functional limitations or impairment of well-being.

Stage 1: Patient has one or more obesity-related sub-clinical risk factors (e.g., elevated blood pressure, impaired fasting glucose, elevated liver enzymes, etc.), mild physical symptoms (e.g., dyspnea on moderate exertion, occasional aches and pains, fatigue, etc.), mild psychopathology, mild functional limitations and/or mild impairment of well-being.

Stage 2: Patient has one or more established obesity-related chronic diseases requiring medical treatment (e.g., hypertension, type 2 diabetes, sleep apnea, osteoarthritis, reflux disease, polycystic ovary syndrome, anxiety disorder, etc.), moderate functional limitations and/or moderate impairment of well-being.

Stage 3: Patient has clinically significant end-organ damage such as myocardial infarction, heart failure, diabetic complications, incapacitating osteoarthritis, significant psychopathology, significant functional limitations and/or significant impairment of well-being.

Stage 4: Patient has severe (potentially end-stage) disabilities from obesity-related chronic diseases, severe disabling psychopathology, severe functional limitations and/or severe impairment of well-being.

Source: Sharma. A. Online. Retrieved March 6, 2012

The quest to understand the biological correlates and causes of overweight and obesity, and their links to disease, continues. The wide array of medical journals devoted to obesity-related research is a testament to the extensive biomedical research that is underway. Some of the areas under investigation include: genetic factors, hormonal and neural pathways, the importance of fat distribution and the role of adipose tissue in appetite regulation (Government Office for Science, 2007). Findings from this research will be crucial to the development of new and more effective ways of addressing overweight and obesity among individuals.

The Difficulty of Sustaining Significant Weight Loss

Numerous meta-analyses of randomized controlled trials have shown that weight loss programs don't produce, on average, any more than ten per cent weight loss at one or two year follow-ups (Sharma, p.c., 2012; Brownell, et al., 2009; Harrington, et al., 2009; Puhl & Heuer, 2009; Government Office For Science, 2007; Mann, et al., 2007; Ogden, et al., 2007; Robison, et al. 2007). There is agreement among a number of expert panels and scientific groups (including the Institute of Medicine, World Health Organization, Canadian Task Force of Preventive Health Care and the National Heart, Lung and Blood Institute) that health care providers should counsel patients to set a goal of no more than ten per cent reduction in total body weight, rather than struggle to attain ideal body weight (Puhl & Heuer, 2009).

It has been conservatively estimated that between one-third and two-thirds of people who embark on calorie restricted diets regain *more* weight than they lost on their diets, and dieters who manage to sustain their weight loss are the "rare exception" (Mann, et al., 2007, pg. 230). The typical pattern is

rapid initial weight loss, a plateau of weight at six months, followed by gradual but continuous gain until reaching a stable weight (Brownell et al., 2009). There are physiological reasons for this phenomenon, including homeostatic mechanisms that protect the body from starvation by reducing metabolism, retaining energy stores and maintaining body weight (Government Office for Science, 2007).

In addition, restrictive dieting leads to increased appetite sensations, higher frequency of obsessive thoughts about food and eating, and greater risk of depression and overeating (i.e. disordered eating). This can set up a vicious circle in which failure to sustain weight loss leads to reduced self-esteem, increased body dissatisfaction and feelings of helplessness (Gagnon-Girourard, et al., 2010). Only bariatric surgery has proven successful as a long term weight loss treatment for extremely obese adults who need or want to lose more than 15 per cent of their body weight (Sharma, p.c. March, 2012).

Weight Fluctuations Associated with Dieting

The common cycle of weight fluctuations among dieters, associated with the repeated loss and regain of weight, has been identified as harmful (Diaz, et al., 2005; Lissner, et al., 1991; Mann, et al., 2007). Montani, et al. (2006) cite mounting evidence from population-based studies of increased cardiovascular risks due to physiological changes associated with weight cycling, including insulin resistance and dyslipidemia. Fluctuations in blood pressure, heart rate, sympathetic activity, glomerular filtration rate, blood glucose and lipids that may occur during weight cycling place additional load on the cardiovascular system, particularly when repeated over time. Researchers also observed that weight cycling doesn't only affect people with obesity; rather, it also affects those of normal weight, particularly young women who diet. There is concern that the increasing incidence of weight cycling among girls and young women, at ever-younger ages, is likely to become a serious public health problem.

Potential Health Benefits Through Moderate or No Weight Loss

Evidence suggests that "even without reaching an ideal weight, a moderate amount of weight loss can be beneficial in terms of reducing levels of some risk factors, such as blood pressure" (Ogden et al., 2007, pg., 216). It is possible for people with obesity to lose five to ten per cent of their body weight and achieve greater health, without reaching a "normal" weight or BMI (Sharma, p.c., March 2012).

Further, behavioural changes *without* weight loss can contribute to better health. Increasing physical activity, for example, has beneficial effects on aerobic fitness, insulin sensitivity, blood pressure and coronary heart disease risk reduction, regardless of weight (Freedhoff & Sharma, 2010, pg. 39; Kraus & Slentz, 2009; Kraus, et al., 2002; Lamarche, et al., 1992). This exercise need not be vigorous. Kraus and Slentz (2009, pg. S26) observed that metabolic indicators and "cardiovascular risk factors were significantly affected by moderate-intensity exercise, suggesting that regular walking might be just as effective, if not more so than vigorous exercise in favourably modifying cardiovascular risk". Appel, et al. (1997) reported that a diet rich in fruits, vegetables and low fat dairy foods, with reduced saturated and total fat, can substantially lower blood pressure.

The "Shadow Epidemic": Weight Bias, Stigma, Bullying and Discrimination

> "Numerous studies have documented harmful weight-based stereotypes that overweight and obese individuals are lazy, weak-willed, unsuccessful, unintelligent, lack self-discipline, have poor willpower, and are non-compliant with weight loss treatment. These stereotypes give way to stigma, prejudice and discrimination against obese persons in… the workplace, health care facilities, educational institutions, the mass media and even in close interpersonal relationships" (Puhl & Heuer, 2009)

Perhaps one of the most debilitating aspects of overweight and obesity is living with the stigma and discrimination with which they are associated. It seems ironic that as the number of overweight and obese people in North America has continued to rise, so has the rate of weight-based discrimination. Between 1995 and 2006, there was an estimated 66 per cent increase in weight discrimination in the United States (US) bringing it to par with rates of racial discrimination in that country (Puhl, Andreyeva & Brownell, 2008).

Current research suggests that almost all overweight and obese people face stigma of some sort, with experiences of stigmatization increasing with BMI (Puhl & Heuer, 2009; Friedman et al., 2005). The most common forms of stigma identified in research are: (1) encountering negative assumptions from others (faced by 70 and 80 per cent of those surveyed); (2) receiving negative comments from children (reported by 63 to 76 per cent); and (3) encountering physical barriers and obstacles (reported by half to all of those surveyed). Between half and 69 per cent of overweight and obese people reported encountering bias from a doctor. Children and youth are also subject to weight bias and associated stigma, bullying and discrimination, all of which can seriously harm mental and physical well-being (Puhl & Heuer, 2009; Rudd Center for Food Policy and Obesity, 2009; Friedman et al., 2005). If there is indeed an "obesity epidemic" then there is also an accompanying shadow epidemic of weight-related bias, stigma, bullying and discrimination. Key definitions used in this document are outlined in Table 3.

Table 3: Definitions of weight bias, stigma and stigmatization, discrimination and bullying victimization

Weight bias - negative weight-related attitudes, beliefs, assumptions and judgments toward individuals who are overweight and obese (Puhl, 2011; Ciao &Latner, 2011). These attitudes are often manifested by false and negative stereotypes which cast overweight and/or obese individuals as being physically unattractive, incompetent, lazy, unmotivated, less competent, non-compliant, lacking self-discipline and sloppy (Puhl & Heuer, 2009; Rukavina & Li, 2008).

Weight stigma – the possession of some attribute or characteristic that is devalued in a particular social context (Puhl & Brownell, 2003, pg. 213). It is a "social sign that is carried by a person who is a victim of prejudice and weight bias" (Washington, 2011, pg. 1).

Stigmatization - is "the process by which the reaction of others interferes with individuals' normal identity and causes them to be socially discredited" (Goffman, 1963, cited in Brewis, 2011, pg. 116).

Table 3: Definitions of weight bias, stigma and stigmatization, discrimination and bullying victimization

Weight discrimination – "unequal, or unfair treatment of people because of their weight" (Puhl, n.d., pg.1). Thus, discrimination extends beyond beliefs and attitudes to unjust or unfair actions and behaviours toward people who are overweight or obese (Ciao & Latner 2011). Discrimination can take many forms, from verbal comments and derogatory remarks to excluding, avoiding, ignoring or rejecting, to cyber-bullying, physical aggression and victimization (Puhl, 2011).

Bullying victimization - refers to an individual being repeatedly exposed to the negative actions of others with the intention to hurt. This victimization can be overt (physical – e.g., hitting), verbal (e.g., name calling) or relational (e.g., social exclusion) (Griffiths & Page, 2008, pg. S39).

A growing body of evidence indicates that the consequences of weight bias, stigma and discrimination are serious and far-reaching. Some researchers have argued that weight bias, stigma and discrimination may, in fact, cause many of the negative health outcomes of obesity (Rudd Center for Obesity and Food Policy, Online; Vartanian & Novak, 2011; Maclean, et al., 2009; Meunnig, et al., 2008a, Puhl & Latner, 2007; Schwartz & Brownell, 2007; Gortmaker et al., 1993). In other words, many physical and mental health consequences occur because of the experience of weight-related stigmatization and discrimination, not from being obese (Puhl, 2011). Yet, for the most part, weight discrimination goes unchallenged in the Western world; it has been coined "one of the last forms of socially acceptable discrimination" (Rudd Center for Food Policy & Obesity, 2009). Brewis (2011, pg. 127), an anthropologist, notes that:

> "Obesity is understood at a cultural level as a symbol of failure to maintain self and health. Our ideas about fat being bad are so fundamental to our social and cultural values and so profound and pervasive that they are barely ever questioned."

Weight discrimination is learned at an early age. A study of preschoolers revealed that weight bias was present in three year olds and was much stronger in five year olds (Cramer & Steinwert, 1998), demonstrating the strength of societal norms regarding weight, body size, overweight and obesity. Failure to challenge and eliminate weight bias and discrimination leaves people vulnerable to injustice, unfair treatment and impaired quality of life (Puhl & Heuer, 2009). With almost half of the Canadian population being overweight or obese, this raises serious concerns.

While weight bias, stigma and discrimination are not a direct result of the traditional lifestyle change approach to obesity, they are perpetuated by our culture, which values thinness and blames those who are not thin, casting them as "defective" and as "failures" in achieving the cultural ideals of "mind over body" impulse control and self denial (Brewis, 2011; Washington, 2011; Rudd Center for Obesity and Food Policy, Online). Blame and responsibility for overweight and obesity is placed upon individuals rather than the environmental conditions that cause obesity (Rudd Center for Obesity and Food Policy, 2009).

It has been suggested that weight bias and stigma will motivate individuals to change their behaviours (Puhl & Heuer, 2009). However, there is abundant research to the contrary, showing that bias and stigma have significant negative consequences, including overeating and avoidance of exercise and psychological harm.

Effects on Children and Youth: Weight-Related Teasing and Bullying

> "Weight-based victimization and bullying places millions of [children and] youth at risk for negative psychosocial, physical health and academic outcomes. Overweight and obese children and youth who are teased or bullied because of their weight have heightened vulnerability to depression, anxiety, lower self-esteem and poor body image" (Puhl, 2011, pg. 360).

Children and youth who are overweight or obese are more likely to be victims of weight-based teasing, bullying and victimization than their average weight peers, and the incidence of stigmatization increases with weight (Puhl, 2011). Research suggests that one-third of girls and one-quarter of boys in the US report weight-based teasing from peers. For the heaviest students, the incidence increases to approximately 60 per cent (Puhl, Luedicke & Heuer, 2011). Given similarities between US and Canadian cultures and the fact that more than a quarter of adolescents in Canada are overweight or obese (PHAC, 2011), this creates significant concerns about the vulnerability of millions of Canadian children to weight bias and its negative health consequences (Puhl, Luedicke & Heuer, 2011).

Parents, even the most well-intentioned, are also not immune to demonstrating weight bias. Studies of overweight or obese youth have found that between 23 and 58 per cent of respondents report being teased about their weight by their parents (Puhl, 2011). This finding is consistent across racial groups and is associated with negative outcomes including poor psychological health (e.g., depression, anxiety, low self-esteem, bodily dissatisfaction) and maladaptive eating and weight control behaviours (e.g., binge eating)(Puhl, 2011, pg. 360). Parents of overweight or obese children can also be targets of weight bias and stigmatization (Schwartz & Puhl, 2003).

A recent study (Puhl, Luedicke & Heuer, 2011) provides insight into the types and frequency of victimization that overweight or obese students experience in high school. This US survey of 1555 adolescents examined adolescents' observations of and reactions to weight-based victimization. It found that high percentages of students had observed their overweight or obese peers being teased or made fun of at school. Specifically, the survey found that:

- 92% of students reported witnessing overweight or obese peers being made fun of
- 91% observed them being called names
- 88% observed them being teased in a mean way
- 85% observed them being teased during physical activity
- 76% observed them being ignored or avoided
- 67% observed them being excluded from activities
- 57% observed them being verbally threatened, and
- 54% observed them being physically harassed.

While the study focused on bullying by peers, other recent studies have identified that teachers can also be important sources of weight bias. Teachers have reported having lower expectations of overweight and obese students across a range of abilities and domains, and they endorse negative stereotypes toward obese people (Puhl, 2011, pg. 360).

The Psychological Consequences of Weight-Related Bullying and Victimization in Youth

The psychological consequences of weight-based bullying and victimization are many and serious. They include: (Puhl, 2011; Griffiths & Page, 2008)

- heightened vulnerability to depression
- anxiety
- lower self-esteem
- low self confidence
- loneliness due to social isolation and exclusion
- body dissatisfaction
- poor body image
- suicidal thoughts and behaviours

These consequences hold even after controlling for weight or BMI, meaning that the harmful effects are due to the experience of being bullied and victimized rather than body weight or size per se. These primary effects can lead to other harmful effects. Low levels of self-esteem, for example, have been associated with mental health problems such as stress, loneliness and greater likelihood of depression, and also with underachievement, increased vulnerability to substance use and self-destructive behaviours (Wang, et al., 2009). It is of great concern that victims of weight-based bullying are two to three times more likely to engage in suicidal thoughts and behaviours than their overweight peers who are not subject to bullying or victimization (Puhl, 2011; Eisenberg, et al., 2003).

The Physical Health Consequences of Weight-Related Bullying and Victimization in Youth

Teasing is a risk factor for body dissatisfaction and disordered eating, such as binge eating, and unhealthy weight control practices (Eisenberg, et al., 2003). Further, youth may avoid victimization during physical activity by withdrawing from situations where such activity is expected – gym class, for example (Puhl, 2011; Brownell, et al., 2009). This creates potential for a vicious cycle: overweight or obese youth experience weight bias, stigma, discrimination and bullying and as a result, resort to disordered eating and avoidance of physical activity which may in turn promote weight gain.

The Social Well-Being Consequences of Weight-Related Bullying and Victimization in Youth

Weight bias and bullying also extracts a toll on the social well-being of overweight or obese youth. Friendships are a key element in social and psychological development in adolescence, including developing a clear and deep sense of personal identity and a secure sense of self. The acceptance of peers is often based on appearance, body image and physical fitness. Being overweight may interfere with this peer acceptance and have long-lasting implications for well-being (Strauss & Pollack, 2003).

Overweight adolescents are more socially isolated and peripheral to social networks than normal weight adolescents. The social marginalization they experience may aggravate the emotional and social consequences of overweight in this age group (Strauss & Pollack, 2003). Some youth internalize attributions of self-worthlessness and have low self confidence and peer anxiety, all of which affect their ability to develop and maintain peer relationships (Griffiths & Page, 2008). School performance may also be affected; in a recent study, youth reported that their grades suffer because of weight-based teasing (Puhl, 2011). If this is the case, prospects for secondary education and subsequent quality jobs could be impacted.

The Longer Term Economic Consequences of Weight-Related Bullying and Victimization in Youth

A longitudinal study by Gortmaker, et al. (1993) examined the relationships between overweight in adolescence and subsequent educational attainment, marital status, household income and self-esteem among a nationally representative randomly selected sample of more than 10,000 people aged 16 to 24 in 1981.

Seven years later, women who had been overweight at the start of the study had completed fewer years of school, were less likely to be married, had lower household incomes and had higher rates of household poverty than women who had not been overweight in 1981, independent of their baseline socioeconomic status or baseline aptitude scores. These effects held even if the women had achieved a normal weight by 1988. Men who were overweight were less likely to be married, but no statistical differences were found on the other measures. The authors concluded that, since they had controlled for numerous possible mediating factors, these findings were likely due to stigmatization and discrimination associated with overweight and obese. These findings also illuminate a gender-based difference in health outcomes, with women experiencing more negative impacts and greater disadvantage than men.

Effects on Adults

Weight bias, teasing, bullying and discrimination don't end with adolescence, but extend into adult life in secondary educational institutions, in the workplace, in the media, in the health care system and in peer relationships. Obese adults face multiple forms of prejudice and discrimination because of their weight, according to a systematic review conducted in the United States (Puhl & Heuer, 2009). The review confirmed previous work showing that obese individuals in the US are highly stigmatized and face multiple forms of prejudice and discrimination because of their weight. Key findings of this review are presented in Table 4.

Table 4: Key findings from the systematic review on the stigma of obesity

Employment Settings

- There is strong evidence that a high percentage of obese employees perceive weight-based disparities in employment. In self-report studies, they describe being the target of derogatory humour, pejorative comments from co-workers and supervisors, and differential treatment because of their weight, including not being hired, being denied promotions or being fired.
- There is strong evidence that obese employees experience a wage penalty, that they face weight bias in job evaluations and hiring decisions, and that they face disadvantaged employment outcomes due to weight bias.

Health Care Settings

There is strong evidence that health-care professionals endorse stereotypes and negative attitudes about obese patients.

- Several studies from different countries have shown that 30-50% of physicians view obesity largely as a behavioural problem caused by physical inactivity and overeating; that they perceive obese people to have reduced self-esteem, sexual attractiveness and health; that they are lazier and more self-indulgent than normal weight people; and that they lack motivation. Similar findings were reported in studies of medical students.
- Physicians have reported that seeing obese patients was a greater waste of their time and that heavier patients were more annoying than patients with lower body weights.
- Physicians have been found to be ill-equipped to engage in weight management treatment practices.
- A 2006 review of nurses' attitudes toward adult overweight and obese patients reported that nurses consistently expressed biased attitudes and common stereotypes, such as that obese patients are lazy, lacking in self-control and non-compliant.
- Student dieticians have been found to harbour similar biases and stereotypes – that obese people have poor self control, lack endurance, and suffer from low self-esteem.
- In a study of 2400 patients, 53% reported receiving inappropriate comments about their weight, with doctors reported as second only to family members as the most common source of stigma among a list of over 20 possible sources.
- Obese patients who experience stigma in health-care settings may delay or forego essential preventative care. Several studies show that obese people are less likely to undergo age-appropriate screenings for breast, cervical and colorectal cancer. This avoidance of care has been traced to weight-related barriers (e.g. equipment being too small), disrespectful treatment and negative attitudes from providers, embarrassment about being weighed, and receiving unsolicited advice about losing weight.

Adult Educational Settings

There is limited evidence that:

- Weight bias contributes to educational disparities for obese students.
- Educators endorse negative weight-based stereotypes and anti-fat attitudes.
- Obese students perceive weight bias from educators.

Table 4: Key findings from the systematic review on the stigma of obesity

Interpersonal Relationships

- There is moderate evidence that obese individuals perceive weight bias from family members and friends.

Weight bias in the Media

- There is strong evidence that overweight/obese characters are stigmatized in television and film.
- There is moderate evidence that overweight/obese characters are stereotyped in children's media (TV, videos, cartoons).
- There is moderate evidence that weight bias exists in news media.

Source: Puhl & Heuer, 2009

Psychological Consequences of Weight Bias in Adults

Puhl and Heuer (2009) systematically reviewed the literature for evidence regarding the psychological and physical health consequences of weight bias. This field of inquiry is in its infancy, but early findings suggest that weight bias may contribute to psychological distress and unhealthy behaviours. They note:

> "Weight bias has concerning implications for psychological well-being of obese individuals and may increase vulnerability to depression, low self-esteem, poor body image and other psychiatric disorders. Strategies used to cope with weight bias may also affect emotional outcomes although it is not yet clear how different forms of coping influence levels of distress" (Puhl & Heuer, 2009, pg. 15). (See Table 5.)

Table 5: Psychological consequences of weight bias in adults

Depression

- There appears to be a relationship between weight bias, weight-based teasing and depression, and binge eating disorder.

Impaired mood and anxiety

- Being mistreated due to weight has been significantly associated with impaired mood and anxiety disorders, and increased likelihood of mental health services use.

Self-esteem

- Weight bias may mediate the relationship between obesity and self-esteem – more frequent stigmatization throughout one's lifetime has been correlated with lower self-esteem and self-acceptance; greater frequency of stigmatization appears to predict low self-esteem.

Body image dissatisfaction

- Several studies have documented significant positive associations between experiences of weight stigma and body dissatisfaction.

Source: Puhl & Heuer, 2009

Physical Health Consequences of Weight-Related Bias in Adults

Puhl and Heuer's review (2009) found that weight bias also has negative physical health consequences (See Table 6.)

Table 6: Physical health consequences of weight bias in adults

Eating behaviours

- Studies have shown that those who internalize negative weight-based stereotypes report more frequent binge-eating and reduced motivation to lose weight compared to those who do not internalize stereotypes.

Physical activity

- Several studies have documented reduced participation in physical activity among youths who experience weight bias; less is known about this in adults.

Cardiovascular outcomes

- Because research has documented increases in physiological stress and cardiovascular reactivity in response to racial discrimination, it is hypothesized that weight bias therefore may generate higher levels of general stress and subsequent increases in cardiovascular reactivity and vulnerability to negative health outcomes.

Avoidance of preventative and medical care

- Avoidance of preventative and medical care due to stigma poses additional risks to health.

Source: Puhl & Heuer, 2009

Weight Bias in Later Life

There is a paucity of research on the experience of weight bias, stigma or discrimination among older adults. One study about how people perceive obesity across the lifespan found "overwhelmingly negative attitudes and behaviours directed toward heavy individuals," even by people who were overweight themselves (Hebl, et al., 2008, pg. S46). The study found that thinness makes the greatest difference in attractiveness ratings among younger targets and that being obese carries greater penalty for young people. People were likely to suppress negative attitudes regarding obesity when they were evaluating older individuals, and while older people were rated more negatively than younger targets on attractiveness, they were rated more favourably on "warmth" dimensions (tolerant, sincere, good-natured, happier, content). More research is clearly needed regarding the experiences of older adults with overweight or obesity.

Internalization of Weight Bias

Much of the psychological harm from weight bias, stigma, bullying and victimization comes from internalization of negative messages about weight (Puhl & Heuer, 2011, 2009; Puhl, Moss-Racusin & Schwartz, 2007; Schwartz & Puhl, 2003). Evidence supports the notion that it is the *experience of weight-based teasing and discrimination* that plays a key role in vulnerability to mental health problems such as depression and impaired mood, for both children and adults (Vartanian & Novak, 2011; Puhl & Heuer, 2009; Meunnig, 2008; Carr & Friedman, 2005; Friedman, et al., 2005).

Studies regarding the relationship between weight and self-esteem in children aged three to twelve have shown that actual body weight is not linked to self-esteem. Rather, it is the *perception* of being "fat", negative feelings about one's body size, or the belief that parents have negative feelings about one's body size that predicts lower self-esteem in children (Cramer & Steinwert, 1998, emphasis added). Puhl and Heuer (2010) found that obese children who had the lowest self-esteem felt they had personally caused their obesity. They felt ashamed of their weight and believed it was the reason they had few friends and were excluded from social activities. The more they felt they were to blame, the worse they felt about themselves.

A study of adults (Carr, Friedman & Jaffe, 2007) found that 40 per cent of obese individuals with a BMI of 40kg/m reported being mistreated due to their weight, and this was significantly associated with impaired mood. Regression analysis demonstrated that obesity itself was not distressing and that obese persons reported better emotional health than thinner peers after controlling for a number of obesity-related stressors. Similarly, Durso and Latner (2008) found that study participants with high levels of internalized weight bias demonstrated higher concerns with body image, more depression, anxiety and stress, and lower self-esteem. These people were also more likely to have eating disturbances, more frequent binge eating episodes and a higher drive for thinness. The degree of internalization wasn't linked to actual weight or BMI, meaning that weight was not the factor in generating health concerns, but rather it was the extent to which an individual had internalized a bias against weight.

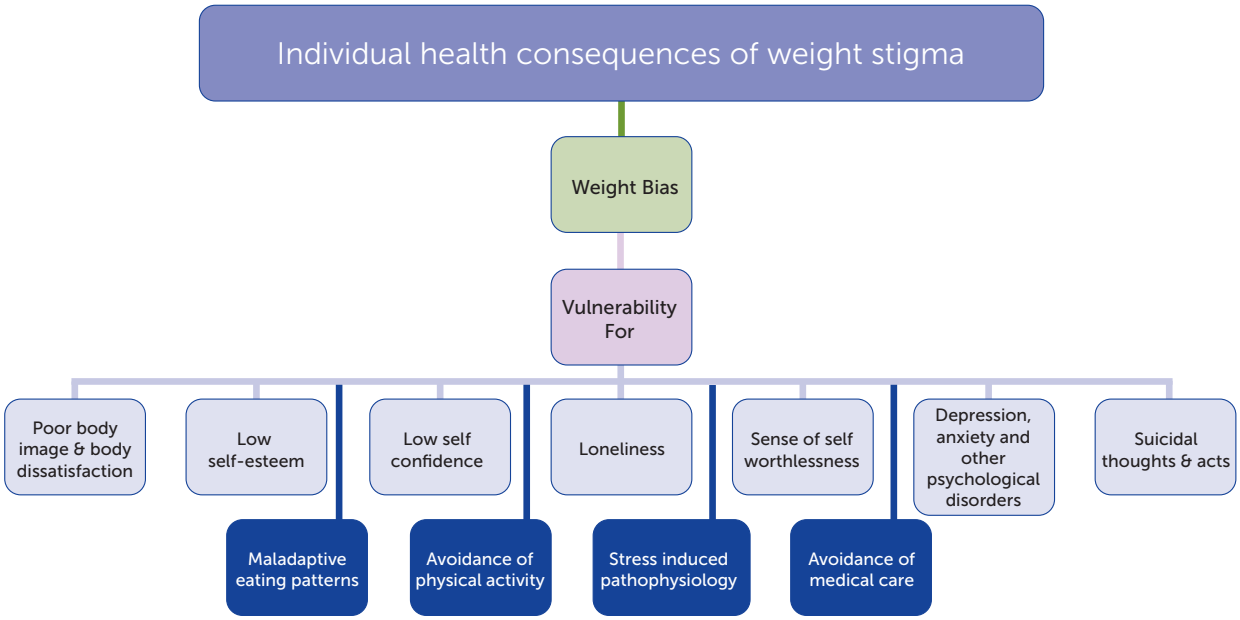
In summary, much of the psychological harm associated with overweight and obesity comes from the experience of stigma and discrimination, not weight per se, and the harm is most intense when stigma is internalized.

Weight Bias: Summary and Discussion

The consequences of weight bias, stigma and discrimination are serious and far-reaching. They begin in early childhood, continue through adolescence and into adulthood, and seriously affect the health and well-being of individuals across the life course. These negative consequences can persist even if an individual is able to achieve a more acceptable weight. Thus, efforts to decrease weight bias, stigma and discrimination among children and youth are particularly important. This can be delicate work since the very people looked to for help and support for weight issues, including health professionals, are common sources of stigmatization.

The individual mental and physical health consequences of weight bias and stigma are summarized in Figure 1 on page 28.

Figure 1: Individual Health Consequences of Weight Stigma



Source: Adapted from Rudd Center for Food Policy & Obesity, Yale University, Online; Puhl & Heuer, 2010; Puhl & Heuer, 2009

Based on the evidence reviewed here - a body of evidence that has spanned five decades - a strong case can be made that weight bias, stigma and discrimination have a significant impact on mental and physical health, independent of weight. There is a strong ethical imperative that the health sector not contribute to stereotypes and negative attitudes about overweight and obese people. Weight discrimination is also a social justice issue in which the health sector has a major role to play, first by addressing its own biases related to weight and then educating other sectors about this issue.

Links Between Various Weight-Related Issues

Overweight, obesity and disordered eating and eating disorders have much in common and can be conceived as a spectrum of weight-related issues. Definitions of disordered eating and eating disorders adopted in this paper are:

Disordered eating is defined as "troublesome eating behaviors such as purgative practices, bingeing, food restriction and other inadequate methods to lose or control weight which occur less frequently or are less severe than those required to meet the full criteria for the diagnosis of an eating disorder" (Pereira & Alvarenga, 2007 pg. 142).

Eating disorders are defined as "psychiatric illnesses marked by disordered eating behaviours, disordered food intake, disordered eating attitudes, and often inadequate methods of weight control" (Pereira & Alvarenga, 2007 pg. 142). These include anorexia nervosa, bulimia nervosa and "eating disorder not otherwise specified" (EDNOS) which is diagnosed when an individual "suffers from binge eating disorder or has a clinically significant eating disorder but does not currently meet all the diagnostic criteria for

anorexia nervosa or bulimia nervosa" (American Psychological Association [APA], Online). EDNOS is more prevalent than, but just as serious as, anorexia nervosa or bulimia nervosa (APA, Online).

Overweight and obese individuals are at higher risk of disordered eating and eating disorders than the general public, and youth and adults who diet and use unhealthy weight control practices such as self-induced vomiting, fasting and laxatives, gain more weight over time and are at risk of overweight and obesity. Severe obesity is associated with a lifetime history of binge eating (National Eating Disorders Collaboration, 2011, pg. 2). Disordered eating is also highly related to weight stigma, and may inadvertently be exacerbated by public health messages that are overly simplistic. While the complex environmental causes of obesity are increasingly being considered, messages continue to place responsibility for obesity upon the individual and posit that obesity is a simple consequence of energy in exceeding energy out (PHSA/BCMHAS, n.d.). This, combined with constant media and societal pressure to be thin, can generate body dissatisfaction, unhealthy weight control behaviours and other disordered eating patterns (Irving & Neumark-Sztainer, 2002). Together, pressure to achieve and sustain an ideal weight, weight stigma and societal ideals of thinness constitute formidable pressure, particularly on young girls who are developing their sense of self and identity, to be thin.

Disordered eating is associated with several serious impacts to mental and physical health. These are presented in Table 7.

Table 7: Disordered eating and its dangers

- In a 2001 study of Ontario girls aged 12-18, disordered eating attitudes and behaviours were present in 27% of respondents and their prevalence was seen to gradually increase throughout adolescence. Current dieting to lose weight was reported by 23% of respondents; binge eating was reported by 15% of respondents; and self-induced vomiting by 8% (Jones, et al., 2001).
- A 2002 US study of adolescent weight-related concerns showed that adolescent girls expressed greater concerns and were more likely to report engaging in weight-related behaviours than boys (Neumark-Sztainer, et al., 2002).
- In the same US study, 57% of adolescent girls and 33% of adolescent boys reported unhealthy weight-related practices. And 64% of average-weight girls desired to weigh less than their self-reported weight (Neumark-Sztainer, et al., 2002).
- Excessive concern about body image and weight can seriously impact psychosocial development, dietary intake, physical growth and the development of eating disorders (Neumark-Sztainer, et al., 2002).

Additional facts summarized by the Provincial Health Services Authority, BC Mental Health & Addiction Services (PHSA/BCMHAS, n.d., pg. 2) include:

- Disordered eating amongst males is also increasingly problematic, with 25% of adolescent males dieting and 20% desiring weight loss.
- Adolescents who diet "severely" are 18 times more likely to develop a clinical eating disorder; those who diet "moderately" are five times more likely to develop a clinical or sub-clinical eating disorder.
- While eating disorders are less common than disordered eating, evidence suggests that as public health messages about obesity reduction become increasingly prevalent, the incidence of both eating disorders and disordered eating will rise.
- The long-term health consequences of eating disorders are severe, given that anorexia, for example, is associated with extremely high mortality rates.

An extensive body of recent research has identified shared risk factors for youth obesity and disordered eating. These are outlined in Table 8.

Table 8: Shared risk factors for youth obesity and disordered eating

- Weight-based teasing and stigmatization
- Low self-esteem
- Body dissatisfaction and personal weight concerns and associated dieting and binge-eating. High percentages of adolescents have body image concerns, and body dissatisfaction is correlated with binge eating and lower levels of physical activity which lead to obesity; dieting is often associated with body dissatisfaction and can increase the risk for binge eating and weight gain over time.
- Poor nutrition, affordability of processed, energy dense foods and physical inactivity
- Media exposure and marketing to young children – Children younger than eight are unable to comprehend commercial messages as older children and adults can and are therefore especially influenced by targeted marketing and advertising; commercials for unhealthy foods and beverages are often specifically targeted toward youth.
- Home environment – Parental encouragement to diet is associated with long-term increased weight and disordered eating in adolescents; regularity of family mealtimes is a protective factor.
- Cultural and socioeconomicfactors include: low socioeconomic status, ethnic and cultural differences, lack of access to affordable foods and safe environments for physical activity, and experiences of body dissatisfaction that are embedded in a larger socio-cultural context.

Source: Neumark-Sztainer, et al., 2007; American Psychological Association, Online

These findings point directly to the importance of finding alternate approaches to weight-related issues, and to collaborative efforts between the fields of obesity and disordered eating/eating disorders such that the spectrum of weight-related issues can be addressed in a holistic, health promoting and cost effective manner. Efforts to collaborate are well underway in Canada (see, for example, Adair, et al., 2008). This discussion is elaborated upon later in the paper.

Culture and Weight-Related Issues

Culture plays a significant, but varying, role in how individuals understand and perceive obesity. Many African-Americans, for example, define obesity in positive terms related to attractiveness, sexual desirability and body image. Other research in both the US and Canada has also found that African-Americans have a preference for larger female body sizes (Padgett & Biro, 2003; Ristovski-Slijepcevic, et al., 2010). Caucasian Americans, however, tend to define obesity in negative terms related to these same variables (Davidson & Knafl, 2006).

Weight-based teasing exists across many racial and ethnic groups (van den Berg, et al., 2008; Eisenberg, et al., 2003). However, there may be cultural differences in the nature of weight-based teasing and responses to this teasing. In some cultures, for example, teasing may be congenial and affiliative,

whereas in other cultures it may be malicious. Other research has suggested racial/ethnic differences in emotional and social consequences of overweight and obesity (Strauss & Pollack, 2003).

Because of the considerable variation within ethnic groups, there is no "formula" for determining how to work with people in defined, culturally sensitive ways. Brewis (2011), an anthropologist, specifically cautions those working in the health field not to make generalizations about ethnic or cultural perceptions of weight-related issues. She argues that even within various ethnicities, different perspectives of weight may exist, often depending on local community norms and ideals. Others have suggested that perspective also depends on the degree to which a newcomer to the West has acculturated and embraced Western cultural ideals about body size and shape (Ristovski-Slijepcevic, et al., 2010). Those working in the health field need to avoid making assumptions, but deal with individuals within both their ethnic and local community contexts.

The power of Western culture in shaping responses to weight-related issues cannot be underestimated, nor can it be ignored. Russell-Mayhew (2007, pg. 7) has noted that,

> "It is not just people with eating disorders who struggle with what to eat, when to eat and how much to eat. In fact, it is a Western cultural pastime to talk about, think about and obsess about how our bodies look and what we can do or not do to change them."

Women, particularly young women, are especially affected by these cultural norms (Adair, et al., 2008). The interaction of socio-cultural factors, body image and psychological issues is thought to predispose women to the development of eating disorders. Socio-cultural messages about body size and shape and their meanings about health and fitness can be extremely devaluing to girls and women (Adair, et al., 2008, pg. 20). A study by Halliwell and Harvey (2006, pg. 244) found that adolescent girls reported "higher levels of perceived pressure to lose weight, internalization of socio-cultural attitudes toward appearance, body dissatisfaction, peer comparison than adolescent boys" and that these differences in levels of social pressure reflect gendered prescriptions for attractiveness. Hesse-Biber, Leavy, Quinn and Zoino (2006, pg. 220) state that,

> "Young women learn from magazines, advertising, fitness clubs and other cultural institutions that the preferred ideal weight is significantly less than what the medical literature would suggest is healthy. This ultra-thin ideal is 'cultivated' by the diet, cosmetic, beauty, medical and mass media industries – important structural elements of today's capitalist system".

And yet, Western culture simultaneously promotes obesity. Brewis (2011, pg. 127) speaks to the cultural construction of the obesogenic environment and the "myriad of culturally constructed barriers to a 'svelte' population":

> "The drive for and desirability of consumption, the value placed on individual choice and responsibility, the desire for easy thinness that underwrites a massive diet and exercise industry (which benefits from its own lack of success) and our basic values – this is a culturally constructed obesogenic environment."

Brewis suggests the diet industry in Canada and globally is a thriving enterprise. While it was difficult to locate actual figures for Canada, an abstract from MarketResearch.Com (2011) presented estimates that

the global weight loss and diet management products and services market was expected to be worth $390 billion in 2010 and is expected to reach $672 billion by 2015. A 2011 Healthzone.ca article reported estimates that each year Canadians spend around $6 billion on weight loss surgeries, pills, special diets and meal replacements.

Social and Health Inequities

> "Weight bias translates into inequities in employment settings, health-care facilities and educational institutions, often due to widespread negative stereotypes that overweight and obese people are lazy, unmotivated, lacking in self-discipline, less competent, non-compliant and sloppy. These stereotypes are prevalent and are rarely challenged in Western society, leaving overweight and obese persons vulnerable to social injustice, unfair treatment and impaired quality of life as a result of substantial disadvantages and stigma." (Puhl & Heuer, 2009, pg. 1).

Social inequities are significant determinants of poor mental and physical health. Two fundamental aspects of obesity are linked to inequities and social injustice: (1) the fact that obesity generally follows the social gradient, and (2) the damaging effects of weight-based bias and discrimination.

Although the relationship between obesity and socioeconomic status is complex, obesity generally follows the social gradient, especially for minority groups who live in disadvantaged areas (Brewis, 2011; PHAC, 2011; Puhl & Heuer, 2010; Government Office for Science, 2007). The term "social gradient" means that people tend to be less healthy than those the next step above them on the income ladder. In its report, Curbing Childhood Obesity, the Public Health Agency of Canada (PHAC, 2010, pg. 1) notes that,

> "The prevalence of poor health or poor health behaviours is less common at every step up the socioeconomicscale. This is a critically important fact to acknowledge and address as programs that fail to address these factors can inadvertently increase disparities in health status or behaviours."

The Health Council of Canada (2010, pg. 6), states,

> "People who live in poverty are more likely to live in poor health and to die earlier than those who live in more affluent communities. They suffer from more chronic illnesses, more obesity and more mental distress. Living with the chronic stress of disadvantage can have an effect on both cardiovascular and immune systems. Over time, this can leave people more vulnerable to chronic diseases and infections and to mental health conditions such as depression."

Based on a review of literature, Burns (2004, pg. 9) concluded that, "although obesity rates have increased steadily in both sexes, at all ages, in all races and at all educational levels, the highest rates occur among the most disadvantaged groups".

Research has also demonstrated links between gender, food insecurity and obesity. In a review of studies linking obesity and food security, Burns (2004), found that the risk for obesity is 20 to 40 per

cent higher in individuals who are food-insecure. This was true only for women, held regardless of income, behaviours or education, and is consistently apparent in the US, Europe and Australia. Franklin, et al., (2012) similarly found that food insecurity and obesity are strongly and positively associated in women.

Obese people in marginalized groups or disadvantaged neighbourhoods (e.g., immigrants, ethnic minorities, living in poverty) experience multiple layers of stigma (Puhl & Heuer, 2010, pg. 1029). Thus weight-based stigma intersects with other marginalizing conditions such as poverty, disability, racial or cultural discrimination, amplifying inequities and injustice (Maclean et al., 2009). The possibilities for enjoying high levels of physical and mental well-being are significantly reduced under such conditions.

Approaches that emphasize personal responsibility as the principle cause of obesity and ignore the broad array of societal and environmental contributors to obesity exacerbate negative stereotypes, increase weight bias and perpetuate inequities (Washington, 2011). The notion of personal responsibility also assumes more individual control than is actually the case in issues such as poverty.

To date, the health sector has been relatively silent about weight-based stigma and discrimination. However, weight stigma "threatens health, generates health disparities and interferes with effective obesity interventions" (Puhl & Heuer, 2010, pg. 1019). As such, addressing socioeconomic inequities and weight-based stigma and discrimination should be a priority for public health action.

Part I: Summary and Conclusions

There is no doubt that in affluent societies rates of overweight and obesity have dramatically increased in recent decades. This part of the paper provides a critical review of the evidence regarding the complex relationships between: weight and health; individual lifestyle changes, including dieting, and weight loss; overweight/obesity and weight bias, stigma and discrimination; the relationships between overweight, obesity, disordered eating and eating disorders; overweight/obesity and the socio-cultural environment; and overweight/obesity and inequities and social justice.

The review of the evidence found that although there are strong associations between obesity and chronic health conditions, these associations are complex and not amenable to simple fixes. Dieting for significant weight loss can succeed in the short term, but is less successful in contributing to sustainable weight loss. It often leads to weight-regain at higher levels of weight and weight cycling which may be associated with significant harm to physical health. On the other hand, improvements can be made to health via healthy eating and physical activity without weight loss. These findings raise the question, "What is a 'healthy' weight?"

Given the complex relationship between obesity and health outcomes, it seems that BMI may be more useful as an indicator for tracking obesity at a population level, than at the individual level. There may be value in moving to a focus on improving metabolic health for people of all weights, sizes and shapes through healthful eating and moderate physical activity. However, more inquiry and careful deliberation would be required to make that determination.

The extensive review of the evidence on weight bias, stigma, bullying and discrimination clearly points to a "Shadow Epidemic" in which people with weight issues internalize strong and negative social norms that denigrate overweight and obesity.

This review of the evidence provides a strong rationale for shifting away from focusing on weight in isolation from health and well-being overall, and for placing a greater emphasis on mental well-being at both an individual and a population and socio-environmental level. The evidence also supports keeping the fundamental principles of health promotion at the forefront; recognizing that health should be seen as a resource for everyday living. Mental well-being is an important foundation for the joyful, meaningful lives people seek.

5.0 PART II: Weight Related Paradigms

The review of evidence regarding the interrelationships of overweight, obesity, weight bias, stigma and discrimination, and mental well-being led to the identification of four major paradigms of thought around weight-related issues, summarized in Table 9.

Paradigms One and Two focus on obesity and weight reduction at individual or population levels. Paradigm One is particularly well-established within the health care system, but there is a growing focus on Paradigm Two (tackling the obesogenic environment).

An emerging view – Paradigm Three – focuses on physical and mental well-being, and weight-neutral approaches, with interventions aimed at adults primarily at the individual level. It promotes mental well-being, emphasizing self-acceptance and intrinsic motivation, as a more powerful driver of success than externally prescribed diets and exercise regimens, or encouragement from health professionals (Freedhoff & Sharma, 2010).

Paradigm Four builds on Paradigm Three, with its emphasis on health rather than pathology, but goes beyond individuals to focus on the broad determinants of health at a population or societal level.

The dotted lines between the paradigms illustrate that they are not four distinct boxes, but rather that they overlap and meld into each other. In this paper, it is proposed that while the weight-focused paradigms (i.e., Paradigms One and Two) make important contributions to addressing weight-related issues, there is value in moving toward Paradigms Three and Four, to address obesity without creating harm to mental well-being.

Table 9: Paradigms of thought in relation to addressing weight

	Individual Level	Population & Social Level
Weight Focused	**Paradigm One** Focus is on individual behaviour change with a goal of losing weight.	**Paradigm Two** Focus is on "the obesity epidemic" and creating non-obesogenic environments that enable people to eat better and exercise more with a goal of reducing the prevalence of obesity in the population.
Well-Being Focused	**Paradigm Three** Focus is on individuals actively engaging in life in ways that optimize their mental and physical well-being. The goal is to achieve the best weight one can while living the healthiest lifestyle that allows one to flourish.	**Paradigm Four** Focus is on creating environments that promote positive mental and physical well-being, with a goal of promoting flourishing in mind and body for all.*

* This encompasses the creation of non-obesogenic environments, but extends beyond addressing determinants of weight to addressing the broad determinants of health, including positive mental health and well-being.

Weight-Loss Focus – Paradigms One and Two

Paradigm One: Stemming the Tide Through Individual Behaviour Change

Individual weight loss was the earliest response to overweight and obesity (circa 1950) and continues to be well-entrenched within the health care system. This approach is based on four main assumptions: i) that excess weight causes morbidity and premature mortality and thus weight loss is essential for improving health; ii) that weight is fully under the control of the individual; iii) that weight loss is a practical goal that can be achieved by taking in fewer calories and expending more energy through physical activity; and, iv) that achieving a "normal" weight will invariably improve health (O'Reilly, 2011, pg. 2-3). Prevention and treatment is primarily directed toward education, behaviour change strategies (e.g., encouraging people to eat less and/or exercise more), pharmaceutical therapies and surgery.

A growing body of evidence, summarized in Part I, suggests that these assumptions belie the complex links between weight loss and health improvements. A focus on individual behaviour change is insufficient to produce sustained weight loss and health improvements or to "stem the tide" of obesity (Gordon-Larsen & Popkin, 2011; Government Office for Science, 2007; McLaren, 2007; Ogden, et al., 2007; PHAC, 2011). The evidence cited above points to the unintended negative consequences of weight loss in isolation from overall health and well-being.

There is no question that health professionals who work with people who are overweight and obese need to consider ways to achieve and maintain a healthy weight; however, the questions are: What is a "healthy" weight? How is achieving and maintaining a "healthy" weight best accomplished? And, is a one-size-fits-all "lose weight" prescription the most appropriate approach? Absent in the biomedical literature is consideration of the psychological harm caused by repeated failures to achieve and maintain an ideal body weight. Sharma (2009) questions whether weight-loss advice is ethical given the extremely high rate of regain, the unhealthy weight loss strategies people often choose in the absence of professional guidance, and the lack of hard evidence regarding the benefit of weight loss.

The evidence reported herein begs the question of whether the focus should be on *weight* per se, and only for those who are overweight or obese, or should it be on assessing and improving *metabolic health* as indicated, for example, by levels of insulin sensitivity, blood lipid

Paradigm One Synopsis

Obesity clearly impacts health, but considering the lack of success and potential harm with existing methods that focus solely on weight loss, an approach that emphasizes healthful eating and physical activity may be more effective. Health professionals should review concepts of healthy weight, including:

- What is a "healthy" weight?
- What is the best way for each individual to achieve and maintain a "healthy" weight?
- What psychological harm can be caused by repeated failures to do so?
- Should the focus be on *weight,* per se, or should it be on assessing and improving *metabolic health*?

profiles, markers of inflammation such as C-reactive protein, and blood pressure? Improvements to these metabolic markers have been demonstrated through changes in diet and physical activity without the need for significant amounts of weight loss. This is not to say that we should be complacent about or ignore obesity, but rather that decades of experience have shown that a focus on weight and weight loss hasn't been particularly effective and can in many cases cause harm to health. Perhaps a more effective approach would emphasize improved metabolic health through healthful eating and physical activity, rather than significant weight loss. More inquiry and deliberation about this is required.

In any case, even if efforts to change individual behaviours were highly effective, dealing with one overweight individual at a time would still not stem the obesity tide. It is now well-established that weight is not completely volitional; rather, that there are many other factors beyond the control of individuals that contribute to weight-related issues.

Paradigm Two: Tackling the Obesogenic Environment

Paradigm Two looks beyond "fixing" individuals, to tackling the "obesogenic environment" with the overall goal of reducing the prevalence of obesity in a population. An "obesogenic environment" is defined by Swinburn, Eggar and Raza (1999, pg. 564) as "the sum of influences that the surroundings, opportunities or conditions of life have on promoting obesity in individuals and populations." It recognizes the dynamic interaction of human biology, individual and group behaviours, the physical activity environment, food production and consumption and social psychology (Government Office for Science, 2007). Elements of an obesogenic environment include, for example, motorized transport, sedentary lifestyles and an abundance of vigorously marketed energy dense food.

This paradigm is well articulated in a United Kingdom Foresight Report entitled, Tackling Obesity: Future Choices (Government Office for Science, 2007). The Foresight group presents a large body of compelling evidence indicating that our natural biological tendency to gain weight is being put into overdrive by an obesogenic environment. The authors state,

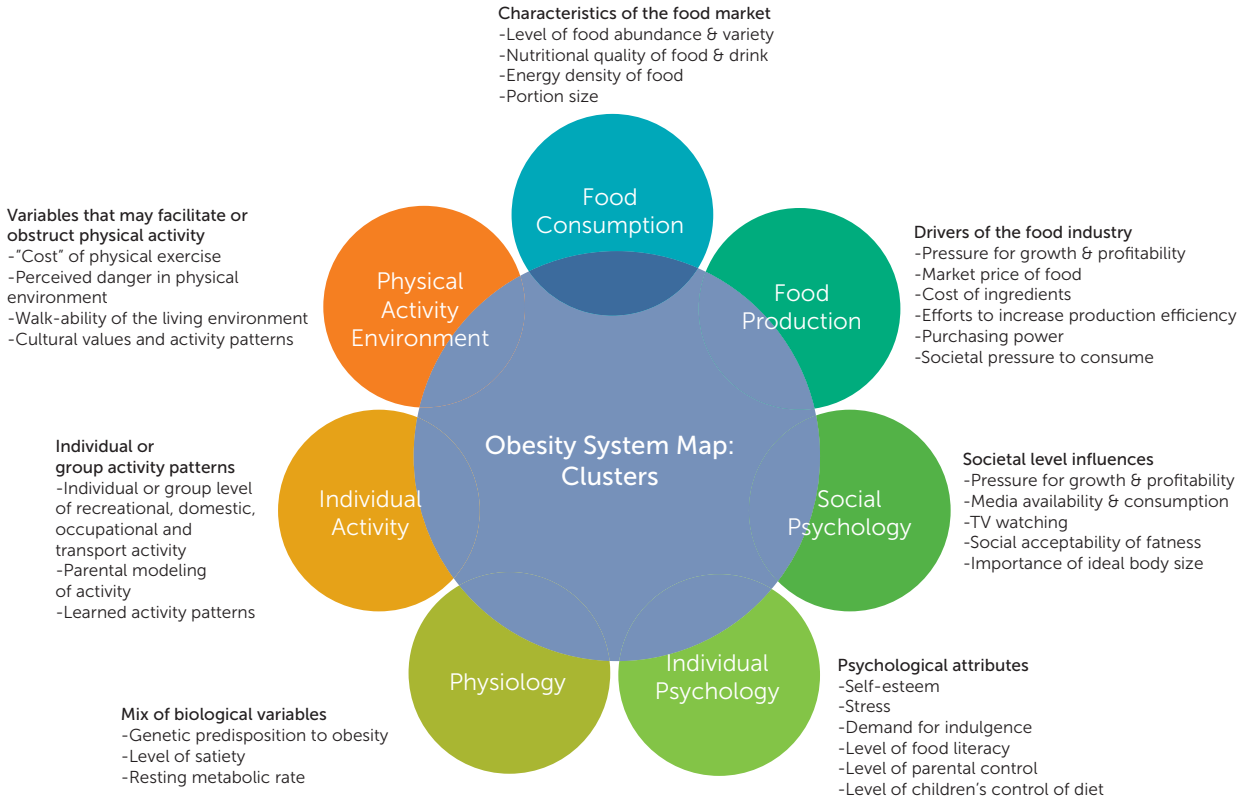
> "People in the UK today don't have less willpower and are not more gluttonous than previous generations. Nor is their biology significantly different to that of their forefathers. Society, however, has radically altered over the past five decades, with major changes in work patterns, transport, food production and food sales. These changes have exposed an underlying biological tendency, possessed by many people, to both put on weight and to retain it." (pg. 5)

Thus, obesity is viewed as a complex societal issue rather than a biomedical problem perpetuated by poor individual lifestyle behaviours and choices (McLaren, 2007; Swinburn, 2008; Government Office for Science, 2007). An example of this approach is demonstrated by Brownell, et al. (2009, pg. S8) who speak about the "sub-optimal defaults" to which youth are continually exposed:

> "Obesity in youth exists because of highly suboptimal defaults. Nutrient poor, calorie-dense foods cost less and are more accessible than more healthful choices; portion sizes and pricing strategies encourage overconsumption; schools have become a commercial opportunity for the food industry; marketing to youth is powerful and relentless; physical activity is declining in everyday life."

The Foresight group outlines multiple interacting and dynamic "clusters" that compose what they term an "obesity system", depicted in Figure 2 on page 39. Their number and breadth vividly illustrate the complexity of obesity.

Figure 2: The Obesogenic Environment: Obesity Clusters



Source: Adapted from Government Office for Science (Foresight), 2007

Paradigm Two Responses to Obesity

The Foresight report (Government Office for Science, 2007) presents a compelling argument for a societal level approach to reverse the obesity trend. The authors argue that actions directed solely toward changing individual behaviours will be inadequate to prevent obesity. Instead, the nation's health needs to be redefined as a societal and economic issue. This societal level approach requires "big change" targeted at multiple levels (i.e., personal, family, community and national). It means working with the food industry – those who produce food, and those who market calorie-dense foods; it means working to change the activity environment and it means changing powerful societal influences. It means tackling each of the clusters identified in Figure 2. This requires a comprehensive, long-term strategy that: i) creates and sustains environments that facilitate healthy choices; and, ii) encourages individuals to "desire, seek and make different choices, recognizing that they make decisions as part of families and groups and that individual behaviour is 'cued' by the behaviours of others" (Government Office for Science, 2007, pg. 122).

Over the past several years, this approach has gained traction in Canadian public health circles. The Public Health Agency of Canada (2011), for example, adopts a population health approach to the obesity issue. This approach examines "both the proximal and more immediate factors linked to obesity, such as diet and activity, as well as more distal factors, such as community [e.g., availability and accessibility of physical activity equipment, facilities; access to modestly priced nutritional foods; access to retail food outlets] and socioeconomic characteristics" (PHAC, 2011, pg. 1).

Children and youth are widely targeted, particularly through comprehensive school health initiatives which focus on increasing physical activity and the removal of "junk" foods in schools. PHAC's (2010) *Curbing Childhood Obesity: Framework for Action to Promote Healthy Weights* is an example of this approach. The Framework lists numerous strategies targeted toward the obesogenic environment, including, for example, increasing the availability and affordability of nutritious foods, protection of children from the marketing of foods and beverages that are high in fat, sugar or calories, and the supportive design of communities to encourage active living. This framework also mentions the importance of positive mental health for children and their families.

At a workshop presentation at the April 2011 National Obesity Summit, Woodland and Drasic noted that: "The complexity and interrelationships of the factors causing obesity makes a strong case for the futility of isolated initiatives resulting in the need for intervention along the entire policy terrain", and that "many actions are needed at the micro level to create macro level change".

The following quote from the Public Health Association of Nova Scotia (Online) is also illustrative of Paradigm Two thinking and action in Canada.

> "Public health can reframe the obesity debate. The current framing of obesity around individual appearance and health not only neglects the root causes of obesity but perpetuates the value-laden assumption that people who are overweight or obese lack willpower and are of poor character. Reframing the problem of obesity means recognizing that policy shapes the conditions in which people live and that other upstream strategies to change those conditions are needed. Upstream approaches acknowledge obesity as a social, political and economic problem that requires fundamental social change to alter the conditions and environments in which people live, work and play."

Paradigm Two Synopsis

Obesity is a complex, societal problem. Addressing it through an ecological approach may be more appropriate and effective, as it extensively broadens the range, number and levels of options available to stem the obesity tide. However, an approach based on Paradigm Two is:

- exponentially more difficult to accomplish and has not, to date, seen success at a national level
- limited in its protection and promotion of mental well-being, with its almost complete emphasis on addressing weight, obesity and poor physical health.

Paradigm Two: Summary and Limitations

As a strategy for decreasing the prevalence of obesity, tackling the obesogenic environment has a number of advantages. A critical starting point is recognizing that many complex factors contribute to obesity, and efforts must go

beyond focusing on individual behaviour change. Another important advantage is the call for actions at multiple levels and in multiple arenas, over an extended period of time. The Foresight authors, for example, speak to "time" in terms of *generations*. Framing obesity as a complex problem extensively broadens the range, number and levels of approaches required to stem the obesity tide. While this is exponentially more difficult to accomplish in practice, it would seem to be a much more appropriate and, in the long term, effective approach. The challenge, however, is that no nation has achieved this level of action to date.

From the perspective of protecting and promoting mental well-being, a major limitation of the obesogenic environment approach is its emphasis on addressing weight, obesity and poor physical health to the near exclusion of mental health and well-being.

Also, by focusing attention on obesity at a population health level, again there is a risk of perpetuating weight bias, stigma and discrimination. This includes the tendency for public messaging to focus on healthy living and individual choice. It is easy to see how psychological harm can be created when an obese person is subjected to ongoing messages about how "bad" the obesity problem is and how much it is costing the health system and the economy. This creates ethical and equity concerns. Given that Paradigm Two approaches are in their infancy, there may be opportunities to integrate mental well-being into the mix and in so doing, to reduce the risk for this sort of harm.

While it affords many advantages, the ecological approach is nevertheless weight- and pathology-focused, with the objective of reducing obesity prevalence by changing multiple environmental factors. It addresses specific determinants of weight, rather than the broader factors that enable or constrain opportunities for people to experience optimal levels of mental and physical health and well-being – the social determinants of health. Thus, rather than focus on obesity as a solitary issue, it may be a wiser use of resources to address the determinants of weight *and* health, thereby impacting a wider range of health issues.

Foundations of Well-Being-Oriented Paradigms– Paradigms Three and Four

Well-being-oriented approaches are concerned with salutogenesis – that is, understanding and fortifying the genesis or origins of *health and well-being*, rather than morbidity and mortality, which is the focus of traditional epidemiology (although not population health epidemiology). Well-being-oriented approaches are concerned with questions such as: What is it that *adds* to peoples' *well-being* and how can those things be increased or enhanced? Definitions of well-being move well beyond the absence of disease to encompass positive aspects of health, well-being and functioning. The World Health Organization (Online), for example, defines health as, "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity".

Positive mental health (or mental well-being) is defined by the Public Health Agency of Canada (Online) as,

> "The capacity of each and all of us to feel, think (and) act in ways that enhance our ability to enjoy life and deal with the challenges we face. It is a positive sense of emotional and spiritual well-being that respects the importance of culture, equity, social justice, interconnections and personal dignity."

Thus mental well-being is about enjoying life, happiness and life satisfaction. It is about being resilient and engaging with, coping with and growing from life events. Societal values are reflected in the desire for equality among people, the freedom to pursue goals and make choices, and the equitable distribution of power and social responsibility (Canadian Institute for Health Research, 2009, pg. 16).

Among mental health promotion experts, the term "flourishing" is often adopted to describe positive mental health or optimal mental well-being. "Flourishing" is equated with emotional well-being (positive feelings, happiness, life satisfaction); psychological well-being (self-acceptance, personal growth, purpose); and, social well-being (positive relationships with others; sense of belonging; social acceptance) (Keyes', 2003). Flourishing people are, "filled with emotional vitality and they are functioning positively in the private and social realms of their lives…[They] are truly living rather than merely existing" (Keyes & Haidt, 2003, pg. 6). The research of Keyes (2007; 2005) suggests that people who flourish experience greater resilience and stronger bonds with family and friends, miss fewer days of work, use fewer health care services and experience lower levels of chronic disease.

In Paradigms Three and Four, the term "well-being" is used in this positive sense and has little to do with the presence or absence of metabolic markers of disease or of disease itself. Rather, the focus is on optimal mental and physical well-being – the best level of well-being that each individual can achieve. This notion of optimal well-being also applies beyond the individual level to families and schools, workplaces and communities.

Two broad categories of factors contribute to health and well-being. The first is a set of core protective factors; the second is the social determinants of health. Protective factors are described below and a brief overview of health determinants is provided.

Core Protective Factors for Health and Well-Being

Cooke, et al. (2011) describe four core protective factors for mental health (that would also apply to physical health): enhancing control (i.e., empowerment); increasing resilience and community assets; facilitating participation; and promoting social inclusion. Operating at multiple levels (individual, community/social, socioeconomic/environmental), these protective factors are important pathways through which the wider social determinants (e.g., education, financial security, healthy child development, gender, socioeconomic status) influence health outcomes. Actions to address core protective factors at these three levels translate to: strengthening individuals, strengthening communities, and improving socioeconomic and environmental conditions. When these four core protective factors are addressed, there is a high likelihood that mental well-being is being protected and promoted. Because of their central importance to addressing issues of weight in ways that protect and promote mental health, a brief description of these factors is provided below.

Enhancing Control/Empowerment

> "People who feel in control of their lives are more likely to feel able to take control of their health" (Cooke, et al., 2011, pg. 18).

As presented in the Ottawa Charter for Health Promotion (WHO, 1986), the foundation of health, and of health promotion, is empowerment. Empowerment is about choice and control; it is about "power from within" and thus is not something that someone can "do" or "give" to another. Labonte (1993, pg. 101) defines empowerment as,

> "[Empowerment is] the capacity of choice. It includes the ability to define, analyze and act upon problems one experiences in relation to others, and in one's social and environmental living conditions. Empowerment as a process describes the means through which internal feelings of powerlessness are transformed and group actions initiated to change the physical and social living conditions that create or reinforce inequalities in power."

Across all cultures, the degree of control that individuals and communities have over their lives has significant impact on health and well-being. Individuals and communities have greater empowerment and control when they have sufficient material resources to meet their needs, and a political voice – that is, when they are able to participate in decision making that affects their health (Cooke, et al., 2011). While the degree of control one has is a determinant of mental well-being, lack of control and lack of influence are risk factors for stress and concomitant mental and physical pathology (Cooke, et al., 2011). Any effort to address weight-related issues must consider the essential importance of empowerment and control.

Dimensions of positive mental and physical health that are associated with a sense of control are:

- agency (ability to set and pursue goals)
- mastery (ability to shape circumstances/the environment to meet personal or local needs)
- autonomy (self-determination)
- self-efficacy (belief in one's own capabilities).

These dimensions provide a strong foundation for addressing weight-related issues in ways that protect and promote health and well-being; they are also central to both health promotion and patient and family-centred health care.

Increasing Resilience and Community Assets

Resilience, broadly defined, is "doing better than expected in the face of adversity" (Cooke, et al., 2011, pg. 19). The key question is how it is that some people and communities seem to be protected from adverse experiences or conditions. Social relationships and strong positive social networks are central to resilience at individual and community levels. Factors that influence the quality of social relationships include transportation, design of public spaces, work and life balance, access to green, open spaces, informal labour markets and opportunities for collective organization and action (Cooke, et al., 2011, pg. 19). Research regarding community resilience has identified numerous "community assets" that

contribute to resilience, including: "know how", creativity, intergenerational solidarity, trust, safety and tolerance.

Resilience is an important concept when working on weight-related issues. With individuals, it draws attention to the nature and extent of a person's social relationships, as these are a foundation for good health and self-care. It also points us to consider their communities, which may in turn provide insights into the "why" of the weight issue and any associated pathology. These "whys" can inform development of customized and effective ways of addressing weight issues. This is patient and family-centred care. For those working upstream with communities, the notion of resilience and community assets provides a foundation for enhancing community capacity to work together to address community priorities for health and well-being.

Facilitating Participation

Participation is "the extent to which people are involved and engaged in activities outside their immediate household, and includes cultural and leisure activities, as well as volunteering, membership of clubs and groups, as well as participation in local decision making, collective action, voting and other forms of civic engagement" (Cooke, et al., 2011, pg. 21). Social participation is associated with better self-reported health; it is also highly associated with reduced risk of coronary heart disease (Cooke, et al., 2011).

Promoting Social Inclusion

Inclusion entails opportunities for full and equal participation in economic, social, cultural and political institutions for all people (York Institute, Online). Social inclusion is the "extent to which people are able to access opportunities, for example, employment, education, leisure, credit" (Cooke, et al., 2011, pg. 22). While Cooke et al. speak to issues of inclusion for people with mental illness, this could also apply to people who have obesity and experience stigmatization which can, as previously noted, have significant impacts on mental and physical health. Anti-discrimination legislation and policies to reduce inequities can positively impact social inclusion.

The Social Determinants of Health

The social determinants of health are the structural factors that shape opportunities to experience well-being. They include, for example, education and life-long learning, meaningful activity, financial security, housing, food security, culture, gender and healthy child development. A more detailed description of these determinants is provided in the discussion of Paradigm Four later in this paper.

Health Promotion: Strategies to Support Healthy Weights

Health promotion strategies aim to enhance protective factors and address the social determinants of health, particularly inequities in health. The Ottawa Charter for Health Promotion (WHO, 1986) defines health promotion as:

> "...The process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being."

The foundation of health promotion is empowerment, making it an enabling process done *with* people, not for them. Key principles of health and mental health promotion include (adapted from GermAnn & Ardiles, 2009, pg. 26):

- **A positive and holistic conceptualization of health** including physical, mental, social, psychological, spiritual and intellectual dimensions
- **Social justice and equity** - ensuring all people have an equal opportunity to develop and maintain their health through fair and just access to resources for health (WHO, 1998, pg. 7)
- Emphasis on **meaningful engagement and participatory and empowerment-oriented approaches** that enable individuals, groups and communities to achieve and maintain their own health. This means working with people to identify their aspirations and needs and taking action to achieve these, not doing it for them.
- Emphasis on **building upon existing strengths, assets and capacities** rather than focusing on problems and deficits
- **Collaborative actions on the determinants of health**, especially inequities and including stigma, discrimination and oppression
- **Multiple interventions across a wide number of sectors, policies, programs, settings, and environments**
- Approaches that are **tailored and culturally appropriate** for each group
- Actions that are **informed by many forms of evidence.**

Table 10 presents examples of how health promotion strategies could be used to support or promote healthy weights. These strategies are grounded in the principles outlined above, with careful attention to how an action is implemented, as equally important to *what* is being implemented. For example, individual skill development can be implemented in ways that empower people (i.e., allow them to determine their own needs, aspirations and ways to address them) or in ways that are less conducive to empowerment (e.g., require people to participate in educational sessions to address a health issue). Again, patient and family-centred care embody health promotion principles.

Table 10: Health promotion strategies to support healthy weights

Re-oriented health services - For the purposes of this paper, re-orientation of health services means developing capacity for mental health promotion and for addressing weight-related issues in ways that protect and promote mental health.

Individual skill development - Enhance personal, interpersonal, cognitive and physical skills that help people address the demands of everyday life and thus control their lives and generate change in their environments (e.g., promote body satisfaction and self-esteem; help people with overweight or obesity to develop coping skills to deal with stigmatization and discrimination).

Small group development - Small groups such as self-help, peer support and mutual aid groups can be powerful avenues for change. Through interactions with others, a sense of connectedness and "we're in this together" can develop, leading to feelings of control, capacity and coherence that underscore a sense of empowerment and courage, strength and skills to act on factors influencing one's health. Small groups can "nurture the soul and... challenge the status quo" (Labonte, 1993, pg. 64). An example relevant to weight and well-being is development of peer support groups to improve body esteem among students in junior high school.

Supportive environments for health - Create spaces where people live, work and play that are supportive of health and/or offer protection from threats to health. A supportive environment might be a school or a workplace that takes special measures to be welcoming and inclusive, and supports the development and sustenance of mental and physical well-being. A "no-teasing" policy might, for example, be part of a supportive school environment.

Community capacity building and strengthening community action for health - Collective efforts to increase community control over health determinants and thereby improve health. Community capacity building emphasizes ongoing development of the ability of communities to work together to identify and address their priority health (broadly defined) concerns. The BC Healthy Communities initiative (see Part III) is an example of community development and community capacity building.

Mass information/awareness and social marketing - These strategies target broad audiences to raise awareness and provide information. Social marketing involves identifying and analysing selected target groups and then preparing customized messages in an attempt to change their norms and practices. Social marketing related to weight and well-being might focus on broadening peoples' understanding of weight issues – that is, moving beyond blaming individuals to understanding the complexities that contribute to obesity. More broadly, social marketing could be used to increase public understanding of the social determinants of health and well-being.

Coalition building and advocacy - Coalitions are "groups with a shared goal...advocacy means taking a position on an issue" (Labonte, 1993, pg. 76). This is a process of developing and acting upon a shared agenda to improve health with other groups or organizations. In essence, it is about building partnerships and alliances between groups (Laverack, 2005). Advocacy related to weight and well-being might focus on tackling weight-related bias, stigma and discrimination, or challenging existing social norms regarding "beauty".

Healthy public policy - Develop policies explicitly concerned with health, equity and accountability for health impact. The central aim of such policies is to create a supportive environment that enables people to lead healthy lives (WHO, 1998). Healthy public policy extends outside the domain of health services to other sectors such that their policies are assessed for their health impact (Labonte, 1993). An example related to weight and well-being might be developing policies to ensure equitable access to green spaces and affordable and accessible food.

Source: Ottawa Charter for Health Promotion (WHO, 1986); Labonte (1993)

Paradigm Three: Promoting Individual Well-Being Regardless of Weight or Size

> "Concerns about the harmful effects of weight loss and other negative outcomes of the anti-obesity health agenda have led to a movement among nutritionists and health professionals to replace a weight-centered approach with a health-centered approach. This new health-centered paradigm shifts the focus to good health at every size and away from a preoccupation with thinness and so-called ideal weight – to wellness, eating in normal, healthy ways and living actively. It's about healthy eating and physical activity, self-acceptance, self-respect and appreciating size diversity in others. Everyone qualifies... In the new approach, people are empowered to balance eating well with living actively and having a positive attitude about themselves and others. The new paradigm recognizes that everyone, at every size, deserves a high quality of life, a sense of well-being, self-acceptance and self-respect as well as acceptance and respect from others" (Berg, 1999, pg. 291-292).

Paradigm Three approaches to weight-related issues embrace several health promotion principles. First, they adopt a well-being orientation, focusing on promoting mental well-being for people no matter their weight, size or shape. Actions emphasize self-acceptance and an empowerment-oriented approach that puts people in control of defining their own parameters for "well-being". The approach is often characterized as "weight neutral" and "non-dieting" because the emphasis is on well-being and not on weight. Emphasis is also placed on adopting enjoyable and, thus sustainable, health behaviours that honour and promote well-being. This includes intuitive eating and enjoyable leisure and physical activity instead of externally prescribed diets and physical exercise regimens. Finally, the approach emphasizes personal control and is grounded in self-reinforcing intrinsic motivation (a drive for change that comes from within) which is a more powerful and empowering driver of success than external motivation such as encouragement from health professionals to change behaviours (Freedhoff & Sharma, 2010).

Paradigm Three is focused primarily on adults at the individual level of action. The key health promotion strategies therefore emphasize personal health practices and coping strategies. There is also some evidence of small group or peer support strategies. In addition, some advocates of this approach make recommendations for broader policy and actions to influence the broader socio-environmental context.

It is in this paradigm that the interests of researchers and practitioners in overweight/obesity and disordered eating/eating disorders converge.

Body Dissatisfaction Generated by Pressures to be Thin

As noted in Part I, one effect of external pressure to achieve an ideal weight is body dissatisfaction and unhealthy weight loss practices, many of which can lead to disordered eating. This pressure comes from many sources including media and public health messaging about obesity, strong cultural norms and ideals of thinness, and weight bias, stigma and discrimination. Internalization of strong cultural ideals of thinness can increase feelings of shame and reduced awareness of bodily states such as hunger and satiety (Gingras, Fitzpatrick & McCargar, 2004). Several theories about body image and body image formation have been developed; these encompass an array of "developmental, psychological

and social factors, such as self-esteem, interpersonal confidence, eating and exercise behaviours, and emotional stability" (Gingras, et al, 2004, pg. 1589). Proponents of these theories have argued that,

> "Dieting for weight loss has been termed the outside-to-inside approach to changing body image, and it is one of the most widely practiced body images among North Americans today....Dieting serves to undermine the multidimensional body image construct, perception, cognition, affect and behaviour. Common dieting practices (i.e. weighing) can lower self-esteem and raise anxiety. In addition, a negative body image can potentiate depression, disordered eating, habitual body monitoring, social anxiety, sexual difficulties and low self-esteem." (Gingras, et al., 2004, pg. 1589)

Shifting to a Non-Dieting and Weight Management Approach

> "Societal pressures and obsession with thinness in our society may be contributing to our increasing obesity." (American Dietetic Association, 1997, pg. 71)

Paradigm Three advocates draw upon the evidence for dieting, particularly its lack success and suggestions of associated harms, to advocate for a "non-dieting" approach. Much of this work is drawn from research regarding eating disorders. An example is the work conducted by Neumark-Sztainer, et al., (2006) and Shunk and Birch (2004) which identifies strong linkages between dieting and unhealthy weight control behaviours, and the subsequent development of eating disorders and obesity. For example, Neumark-Sztainer, et al. (2006) determined that dieting and unhealthy weight control behaviours in adolescents predicted obesity and eating disorders five years later. They concluded that,

> "[O]ur findings indicate that a major shift in thinking about weight management is needed to decrease the high prevalence of obesity. None of the behaviours being used by adolescents for weight-control purposes predicted weight loss.... findings from this study provide justification for the development and evaluation of interventions that aim to simultaneously prevent the onset of obesity and eating disorders through the prevention of dieting behaviours and the promotion of healthful eating and physical activity as ongoing lifestyle behaviours." (pg. 566)

Other groups also advocate for a non-dieting or weight management approach that emphasizes attaining the best weight possible. The American Dietetic Association's (ADA) *Position Statement on Weight Management*, for example, states: (1997, pg. 71)

> "The goal of obesity treatment should be refocused from weight loss alone to weight management, which means achieving the best weight possible in the context of overall health. 'Weight management' is defined as the adoption of healthful and sustainable eating and exercise behaviours indicated for reduced disease risk and improved feelings of energy and well-being. All weight management programs should at the very least include training in lifestyle modification with the following goals: (a) gradual change to a healthful eating style with increased intake of whole grains, fruits and vegetables; (b) a non-restrictive approach to eating based on internal regulation of food (hunger and satiety); and (c) gradual increase in at least 30 minutes of enjoyable physical activity each day."

The *Position Statement* further notes that:

> "The failure to produce lasting weight loss and the reduction of self-esteem that often accompanies repeated failures have led some health care professionals to focus on optimizing psychological and physical health rather than weight loss. However, it is often difficult to motivate persons who are driven by cosmetic concerns and societal pressures to abandon a focus on weight loss when they have become accustomed over many years to restrictive dieting and are battling the everyday societal pressures to be thin. The challenge to dieticians is to teach persons how to be healthy without restriction and deprivation and to reverse the distorted cognitions regarding food as 'good' or 'bad'." (American Dietetic Association, 1997, pg. 72)

Canadian Obesity Network: "Best Weight"

The Canadian Obesity Network is currently developing an approach for adults which has several similarities with the ADA *Position Statement* on *Weight Management* and a Paradigm Three approach, most notably the premise that "obesity management is about improving health and well-being and not simply reducing the numbers on the scale" (Freedhoff & Sharma, 2010, pg. 9). A recently developed resource for health professionals argues that approaches should set people up for success rather than failure. This approach resonates with the promotion of mental well-being as it serves to strengthen self control and empowerment.

The Network recognizes obesity as a chronic condition, much like hypertension or diabetes, and states that short term "quick-fix" solutions that focus on maximizing weight loss are unsustainable and are in fact associated with high rates of weight re-gain. The approach recognizes that achieving and sustaining an "ideal" weight or BMI is unrealistic for many people with obesity and only sets them up for failure and further self-recrimination. Instead, it focuses on "best weight" which is defined by Freedhoff and Sharma (2010, pg. 12) as:

> "'Best weight' is a non-statistical goal that is easy to set and easy to explain to patients. Patients can diet themselves down to any weight they put their minds to, but to maintain that weight, they need to actually enjoy the lifestyle that got them there. A patient's best weight is therefore whatever weight they achieve while living the healthiest lifestyle they can truly enjoy. There comes a point when a person cannot eat less or exercise more and still like their life. The weight they attain while still liking their life is thus their 'best' weight as, without the addition of pharmacotherapy or a surgical intervention, no further weight loss will be possible."

Emphasis is placed first on maintaining current weight and preventing further weight gain. If weight loss is required for health or medical reasons, recommendations suggest shifting to healthy eating behaviours that are sustainable and to lose weight slowly and gradually, recognizing that even a five per cent weight loss can lead to improvements in health (Freedhoff & Sharma, 2010).

The move toward a "weight-neutral" and "best weight", well-being oriented model also brings with it shifts in how "healthy behaviours", particularly eating and exercising, are understood. Rather than provide rigid dietary prescriptions and physical activity requirements, Paradigm Three emphasizes a more organic or natural approach to food and activity. "Healthy eating" is equated with intuitive eating

– relying on internal cues of hunger and satiety and paying careful attention to how certain foods make one feel. "Healthy activity" is viewed as enjoyable leisure and physical activity. At the heart of both of these concepts is the notion that if "healthy" eating and activity are deemed to be pleasurable aspects of one's life, they are likely to be sustained over the long haul. This view of "healthy eating" is resonant with the following definition:

> "Healthy eating is a holistic concept that comprises eating food that meets the body's need for nutrients and energy characterized by diversity and balance. It also includes positive relationships with food, enjoyment of food and positive social interactions around food and meals." (Cadenhead, et al., 2012)

Freedhoff and Sharma (2010) note that food is not only about survival, but in our society, food is used for comfort and celebration.

The Health at Every Size© (HAES) Approach

The "Health at Every Size©[2]" (HAES) movement also adopts the "best weight" approach, focusing on well-being and healthy behaviours that are enjoyable and thus sustainable. HAES addresses issues of body dissatisfaction and promotes healthful eating and activity rather than weight loss. In this approach, weight management is viewed from a health-centred point-of-view. Accordingly, the primary goal is to modify weight-related behaviours. Another important focus is the promotion of self-acceptance. Proponents of this approach point to the increasing body of evidence that suggests that improvement in a variety of health measures can be gained independent of weight loss. In addition, removing the focus on weight helps people to sustain improved health behaviours (Aphramor, 2010).[3]

Key Assumptions/Principles of the HAES Approach

HAES principles cited by the Association for Size Diversity and Health (ASDAH, Online) are strikingly resonant with health promotion principles. They include:

- Accepting and respecting the diversity of body shapes and sizes
- Recognizing that health and well-being are multi-dimensional and that they include physical, social, spiritual, occupational, emotional and intellectual aspects
- Promoting all aspects of health and well-being for people of all sizes
- Promoting eating in a manner which balances individual nutritional needs, hunger, satiety, appetite and pleasure
- Promoting individually appropriate, enjoyable, life-enhancing physical activity, rather than exercise that is focused on a goal of weight loss.

Three specific principles include:

2 The name "Health at Every Size" was recently copyrighted by the Association for Size Diversity and Health

3 Disclosure: Linda Bacon and Lucy Aphramor are HAES practitioners. Both also speak and write on the topic of Health at Every Size and sometimes receive financial remuneration for this work.

1. **Encouraging body acceptance** rather than focusing on weight loss or maintenance. Based on compassion-focused behaviour change theory from the eating disorders field (Leary, et al., 2007), the principle is that self acceptance fosters self care, and that people with high levels of self-esteem are more likely to engage in health-promoting activities. Studies have shown that when people learn to value their bodies, no matter what shape or size, they strengthen their ability to care for themselves and to adopt behaviours that are health-promoting (Bacon & Aphramor, 2011).

2. **Supporting intuitive eating.** Instead of relying on cognitively imposed dietary restrictions to lose weight, the HAES approach is to rely on internal cues, such as hunger and satiety, to guide food choices. Intuitive eating is about increasing one's awareness of the impact of various foods on one's body, and making connections between what one eats and how one feels – food, mood, concentration, energy levels, fullness, ease of bowel movements, comfort eating, appetite, satiety, hunger and pleasure as guiding principles (Bacon & Aphramor, 2011).

3. **Supporting active embodiment** rather than prescribing structured exercise. The focus here is on building enjoyable physical activities into daily life with a goal of promoting well-being and self care. "Active living is promoted for a range of physical, psychological and other synergistic benefits which are independent of weight loss." (Bacon & Aphramor, 2011, pg. 7)

As an emerging approach, HAES has not been extensively researched, but the outcomes of six randomized controlled studies (RCTs) with relatively small numbers of participants (Provencher, et al., 2009; 2007; Bacon, et al., 2002; 2005; Rapaport, et al., 2000; Ciliska, 1998; Goodrick, et al., 1998; Tanco, et al., 1998) have yielded consistent results in terms of positive physiological measures, health behaviours and psychological outcomes. Bacon and Aphramor (2011, pg. 2) report that,

> "A HAES approach is associated with statistically and clinically relevant improvements in physiological measures (e.g., blood pressure, blood lipids), health behaviours (e.g., physical activity, eating disorder pathology) and psychosocial outcomes (e.g., mood, self-esteem body image). All studies indicate significant improvements in psychological and behavioural outcomes; improvements in self-esteem and eating behaviours were particularly noteworthy. Four studies additionally measured metabolic risk factors and three of these studies indicated significant improvement in at least some of these parameters, including blood pressure and blood lipids. No studies found adverse changes in any variables."

Leblanc et al. (2012) recently reported a study in which women who responded well to a HAES program showed a decrease in hunger which was associated with reduced overall energy intake. Based on a review of these studies and a critique of research regarding the links between weight and health, including ethical implications of a focus on individual responsibility for obesity, Bacon and Aphramor (2011, pg. 9) concluded that:

> "From the perspective of efficacy as well as ethics, body weight is a poor target for public health intervention. There is sufficient evidence to recommend a paradigm shift from conventional weight management to Health at Every Size."

Critics of this approach are concerned that a focus on body acceptance rather than on weight loss will encourage "eating with abandon" and subsequent weight gain; however, this has not been born out in

studies to date (Bacon & Aphramor, 2011). To the contrary, weight gain did not occur in any of the RCTs and all studies that have reported dietary quality or eating behaviours have shown improvement or at least maintenance. This is in contrast, the researchers note, to dieting behaviour which is associated with weight gain over time.

Given that not all of the cited RCTs measured physiological outcomes, more study about the outcomes of the HAES approach is required. However, measured improvements in eating behaviours and psychosocial outcomes associated with this approach demonstrate the potential value of approaches that emphasize body acceptance, self care, a holistic view of health and a commonsense, sustainable approach to healthful eating and enjoyable physical activity. This weight-neutral approach also sidesteps the stigmatization of obesity that can be subtly, or in some cases overtly, embedded in traditional approaches.

The HAES movement permeated our review of the evidence and it appears to have been taken up by several eating disorder groups. Bacon and Aphramor (2011) describe HAES as a "growing trans-disciplinary movement" and note it has become the standard of practice in the eating disorders world. The Academy for Eating Disorders, Binge Eating Disorders Association, Eating Disorder Coalition, International Association for Eating Disorder Professionals and National Eating Disorder Association explicitly support this approach, as do several civil rights groups such as the National Association to Advance Fat Acceptance and the Council on Size and Weight Discrimination.

Paradigm Three: Summary and Limitations

From a health promotion perspective, this well-being-oriented approach fills a void found in Paradigms One and Two, which are pathology-focused. The overarching emphasis on health and well-being is integrally consistent with the principles and practices of health promotion, particularly the emphasis on self-acceptance, positive self image, enjoyable activity and healthful, nutritious eating that views food not as "good" or "bad" fuel but as an integral part of an enjoyable life. All of these contribute to mental and physical well-being.

The consistency of findings in randomized controlled trials of the HAES approach is encouraging. The reports of sustained improvements to health behaviours and to metabolic health without significant weight loss are instructive. This paradigm also seems free of the moralizing tone found in Paradigm One which places responsibility squarely and only on the shoulders of individuals for their behaviour and their weight. Such an approach has significant potential to be disempowering rather than empowering. The focus on self appreciation, enjoyment of food, and activity as

Paradigm Three Synopsis

Paradigm Three emphasizes attaining the best weight possible while optimizing psychological and physical health. It:

- is based on the increasing body of evidence that suggests that improvement in health can be gained through healthy eating and exercise, with little or no weight loss (Aphramor, 2010; Freedhoff and Sharma, 2010)
- operates at the individual level, with limited action to influence the broader socio-environmental context
- sidesteps the stigmatization of obesity through its weight-neutral approach.

part of a healthy life is psychologically more appealing than strict prescriptions for calorie restriction or elimination of "bad" foods and vigorous physical exertion. This may be linked to the sustained improvements in health behaviours and health outcomes that have been found to date in studies of this approach.

With particular reference to the HAES approach, all of the key informants interviewed for this review expressed support for the principles of focusing on health (rather than weight), healthy eating and active living. Some were particularly appreciative of the emphasis on psychological aspects such as self acceptance; all were appreciative of the more moderate approach and broader definition of "healthy eating" and "enjoyable physical activity".

Objections to HAES were also raised, however. The primary objection was neglect of the large body of medical evidence demonstrating strong linkages between obesity and disease. One person commented that neglect of this evidence may be viewed by the medical community as "extreme" and inappropriate, which could mean that the medical community dismisses the entire approach. A more moderate position is provided by the American Dietetic Association (1997) which provides recommendations for those who wish, or need, to lose weight – that the focus should be on striving to achieve and sustain small weight losses (i.e., five to ten per cent) in six month periods before any further attempts are made to lower weight.

A limitation of the HAES approach is that the research to date has only included adults; thus, the appropriateness and applicability of this approach to children and youth is untested. The underlying health promotion principles of this approach certainly apply to children and youth, but how this translates into working with young individuals in a way that promotes healthy weights in a broader context of health and well-being requires ongoing work.

Another limitation is its primary focus on individuals. HAES advocates Bacon and Aphramor (2011) do mention the importance of social policies to support positive mental health; however, the emphasis remains primarily on individuals. The socio-environmental factors that constrain opportunities for good mental and physical health (i.e., the obesogenic environment and the broad determinants of health) are relatively unaddressed. Hence, the need for one more paradigm that embraces well-being but also extends the locus of action to the broader determinants of health: Paradigm Four.

Paradigm Four: Promoting Mental and Physical Well-Being for All

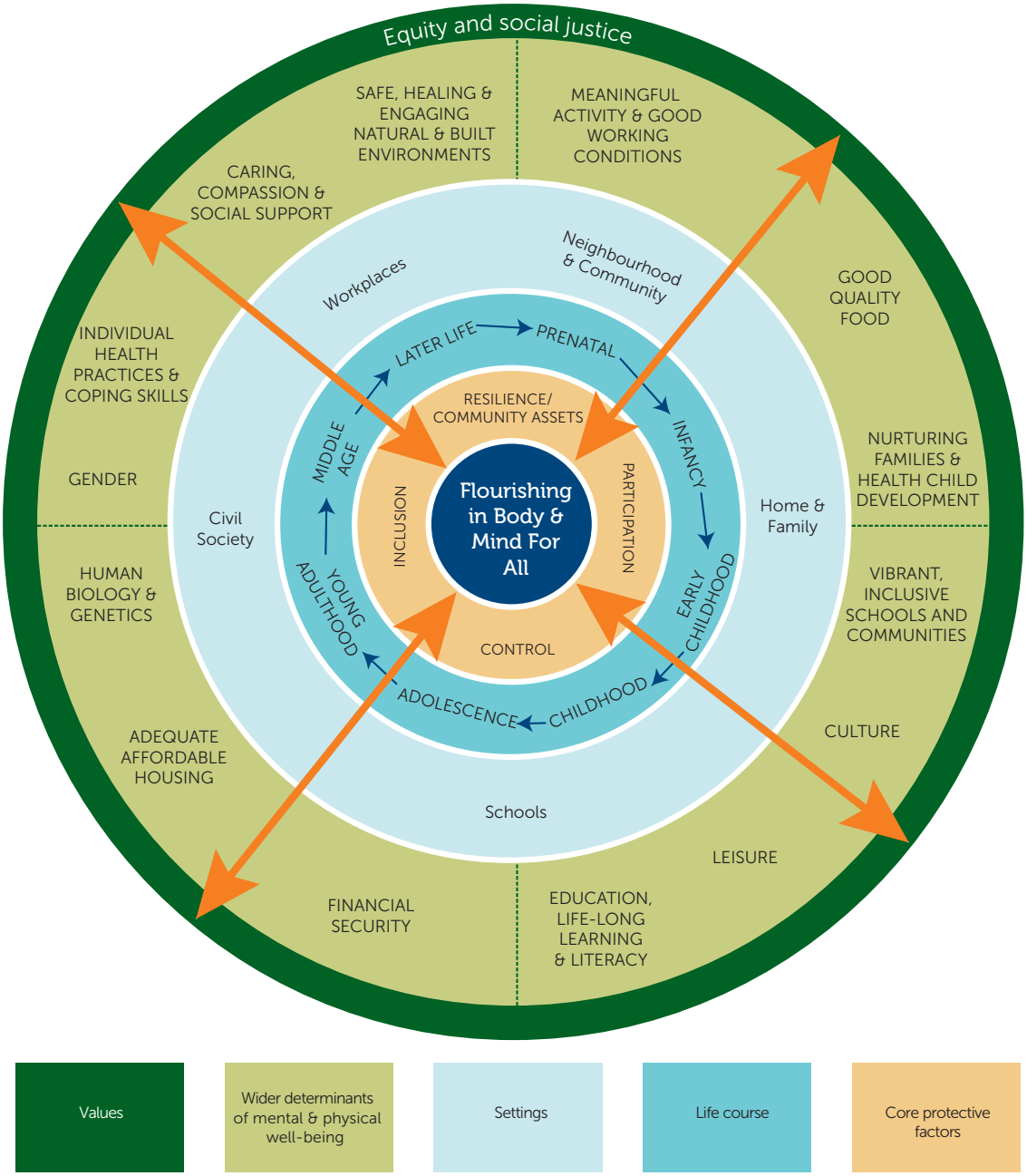
Paradigm Four uses a socio-environmental health promotion model that emphasizes the promotion of well-being by addressing the social determinants of health common to both weight *and* health. It is not a new paradigm, but its application to address weight-related issues may be. The same definitions of well-being, and the same health promotion principles and practices apply equally to Paradigms Three and Four. The focus is on promoting health and well-being, and helping people in the context of their communities to achieve an enjoyable, high quality of life, no matter their size or weight.

Paradigm Four is similar in many ways to Paradigm Two, which emphasizes actions on the obesogenic environment or the determinants of weight/obesity. Both paradigms focus on population and societal level actions and change, and both act across multiple sectors and at multiple levels. However, Paradigm Four is much broader – it includes determinants of obesity, but these are only part of the picture – it also includes the full spectrum of health determinants and emphasizes *health and well-being* rather than pathology.

Although this paradigm may seem detached from weight-related issues, the fundamental premise is that by addressing these broad determinants of health, a wide spectrum of issues can simultaneously be addressed, enhancing health and well-being at a population and societal level. This paradigm is a response to the evidence on the common protective factors and social determinants of obesity, eating disorders and disordered eating, and a variety of chronic health condition. It makes sense to focus on health and well-being more broadly when working at the societal and population level. For example, if social inequities related to poverty are addressed, including access to affordable, healthy food and safe outdoor spaces, not only is well-being promoted, but a plethora of health problems and diseases can be prevented, including obesity and disordered eating and eating disorders. This is indeed a daunting challenge, but may be the one that ultimately has the most value.

The overview of Paradigm Four that follows includes presentation of a model of "flourishing in body and mind for all" or, to use more common language, promoting health and well-being for all. The determinants of health are described to provoke thought about the many possible avenues for actions to promote flourishing in body and mind, at multiple levels and across sectors. Because of its broad focus, this model can shape promotion of mental and physical well-being, and address multiple health issues that extend well beyond those associated with weight.

Figure 3: Flourishing in Body and Mind for All (adapted from Friedli, in Cooke, et al., 2011)



The Determinants of Health and Well-Being (Flourishing) in Body and Mind

The foundations of flourishing in body and mind (at individual and population levels) lie in the social determinants of health, while actions to promote flourishing (optimal mental health and well-being) are grounded in mental health and health promotion principles and strategies. To illustrate this, the Friedli model of mental well-being – used in the UK's Mental Well-Being Impact Assessment Toolkit (Cooke, et al., 2011) – has been adapted to include physical health and a life-cycle approach. Body and mind are

well-integrated in the model, in that it is grounded in mental well-being and adapted to include physical well-being. (See Figure 3 on page 55.)

Mental well-being is further integrated in the four core protective factors (resilience/community assets, participation, control and inclusion), as depicted in the second inner-most circle of the model. The Friedli model has been further adapted in this paper by replacing a circle that identified community characteristics with one that indicates a life-cycle approach. Finally, consistent with the Friedli model, the dark outer circle of the diagram represents equity and social justice, which are foundational values for well-being and flourishing. The arrows which cross all dimensions further signify the importance of equity and social justice.

This model provides grounding for actions on many different domains at multiple levels and in multiple sectors (e.g., municipal, city and provincial governments, schools, the arts and culture sector, sports, economic development and workplaces). Actions can be taken to enhance the core protective factors (control, participation, inclusion, resilience), the determinants of well-being and/or equity and social justice. There are innumerable launching points and possibilities.

Table 11: The determinants of mental and physical well-being (flourishing in body and mind for all)

From second (pale green) outer circle of Figure 3 on page 55

Determinant	Description
Financial security	Health status improves at each step up the income and social hierarchy. Income determines living conditions such as safe housing and ability to buy sufficient good food. The healthiest populations are those in societies which are prosperous and have an equitable distribution of wealth (PHAC, Online).
Caring, compassion and social support	Support from families, friends and communities is associated with better health. Such social support networks could be very important in helping people solve problems and deal with adversity, as well as maintain a sense of mastery and control over life circumstances. The caring and respect that occurs in social relationships and the resulting sense of satisfaction and well-being seem to act as a buffer against health problems (PHAC, Online).

Table 11: The determinants of mental and physical well-being (flourishing in body and mind for all)

From second (pale green) outer circle of Figure 3 on page 55

Determinant	Description
Education, life-long learning and literacy	Health status improves with level of education. Education contributes to health by equipping people with knowledge and skills for problem-solving, and helps provide a sense of control and mastery over life circumstances. It increases opportunities for job and income security and job satisfaction and improves peoples' ability to access and understand information to help keep them healthy (PHAC, Online). Higher educational attainment is associated with lower smoking rates, reduced obesity and increased likelihood of exercising regularly as well as improved life satisfaction, race tolerance and participation/engagement (Cooke et al., 2011, pg. 27). Among preschoolers, early education programs are associated with improved cognitive skills, improved academic achievement and positive effect on family outcomes; for children, learning plays an important role in cognitive development; continued learning throughout life enhances self-esteem, encourages social interaction and a more active life. Learning also raises income and employability which protects mental well-being and promotes life satisfaction (Cooke et al., 2011, pg. 27).
Meaningful activity and good working conditions	Work that is enjoyable and contributes to a sense of meaning and purpose is important for self-esteem and identity and can provide a sense of fulfillment and opportunities for social interaction. Work also provides income. This includes working conditions that are conducive to mental and physical safety and well-being. Unpaid work can also promote well-being and a sense of meaning and purpose within the context of community activity (PHAC, Online).
Vibrant, inclusive schools and communities (Social environments)	Civic vitality refers to the strength of social networks within a community, region, province or country. It is reflected in the institutions, organizations and informal giving practices that people create to share resources and build attachments with others (PHAC, Online).

Table 11: The determinants of mental and physical well-being (flourishing in body and mind for all)

From second (pale green) outer circle of Figure 3 on page 55

Determinant	Description
Safe, healing and engaging natural & built environments (Physical environments, including housing)	Affordable, suitable and adequate housing is a prerequisite for good health (PHAC, Online). Living in substandard housing creates financial and psychosocial distress which negatively impacts health. Aspects of the built environment also include open green spaces and natural spaces that invite physical activity and buffer stress. Studies have shown dramatic differences in all cause mortality and circulatory disease death rates among people with ample access to natural spaces such as parks, wooded areas and open spaces. It is hypothesized that contact with nature promotes physical activity, buffers stress and reduces blood pressure (Cooke et al., 2011, pg. 25). Other benefits of activity in natural environments include: social, emotional and cognitive development of children and youth, quality of life and relaxation, recovery from stress, adventure, sport, challenge, learning and creativity, sense of meaning and social contact (Cooke et al., 2011). Built environments that similarly foster activity and engagement are also included here. These might include sidewalks and walking paths, reductions in traffic levels and traffic speeds which can increase play and social interaction between residents and quality of life (Cooke et al., 2011).
Individual health practices and coping skills	Individual protective factors that contribute to health and well-being include self-esteem, positive sense of self and body image, ability to cope with stress, autonomy, mastery, control, feelings of security, social and conflict management skills, positive interpersonal interactions (Saxena, Jane-Llopis & Hosman, 2006; WHO, 2004). Personal health practices impact health but are greatly influenced by the socioeconomic environments in which people live, learn, work and play (PHAC, Online).
Nurturing families and healthy child development	Early childhood experiences influence brain development, school readiness and health in later life. Other health determinants (e.g., housing, family income and level of education) affect the physical, social, mental, emotional and spiritual development of children and youth (PHAC, Online).
Good quality food (and food security)	This refers to food that is nutritious, affordable and accessible. Good nutrition helps maintain healthy weight but also helps improve academic performance in children (Cooke et al., 2011). Food security is the ability to acquire or consume a diet of adequate quality or sufficient quantity of food in socially acceptable ways.
Human biology and genetics	The basic biology and organic make up of the human body are a fundamental determinant of health. Genetic endowment provides an inherited predisposition to a wide range of individual responses that affect health status.

Table 11: The determinants of mental and physical well-being (flourishing in body and mind for all)

From second (pale green) outer circle of Figure 3 on page 55

Determinant	Description
Culture	Some persons or groups may face additional health risks due to a socioeconomic environment which is largely determined by cultural values that contribute to the perpetuation of conditions such as marginalization, stigmatization, loss or devaluation of language and culture, and lack of access to culturally appropriate health services (PHAC, Online).
Gender	Gender refers to the array of society-determined roles, personality traits, attitudes, behaviours, values, relative power and influence that society ascribes to the two sexes on a differential basis. Gendered norms influence health system practices and priorities. Many health issues are a function of gender-based social status or roles (PHAC, Online).
Leisure (e.g. arts and creativity, sport, culture)	Besides the obvious impact on physical activity, creative pursuits have been shown to improve confidence, self-esteem, motivation, happiness and reduce stress and enhance control. Leisure and physical activity enhance well-being by increasing feelings of competency and relaxation, distracting from difficulties and enhancing social inclusiveness and support. Leisure also results in improved well-being through associated meaningful engagement, self-expression, creativity and the opportunity to experience control and choice over such opportunities. Engagement in arts has been shown to enhance social participation and enhance well-being. Community–based arts projects have been shown to increase confidence, community empowerment, self-determination, improved community identity and greater social cohesion (Cooke et al., 2011, pg. 27).

Paradigm Four: Summary and Limitations

Paradigm Four represents an expansive approach to promoting mental and physical well-being for individuals and populations. Because it emphasizes actions on the broad determinants of health which reflect many different sectors – such as education, housing, economic development, early child development, culture and the arts – in many settings, including communities, schools and workplaces, it can be difficult to determine "who is responsible for what" and to break out of long established patterns of operating in silos. Determining responsibilities and accountabilities is a key challenge, as is determining how resources can be shared and allocated. In short, applying this paradigm requires effective collective action – no easy task. All of this said; because this is the only paradigm that addresses fundamental health determinants such as equity and social justice, it holds the most promise to successfully stem obesity and many other pressing conditions or diseases.

Part II: Summary and Conclusions

Based on the evidence compiled in this paper, doing more of the same thing is unlikely to reduce the incidence and prevalence of overweight and obesity. Perhaps more important, the unintended consequences of current approaches, particularly those outlined in Paradigm One and to a lesser extent, Paradigm Two, can be harmful to health and well-being. The impact of pressure to achieve an ideal weight, dieting, weight bias and stigma create problems such as anxiety, depression and eating disorders, precluding opportunities to achieve mental well-being.

The evidence appears to indicate that a trade-off has inadvertently been made in which weight and physical health have been given priority at the expense of mental well-being. The ethics of this trade-off are questionable, given the body of evidence suggesting that current approaches focusing on weight loss at the individual level have not been very effective (ten Have, et al., 2011; McLaren, et al., 2009; Sharma, 2009).

The table summarizing the four paradigms that was presented at the beginning of this section is reproduced in Table 12 Paradigms One and Two could be de-emphasized over time in order to address the unintended consequences described above. The individual focus on weight (Paradigms One and Three) is reflected in yellow shading, to warn of the potential harm to mental well-being based on the evidence reviewed herein.

This review of the evidence suggests strong support for phasing out a focus on weight and shifting toward well-being, particularly integrating mental and physical well-being. Given the evidence regarding the importance of acting on the social determinants of health to realize change at the population level, a shift towards Paradigm Four is suggested, hence the green shading. However, this does not mean that issues of weight should be neglected, but rather, that a broadening of focus may achieve greater results with less harm than has been accomplished to date through a primary focus on weight loss at the individual level of intervention.

Paradigm Four Synopsis

Paradigm Four is based on an approach of "flourishing in body and mind," reflected in a modified version of the Friedli model of mental well-being. It:

- Addresses the common determinants of weight and health, including equity and social justice, to promote mental and physical well-being for weight-related issues and other chronic health conditions.
- Grounds actions on many different domains at multiple levels and in multiple sectors (e.g., all levels of government, schools, the arts and culture sector, sports, economic development and workplaces).
- Allows for innumerable launching points and possibilities – actions can be taken to enhance the core protective factors, the determinants of well-being and/or equity and social justice.
- Is challenging to implement, due to the requirement for collective areas of responsibility, cross-sectoral accountabilities and shared resources.

The Foresight report (Government Office for Science, 2007) synthesized a vast amount of evidence to make the case for moving from Paradigm One to Paradigm Two as a strategy to stem "the obesity

epidemic". The authors of that report made a strong argument for moving beyond individual level behaviour change and, instead, addressing the complex socio-environmental factors contributing to this epidemic. Based on our review of the evidence and the current global movement toward addressing the broad determinants of health, there is merit in moving beyond focusing only on social determinants of weight to focusing on social determinants of *health*. The Foresight authors similarly articulated a need for identifying synergies "with other policy goals such as climate change, social inclusion and well-being in order to strengthen the case for action and to provide multiple benefits." (Government Office for Science, 2007, pg. 14). Paradigm Four is an attempt to take up this challenge, building on the strengths of the obesogenic environment paradigm and addressing its limitations by emphasizing environments that promote physical and mental health and well-being more broadly.

Table 12: Paradigms of thought in relation to addressing weight

	Individual level	Population & social level
Weight focused	**Paradigm One** Focus is on individual behaviour change with a goal of losing weight.	**Paradigm Two** Focus is on "the obesity epidemic", and creating non-obesogenic environments that enable people to eat better and exercise more with a goal of reducing the prevalence of obesity in the population.
Well-being focused	**Paradigm Three** Focus is on individuals actively engaging in life in ways that optimize their mental and physical well-being. The goal is to achieve the best weight one can while living the healthiest lifestyle that allows one to flourish.	**Paradigm Four** Focus is on creating environments that promote positive mental and physical health, with a goal of promoting flourishing in mind and body for all.*

* This encompasses the creation of non-obesogenic environments, but extends beyond addressing determinants of weight to addressing the broad determinants of health, including positive mental health and well-being.

6.0 PART III: Shifting from Weight to Well-Being in Practice and Policy

Based on the review of the evidence regarding the inter-relationships among obesity, overweight, weight bias and mental well-being, how can healthy weights be promoted in ways that protect and promote mental and physical well-being? The suggestions provided here bridge actions between weight-related issues and the promotion of mental and physical well-being across the life course. They encompass, but extend well beyond, the promotion of healthy weights and include a spectrum of actions for individuals through to governments that encompass promotion, prevention and intervention. Their common denominator is that actions are based on health promotion principles, recognizing that many of these same principles underlie the concept of patient and family-centred care. *How* things are done is just as important as what things are done.

Selected actions are presented that reflect the principles set forth in this section. They include suggestions to (i) tackle weight bias, stigma, bullying and discrimination; (ii) support individuals and families to prevent or address weight-related issues; and (iii) address the determinants of health and well-being (i.e., flourishing in body and mind for all). Examples of approaches pertinent to these action areas are provided in Appendices 6 through 11. Note that these are suggestions only. Each area requires further exploration, reviews of evidence and careful thought.

Finally, the measurement of flourishing and weight-related issues is addressed and areas for future inquiry suggested.

Key Principles for Addressing Weight-Related Issues in Ways that Promote Mental and Physical Well-Being (Flourishing)

The health promotion principles presented in Table 13 address weight-related issues in ways that protect and promote positive mental and physical well-being. They apply in many contexts and with multiple audiences. They are rooted in Paradigms Three and Four, and shift the focus from weight to one of well-being and flourishing.

Table 13: Key principles for addressing weight-related issues *and* promoting well-being in body and mind (flourishing) for all

Principle	Description
First, do no harm	An unintended consequence of focusing on weight through individual behaviours and in isolation from health and well-being is the risk of contributing to weight bias, stigma, bullying and discrimination. It is critically important that one's attitudes and practices regarding weight-related issues start with the goal of "doing no harm".
Adopt a positive and holistic view of health	Health is more than the absence of disease; it enables us to enjoy our lives and deal with the challenges we face. It is dynamic and includes physical, emotional, spiritual, psychological and intellectual dimensions. No matter the medical or physical health issue to be addressed, body and mind cannot be separated. Neglecting the mind can be harmful to mental health and to physical health.
Focus on enhancing mental and physical health and well-being, not on weight	Weight is only one small part of health and well-being. Rather than focus on numbers on the scale, the focus should be on adopting behaviours that lead to mental and physical well-being, such as healthful eating, enjoyable physical activity, satisfaction with one's self and body – no matter what weight or size, having caring relationships with others, being engaged in meaningful pursuits and so on.
Have compassion and seek to understand	Given that weight can be a highly personal and sensitive issue, to avoid possible psychological harm and arrive at effective solutions, conversations and actions to address weight-related issues should be grounded in an ethic of care and compassion, and approached with understanding, not judgement.
Employ participatory and empowerment-oriented approaches	Enable choice, control and active participation in decision making where the person/group/community is the primary actor in naming issues, and identifying and implementing possible solutions to their health concerns. Promote social inclusion and seek to identify and build upon existing strengths, abilities and assets.
Beware the "simple fix" and be informed	Solving the obesity issue is not a simple fix. While it is important to deal with individuals with compassion, care and appropriate advice, it is crucial to also address the broader social factors that contribute to weight-related issues. First, understand their complexity, their entrenchment in society, and the unintentional harm done by a focus only on individual behaviours.
Address the broad determinants of mental and physical well-being (flourishing)	Many factors beyond the control of individuals impact health and well-being. These determinants of health and flourishing need to be addressed to reduce rates of chronic disease and to afford people an equal opportunity to flourish in life. By addressing the determinants, multiple health problems can be addressed.

Table 13: Key principles for addressing weight-related issues *and* promoting well-being in body and mind (flourishing) for all	
Principle	**Description**
Collaborate	Collaborative efforts at multiple levels and across a variety of sectors are necessary to develop environments that foster flourishing in body and mind for all. Collaboration between the fields of obesity and eating disorders is especially warranted, given the commonality of risk and protective factors between them.
Seek equity and social justice	Seek to understand and address social inequities that shape opportunities for health. Recognize that weight-bias, stigma and discrimination are social injustices that lead to health inequities. Provide care and services in culturally appropriate and sensitive ways.

Collaboration Between the Fields of Obesity and Eating Disorders

Given their common risk and protective factors, it is recommended that the overweight and obesity field, and the disordered eating and eating disorders community collaborate with each other. The review of evidence, including interviews with key informants, continually reinforced the notion that overweight, obesity, disordered eating and eating disorders should be considered as a spectrum of weight-related issues and disorders (hence our use of the term "weight-related issues" in this document).

Key informants from BC indicated a strong desire to work collaboratively across these two communities and spoke favourably about the work already occurring. The BC Mental Health and Addiction Services' *Promoting Healthy Weights Working Group*, for example, is composed of a number of people who represent both fields and are dedicated to working together to address the spectrum of weight-related issues. Their vision is: "An environment that supports acceptance of body size diversity and healthy attitudes towards weight and shape across the province of BC." Each community can contribute rich knowledge and skills, and by combining resources, can create powerful and coordinated actions with greater possibilities of success. The mental health and well-being focus of the disordered eating/eating disorders field is a valuable resource for informing efforts to address healthy weights. Moving forward with complementary and integrated approaches is strongly supported by the evidence reviewed here, in part because of the common protective factors and determinants of health. It is particularly salient for work with children and youth.

Action Area One: Tackle Weight Bias, Stigma, Bullying and Discrimination

...Among Professionals

A variety of professionals work with people faced with weight issues, from health practitioners to teachers, child care workers and others working in sports facilities, secondary educational institutions, workplaces and other settings. The following suggestions are aimed at reducing weight bias, stigma, bullying and discrimination in all spheres. Examples of some actions are presented in Appendix 6 on page 116.

- **Work with individuals who have been victimized by weight-related stigmatization, bullying or discrimination to foster their empowerment, resilience and a strong, positive sense of self.** Chances are that people who are obviously overweight or obese have experienced some form of weight bias, stigmatization, bullying or discrimination. They should tactfully be asked about these experiences to identify and address any potential psychological harm (Neumark-Sztainer, p.c., March 2012). Given that the internalization of bias and discrimination may be most harmful, it is important to help people to develop positive coping skills. Maclean, et al. (2009), for example, suggest providing strategies to help people make accurate assessments of social rejection and to develop a sense of strong identity that can help buffer the psychological harm of stigmatization. The health promotion strategies of building individual coping skills and small group support are particularly helpful for these purposes.
- **Integrate training with knowledge across sectors about obesity and obese people, including:**
    - **An understanding of the complex relationships between weight and health.** Overweight/obesity, as defined by weight and BMI, may not necessarily equate to poor health, but could be a signal for further investigation. Similarly, a BMI in the "normal" range does not necessarily equal good health.
        - An example of training is the research program underway at Toronto's Hospital for Sick Children, for public health professionals who work in chronic disease prevention. The model focuses on sensitivity training regarding weight bias awareness, a balanced approach to healthy eating/healthy weight messaging to prevent the triggering of disordered eating, and mental health promotion/resiliency building (McVey, p.c., March, 2012).
    - **Training in mental health promotion,** including strengthening capacity to address weight-related issues in ways that protect and promote mental well-being. Possible resources include:
        - *"Health Compass – Transformative Practices, Embracing Wellbeing"*, a PHSA project with the goal of transforming health care practice by enhancing the capacity of PHSA health care providers to further promote the mental well-being of all patients, clients and families that access PHSA's health care services by increasing health care providers' knowledge, attitudes, skills and competencies related to mental health promotion.

- *Preventing Weight Bias – Helping without Harming in Clinical Practice,* offered freely online to health professionals by the Yale-Rudd Centre for Food Policy and Obesity. The first of eight modules deals with self-awareness of weight bias. Strategies are summarized in Table 15. (www.yaleruddcenter.org/resources/bias_toolkit/index.html)
- The Yale-Rudd Centre online Continuing Medical Education course called, *Weight bias in Clinical Settings: Improving Health Care Delivery for Obese Patients*, accredited by the Yale School of Medicine. (www.yaleruddcenter.org/resources/bias_toolkit/index.html)

Table 14: Strategies for providers to reduce weight bias

- Recognize the complex etiology of obesity and its multiple contributors, including genetics, biology, socio-cultural influences, the environment and individual behaviour.
- Recognize that many obese patients have tried to lose weight repeatedly.
- Consider that patients may have had negative experiences with health professionals, and approach patients with sensitivity and empathy.
- Explore all causes of presenting problems, in addition to body weight.
- Emphasize the importance of behaviour changes rather than just weight.
- Acknowledge the difficulty of achieving sustainable and significant weight loss.
- Recognize that small weight losses can result in meaningful health gains.

See: www.yaleruddcenter.org/resources/bias_toolkit/toolkit/Module-1/1-01-BecomingSensitive.pdf

- **Attend carefully to language that is used to describe weight-related issues.** While the terms "overweight" and "obesity" may be perfectly acceptable to health clinicians because they imply a medical condition, the same terms may be offensive to those who are experiencing these issues. Freedhoff and Sharma (2010, pg. 8) cite a study that asked 167 women with obesity to rate 11 terms used to describe obesity. On a scale of undesirable to very undesirable, the word "fatness" was least desirable, followed closely by "fat" and "obesity". The only term that rated favourably was the word "weight".
- **Ensure health care settings are equipped to accommodate people who are overweight or obese.** This includes ensuring that gowns fit, that blood pressure cuffs are designed for larger people, and that proper bariatric equipment (e.g., weigh scales, chairs, stretchers, beds) is readily available. Privacy should be considered, by, for example, locating weigh scales in a private area. Before weighing a patient/client, permission should be sought. Measures such as wide doors, handicapped accessibility, high sturdy couches and air conditioning send a message of respect and willingness to accommodate people's needs.
- **Ensure coherence and consistency of non-stigmatizing messages and approaches** in programs or initiatives crossing system levels and sectors (Maclean, et al., 2009). For example, a tax on unhealthy food may have a disproportionate impact on the poor who are relying on these foods as a cheap source of caloric intake.

...In the Public Sphere

In the face of strong evidence of the harm invoked by weight bias, stigma, bullying and discrimination, and despite public health's advocacy to eliminate other forms of stigma (e.g., HIV/AIDS, tuberculosis), the health system has not really addressed this growing social issue. This section suggests approaches to raising public awareness about the serious impacts of weight-based discrimination as a social justice issue. This could be combined with efforts to increase inclusion, respect for diversity of body sizes and shapes, and/or the complexity of the relationship between weight and health.

- **Screen public health mass communication messages** for stereotyping, blaming, misinformation and possible layering of stigma. Consider providing messages focused on building positive self images and reducing stereotypes. Specifically:
    - **Separate messages about healthy, active living from messages about obesity.** Healthy active living is a positive message about being as healthy as one can be. These messages should be intended for the entire population and should not single out people with weight issues. When the focus is on obesity, it singles out people with obesity and perpetuates bias (Sharma, p.c. March 2012).
    - **Eliminate messaging that might be construed as placing blame** on individuals or might, even unintentionally, encourage dieting or other unhealthy weight control practice. Messages about the cost of obesity to the health system and the economy can appear to lay blame on individuals, and be particularly damaging. Key questions to ask include: (Sharma, p.c. March 2012)
        - Is this message going to reinforce obesity stereotypes?
        - Will this message foster simplistic notions of weight control?
        - Does this message promote unrealistic weight loss expectations?
        - Does this message increase weight bias?

      A helpful guide called, "Evaluating the Risk of Harm of Weight-Related Public Messages" has been created by Australia's National Eating Disorders Collaboration. (www.beactive.wa.gov.au/assets/files/Guidelines/Evaluating%20the%20Risk%20of%20Harm180311%20FINAL.pdf)

    - **Dispel myths and focus on building positive self images.** Misconceptions about dieting, weight loss, overweight and obesity abound. A set of key messages could be developed to help educate patients and the public about a more "commonsense approach" to weight-related issues, including determinants of obesity and the determinants of well-being. They should be coupled with strong messaging about the complex and social nature of weight-related issues, to convey the socio-environmental determinants of weight and health. If the public remains unaware of these issues, they are unlikely to understand or support socio-environmental responses to weight issues. Some of these messages might include:
        - Following established guidelines for healthy eating and physical activity can result in improved health and well-being, but sustaining large amounts of weight loss through calorie-restricted dieting over the long haul is unlikely. Most people re-gain weight after they diet; some gain more weight than before they dieted.
        - A loss of 5 to 10 per cent of body weight can improve your health significantly.

- Continual cycles of dieting and weight-regain can be harmful to your health.
- (*For adults*) Strive to achieve your best weight by eating healthfully and engaging in enjoyable physical activities.
- Focus on changes that make you feel good, not the number on the scale.

- **Integrate images of people with diverse body shapes and sizes into messaging,** available free from:
  - The Canadian Obesity Network's "Perfect at Any Size Gallery" http://www.obesitynetwork.ca/image_bank.aspx?menu=40&app=236&cat1=641
  - The Rudd Center for Obesity and Food Policy http://www.yaleruddcenter.org/press/image_gallery_intro.aspx

Action Area Two: Support individuals and Families to Prevent or Address Weight-Related Issues

Health practitioners often work with individuals and their families to prevent and treat illness as well as to promote health and well-being. To foster well-being, it is important to integrate the promotion and protection of mental well-being into work with patients/clients in the context of their families. This section provides some suggestions for talking with individuals and families about weight-related issues. Examples of initiatives that prevent or address weight-related issues in mentally-healthy ways are listed in Appendix 6 on page 116.

Working with Children and Youth to Prevent Weight-Related Issues

Children and youth tend to be preoccupied with body image and size issues, which can predispose adolescents to disordered eating and in some cases, eating disorders. Many adolescents report body dissatisfaction and disordered eating, calling for a comprehensive approach to prevent both overweight and disordered eating, which can result in good outcomes, particularly if initiated during childhood and adolescence. Russell-Mayhew (2007) has identified several protective factors that are specific to weight-

related issues. Table 15 provides examples of topics for discussion at the individual and environmental level, which may serve as a helpful guide to inform actions with children and youth.

Table 15: Discussions for enhancing protective factors in children and youth

Broader Protective factors	Examples of topics for discussion/action	
	Individual level	Environmental level
Self-esteem	Appreciate all body sizes and shapes, recognizing that we are more than our appearance. It is not only about having a healthy body, but also having a healthy attitude and accepting who we are.	Create an environment of "belonging". For example, a school where students are cherished and want to attend.
Critical thinking/ analysis skills	Critique media messages about gender, body size and shape. For example, examine attitudes and beliefs toward obesity and the thin ideal.	Support media campaigns that use regular models and focus on aspects other than outer beauty (e.g. DOVE campaign for real beauty). Write letters to discourage offensive marketing. Support policies that limit youth's exposure to advertising about food products.
Healthy eating	Educate about the dangers of trying to change one's body through dieting or other behaviours, like steroid use.	Change food policy in schools. Advocate for healthy options at fast food restaurants. Work with food manufacturers and distributors.
Physical activity	Understand the dangers of compulsive exercise. Encourage participation in enjoyable, life-long activities and sport that is not only about competition.	Encourage fitness centres to be holistic and health focused. Petition for safe, pedestrian-friendly communities (i.e. sidewalks, good lighting, reduced or slowed traffic flows in residential areas). Strive for access to community centres for all, including free access for those who cannot afford fees.

Table 15: Discussions for enhancing protective factors in children and youth

Broader Protective factors	Examples of topics for discussion/action	
	Individual level	Environmental level
Healthy relationships/ interpersonal skills	Promote acceptance of self and others in terms of body size and appearance. Provide students with basic skills that promote healthy relationships ("I" statements, eye contact, assertiveness).	Create positive peer and family networks for youth. Model working collaboratively with others so students can witness the sum being greater than the parts. Build community partnerships.
Inclusion and acceptance	Foster acceptance of all body types and physical abilities (e.g., bodies can be healthy at any size; no weight-related teasing or comments). Recognize that jokes and put-downs about bodies are a form of harassment.	Hire diverse body shapes and sizes. Give equal opportunity regardless of weight, size, shape or physical attractiveness. Create a culture where differences are acknowledged and celebrated and are seen as a contribution and strength.
Emotional health/ coping and communication skills	Identify and appropriately deal with feelings. Decode 'fat' and 'diet' talk, e.g., "I feel fat" or "I need to go on a diet" is a 'teachable moment'; an opportunity to explore feelings that are being inappropriately attributed to the body. Attempts to change the body will not resolve negative feelings.	Create policies and reward/ compensation systems that focus on life balance (i.e. find balance between extracurricular sports, clubs and academic pursuits).
Problem-solving and decision making skills	Strategize about how to counteract the impact of the messages (implicit and explicit) around food, bodies and size promoted by family, friends, school environments and the larger culture.	Encourage social awareness and responsibility. Help youth to find meaning in helping others so that the focus is not only changing one's own body weight but rather enhancing the lives of others.

Source: Adapted from Russell-Mayhew, 2007, pg. 9.

Working with Adults on Weight Issues

Clinical practice guidelines direct medical treatment of overweight and obesity. The intent here is not to provide clinical advice, but rather to make suggestions for approaching weight-related issues in sensitive and compassionate ways that protect and promote mental health. This involves working with individuals in ways that address the implications of their weight, in the context of their broader health and in ways that promote flourishing. Some relevant points include:

- **Ask for permission to discuss weight.** The question: "I'm sure you're aware that your weight can affect your health. Do you have any concerns about your weight that you'd like to talk about?" allows the person to drive the conversation (Freedhoff & Sharma, 2010, pg. 8).
- **Use weight neutral language** and avoid making judgements or assumptions based solely on a patient's weight, such as believing that a person doesn't eat well or exercise just because they are overweight. Ensure that words and actions do not unintentionally promote weight bias.
- **Avoid the use of scare tactics, slogans ("eat less, exercise more") and guilt approaches** – these only reinforce self-recrimination and guilt, and underplay the complexity of obesity (Freedhoff & Sharma, 2010).
- **Put the patient in charge.** Use an approach that empowers the patient and builds upon their strengths. Support them in making their own, informed decisions about their health and course of treatment they would prefer.
- **If the person wants to lose weight, ask why this is the case.** The answer will inform the path to be taken. If, for example, weight loss is desired due to body image and self-esteem, this must be addressed (Freedhoff & Sharma, 2010).
- **If the person is willing and ready to lose weight, work with them to set realistic goals.** A goal of losing 5 to 10 per cent of body weight, at a rate of 1 to 2 pounds per week, can bring about significant health benefits. A realistic goal sets patients up for success, rather than failure and self-recrimination (Freedhoff & Sharma, 2012, pg. 13).
- **Consider the patient's personal situation.** Determine and try to mitigate how the "obesogenic environment" and the social determinants of health may be influencing the patient's living circumstances and health-related behaviours. Honour the whole person and his/her family.
- **Focus on "the best weight for you"** – an achievable weight while living an enjoyable, healthy lifestyle (Freedhoff & Sharma, 2010, pg. 12).
- **Adopt a commonsense approach to food** – Eating is not simply about survival and "calories in". Food should not be positioned as the enemy, as it is often a source of comfort and imbued with celebration. Other than religious prohibitions, no foods should be forbidden (Freedhoff & Sharma, 2010, pg. 12).
- **Adopt a commonsense approach to exercise.** Encourage people to be as physically active as possible by engaging in activities that they find enjoyable.
- **Focus on building self confidence and esteem.** Help clients accept their bodies and realize that health and beauty are much more than body shape, size and weight.

The common principle is that, "if a [person] does not enjoy the way they are living while losing weight, they will almost certainly revert to "normal" practices and gain the weight back." (Freedhoff & Sharma, 2012, pg. 12)

Action Area Three: Address the Determinants of Mental and Physical Well-Being for All

A common approach to chronic disease prevention is to "fix" unhealthy behaviours. While this is well-intended, the result is often fragmented and often ineffective, in that people tune-out constant "health nagging": *Don't smoke. Don't do drugs. Practice safe sex. Respect people – don't bully. Eat healthy. Be active.* In Table 16, the limitations of this approach are noted, along with alternate, Paradigm Four-oriented approaches.

Table 16. Limitations and alternate approaches

Limitations of individual change interventions	Alternate approaches to address them
Failure to take into account the broader social determinants of health that significantly shape individual behaviours and health outcomes – Individual approaches have not "stemmed the tide" of obesity or chronic disease. Even if such behaviour change programs were successful, other people would replace high-risk candidates for development of disease. The underlying social conditions that perpetuate health problems must be addressed for long-term solutions (Frohlich & Poland, 2005).	While there will always be a need to work with individuals to address their particular health concerns, **work at other levels of the system is required to address the broad determinants of health.** In working with individuals, it is important to **understand how the broad determinants of health powerfully influence individuals' health, well-being, and opportunities to engage in behaviours that protect and promote health and well-being.** Can people afford nutritious foods? What factors in their lives influence their health-related choices and behaviours? For example, do they live in neighbourhoods in which they feel safe to be outside?

Table 16. Limitations and alternate approaches

Limitations of individual change interventions	Alternate approaches to address them
A focus on problems and deficits, such as unhealthy eating and physical inactivity, and casting adolescents as "problematic" can be dispiriting and negatively impact self-esteem and motivation for change. This can even lead to unhealthy behaviours (Lerner et al., 2006). Further, this problem-based focus can blind well-intentioned interveners to the strengths of youth (Benard, 2007; Chalk & Philips, 1996).	**Strive to identify strengths, abilities, resources and build upon them.** A strengths-based, empowering assessment might be, for example: (Laverack, 2005). ■ Marian is looking for work that will fit her skills as a trained laboratory technician (rather than, "Marian is a low income, unemployed single mother.") ■ Marian is trying to find ways to eat nutritiously but is unable to afford extra money for food shopping (rather than, "Marian is obese.").
A fragmented approach that targets specific issues can preclude collaborative efforts to identify common origins of problems and opportunities to promote health, well-being and flourishing in a holistic sense.	**Develop collaborative relationships** between the acute care community and public health practice. Discuss issues, aiming to identify and address any shared root causes. What are the most pressing health issues facing acute care? How can public health help address them?
Problem-based interventions devised by even the most well-intentioned and informed "experts" often fail to consider the unique perspectives, circumstances and strengths of the intended participants. This risks implementing measures that are irrelevant or ineffective for the "target group". In the case of youth, an adult-driven approach denies youth the opportunity to practice critical thinking, problem solving and decision making, important skills as they move toward adulthood.	**Find ways to adopt a participatory, empowerment-oriented approach** that enables the people whose health is to be improved to name their priority concerns and aspirations, and how they would like to address/achieve them.

Friedli (2010) has shown conclusively that a focus on individual deficits is not cost-effective. Numerous cost benefit analyses show that it is more fruitful to promote mental health through a broader, global approach that addresses the broad determinants of health – via health promoting schools, adult education, access to green spaces, supporting parenting and family life and lifelong learning – in other words, *promoting mental and physical well-being - flourishing in body and mind.*

The Health Council of Canada (2010, pg. 4) has observed that, *"thirty-five years of developing knowledge in the health promotion field has unequivocally shown that taking action on the broad conditions that affect people's lives offers the greatest improvement in the health of the population".*

It is here that the core protective factors identified by Friedli in Cooke, et al., (2011) (control, resilience, participation and inclusion) are particularly emphasized.

This application of Paradigm Four enfolds weight-related issues into the multiple dimensions of mental and physical well-being. There are numerous possible approaches and strategies in this domain. Five areas of particular relevance to weight-related issues are addressed below:

1. Promote healthy child and youth development.
2. Develop vibrant, inclusive communities.
3. Shift cultural norms and promote respect for size diversity.
4. Implement healthy public policy.
5. Adopt a whole-of-government approach.

Promote Healthy Child and Youth Development

Laying a solid foundation for a flourishing life begins during childhood and adolescence, meaning that efforts to foster mental and physical well-being can be particularly worthwhile at that stage. The focus is on helping children and youth acquire a strong sense of self and mastery, and the skills to progress through various developmental stages into early adulthood. Skills can include decision making, problem-solving, dealing with stress, communicating effectively and building positive relationships with peers and adults. The development of healthy relationships with food, self and body, and an active lifestyle are particularly important to weight-related issues. BC's Family FUNdamentals program provides an excellent example of this in action. It is highlighted, along with other examples relevant to this section, in Appendix 7 on page 123.

Adolescence

Youth are faced with significant and rapid physiological, psychological and cognitive developmental changes. Some of these changes include rapid gains in height and weight; changes in brain structure; developing a clear sense of personal identity and secure sense of self; establishing autonomy as well as the ability to build trusting, open, honest and caring relationships with others; coping with school; developing advanced reasoning, decision-making and problem-solving skills; developing a personal set of morals; developing self regulation; and developing critical thinking skills (Canadian Institute for Health Information, 2005; McLaren, 2002; Huebner, 2000). This stage of life is important for enhancing the core protective factors of control/empowerment, inclusion, participation and resilience, which can have far-reaching effects on a variety of health behaviours and positive outcomes – that is, flourishing in body and mind.

Positive youth development is triggered when young people have greater control over what happens to them – when their advice, participation and engagement are sought (McLaren 2002). This kind of engagement in meaningful initiatives fosters empowerment, which, along with connections to others, is associated with reductions in risky behaviours and participation in positive activities.

From a weight-related perspective, this approach is endorsed by Irving and Neumark-Sztainer (2002, pg. 302) who noted that, in addition to addressing attitudes toward weight and shape, an integrated program should address more general factors such as: self-empowerment, assertiveness, and the ability to cope with stress and regulate distressing emotions. They noted further that,

> "Youth should be encouraged to establish a sense of identity that encompasses factors outside of physical attractiveness, including personal strengths and interests, academic achievements, personality characteristics and values and relationships with others... and identifying healthy strategies for dealing with stressors and uncomfortable emotions (e.g., seeking social support, participating in physical activity, relaxation and coping skills)."

A large body of literature speaks to the power of global health promotion approaches with youth for broad and positive health outcomes. Research includes interventions related to:[4]

- **Resilience in youth -** This research identifies protective factors that buffer children and youth from the effects of known risk factors, reduce the effects of risk behaviours, and enable the accomplishment of developmental tasks (Benard, 2007; CIHI, 2005). Some of the protective factors identified include self-esteem, self-efficacy, and social and emotional competencies. Protective factors external to the individual include caring relationships, high expectations and opportunities for participation (Blum, 1998; Catalano et al., 2002).
- **Positive youth development –** This work emphasizes healthy development for all youth in all circumstances, and helping youth grow into autonomous individuals with a high level of well-being (McLaren, 2002). A central focus is drawing upon and enhancing assets and strengths, commonly referred to as developmental assets (Kia-Keating, et al., 2011; Lerner, et al., 2005; Search Institute, Online).
- **Youth engagement and empowerment –** Engaging youth in ways that recognize and nurture their strengths, interests and abilities means gaining their active involvement in making decisions about things that affect them at individual and systemic levels (McCreary Centre Society, Online).

This research has shown that positive mental health approaches and practices correlate with healthy physical and emotional development in children and youth, including a range of educational, health and psychosocial benefits (Joint Consortium for School Health, 2010). The Centre of Excellence for Youth Engagement (Online), for example, has noted that,

> "Through engagement, youth gain a sense of empowerment as individuals and make healthy connections with others which is associated with reduction of risk behaviours and increased participation in positive activities that contribute to community. Youth engagement is a cross-cutting, comprehensive, strengths-based practice for effective protection, prevention and intervention on multiple issues."

Based on an extensive literature review, the Centre of Excellence concluded that, *"Youth who were engaged in structured activities (ranging from extracurricular school involvements to community service,...etc.) were less likely to use cigarettes, marijuana, hard drugs and alcohol, less likely to engage*

4 For a succinct overview of these approaches and others to promoting mental well-being in school settings, please see the document, Schools as a Setting for Promoting Positive Mental Health: Better Practices and Perspectives, by the Joint Consortium for School Health at: http://eng.jcsh-cces.ca/upload/JCSH%20Positive%20Mental%20Health%20Lit%20Review%20Mar%202010.pdf

in risky sexual behaviour or become pregnant, less likely to engage in violent behaviour or be arrested, less likely to drop out of school, and more likely to complete a college degree, than youth who were not engaged in these kinds of activities. Moreover, there was also evidence that engaged youth were less depressed, had higher self-esteem, were more physically active, obtained higher grades in school, and showed a greater commitment to their friends, families and communities." (Centre for Excellence for Youth Engagement, 2003).

Settings for Healthy Child and Youth Development: Schools and Comprehensive School Health

Schools are important environments for promoting mental and physical well-being, including enhancing core protective factors such as a sense of control over one's life and self-efficacy, inclusion, participation and resilience. Comprehensive school health involves a whole school approach that includes actions on the social and physical environment, teaching and learning, healthy school policy, and partnerships and services (Joint Consortium for School Health, 2010).

Many comprehensive school health programs emphasize specific health priorities determined by health and school professionals. These typically include physical activity, good nutrition and, in some cases, healthy body image. These types of initiatives are more in line with Paradigm Two (obesogenic environment) approaches. While valid and important, they are limited, in that an agenda set by adults – teachers, school administrators and health professionals – reduces opportunities for students to experience one of the most beneficial aspects of comprehensive school health initiatives: active engagement and participation of students in exploring health and well-being by identifying priorities that are important to them. It is this participatory, inclusive approach that builds the core protective factors identified by Friedli in Cooke, et al. (2011). The Directorate of Agencies for School Health (DASH) BC's comprehensive school health initiative emphasizes youth engagement, as an example of this empowerment-oriented approach (highlighted in Appendix 7 on page 123).

As for weight-related issues, schools can promote acceptance of all body types by adopting anti-bullying policies that preclude weight-based teasing. Similarly, injury prevention programming in schools can integrate weight-related bullying and suicide prevention.

Develop Vibrant, Inclusive Communities

"Whole-of-community" approaches are directed toward building community capacity to enable groups to work effectively together, to identify and address broad priority health issues and aspirations. Systematic reviews of school and community-based programs are somewhat discouraging; however, more promising results have emerged from community capacity building, whole-of-community initiative that focus explicitly on obesity prevention (Swinburn,2008).

Examples include:

- EPODE – This large-scale child obesity prevention initiative began in France and has shown promising reductions in weight (Swinburn, 2008). The initiative is designed to build community

capacity, and to ensure leadership, resource allocation for training, social marketing development, evaluation and the development of suitable structures and skill development.

- BC's SCOPE (Sustainable Childhood Obesity Prevention through Community Engagement) project aims to strengthen community capacity for obesity prevention. The project is grounded in community-based participatory research principles and practices, and could be considered a hybrid of Paradigm Two (tackling the obesogenic environment) and Paradigm Four approaches (building community capacity to improve health). (See Appendix 8 for an overview of the SCOPE project.)
- The worldwide healthy cities/communities movement – This global movement, an example of a Paradigm Four-type approach, focuses on developing the physical and social environment and expanding community resources through a process of political commitment, institutional change, capacity-building and innovative projects (WHO, Europe, online). The approach is participatory and inclusive, where community members identify priorities that are most relevant to them, including, for example, economic development, creation of green spaces, the provision of child care, enriching community arts and cultural events, initiatives to include seniors, community gardens and kitchens. It aims to put health high on the social, economic and political agenda of local governments, with a philosophy that focuses on empowerment, inter-sectoral partnerships and participant equity. An example of this approach is BC Healthy Communities, a province-wide organization that is committed to the ongoing development of healthy, thriving and resilient communities. (See Appendix 8 on page 124 for further details.)

Shift Cultural Norms and Promote Respect for Size Diversity

The unrealistic images of "beauty" that are so prevalent in Western society can be detrimental to mental well-being (and, ultimately, to physical well-being, through unhealthy weight control practices). The document, *"Disordered Eating and Eating Disorders level of Prevention Framework"* (PHSA/BCMHAS) and the *Eating Disorders Quality Improvement Plan* of Vancouver Coastal Health (Pediatric and Child Youth Council, 2010) outline a number of "best practices" that challenge these ideals and help to increase respect for size diversity. They fit well with a mental health promotion orientation for children and youth, including, for example:

- Increase regulation of advertising that targets children as consumers for weight loss products, cosmetics and apparel.
- Provide guidelines for fashion industry re: underweight models.
- Provide guidelines to create supportive environments for the transition to high school (healthy choices, education about body image, media literacy and weight bias).
- Develop media literacy skills – Teach citizens to be more critical, active consumers of the messages portrayed in the media. Media literacy is a type of communications intervention that promotes adaptive behaviour indirectly by teaching individuals to evaluate media critically, thereby reducing the credibility and persuasive influence of media messages (Irving & Neumark Sztainer, 2002, pg. 304).
- Provide education on changing norms and attitudes about weight.

- Enhance diversity awareness/education – Challenging cultural values could buffer youth from internalizing a uniform and unrealistic standard of beauty (Irving & Neumark Sztainer, 2002).

The **ÉquiLibre** organization in Quebec is using an innovative approach to collaborate with, rather than confront organizations. Its "Behind the Mirror" campaign honours retailers for promoting healthy body image and appreciation of body diversity. Its work with Quebec fashion design schools encourages them to design clothing for people of all sizes and shapes. Their work is profiled in Appendix 9 on page 126.

Implement Healthy Public Policy

Implementing healthy public policy, a health promotion strategy, is important to promoting mental and physical well-being for all. This evidence review included a cursory scan of recent (last six years) provincial and territorial strategies, plans or frameworks related to obesity or healthy living. Each document was reviewed and assessed to determine its focus in relation to healthy eating, physical activity, obesity, eating disorders, mental health (as it pertained to obesity) and weight stigma/body image. (See Appendix 10 on page 127.)

Most provinces and territories have strategies for addressing healthy eating and active living, with obesity usually framed as an indicator of the need for action. Discussion of obesity varied, but was secondary to the focus on healthy eating and/or active living. Alberta appears to be the only province with a provincial obesity strategy (Canadian Obesity Network blog, Dr. Arya Sharma).

The focus on healthy living rather than on obesity in the provincial and territorial strategies is consistent with the notion of focusing on health behaviours and not on weight. Few of the strategies addressed mental well-being in relation to active living and weight, except for New Brunswick and Quebec, which have policies that are particularly relevant to the notion of addressing weight-related issues in ways that protect and promote mental well-being. Brief summaries of these approaches are included in Appendix 11 on page 138.

BC's *Healthy Minds Healthy People* ten year plan, its link to *Healthy Families BC*, and its emphasis on promoting mental health for all British Columbians provides clear potential for the implementation of Paradigm Four approaches – that is, promoting flourishing in body and mind for all. (See Appendix 11 on page 138.)

Considerations for Policies Related to Healthy Active Living

Research and experts consulted agree that policies and strategies related to "healthy active living" should be separated from issues of overweight, obesity, disordered eating or eating disorders. Policy may also be improved through the critical examination of the following questions:

- **Is the "healthy active living" message, after some 50 years of use, still meaningful to people or is it one to which people are now immune?** Given that the "healthy active living" message has been socially marketed to the public since the 1960s, it may be time to re-assess the public's receptivity to this message, particularly when developing new policies or strategies related to the promotion

of healthy weights. Several key informants for this review suggested there would be value in reformulating public messaging such that it remains relevant and worthy of public attention.

- **Should definitions of "healthy", "healthy eating" and "active living" be revised?** It is important to clearly define these terms to be consistent with new research regarding sustainable changes in health behaviours and improvements in physical and mental well-being. For example:
    - "Healthy weight" could be aligned with the Canadian Obesity Network's "best weight" – the best weight one can achieve and still have an enjoyable life – distinct from an "ideal" or "normal" weight or BMI. A challenge, however, is that while the term "best weight" has been applied to adults, less is known about the utility of applying this concept to children and youth.
    - "Healthy eating" might be defined more in terms of intuitive eating – that is, paying attention to internal cues of hunger and satiety (eating when hungry and stopping when full) and eating a variety of nutritious foods. The "comfort" and "social-celebratory" aspects of food and eating also must be recognized. Other food issues such as eating breakfast every day might be included in this definition.
    - "Mental well-being" should be incorporated in healthy eating messages.
    - "Active living" could be defined in terms of enjoyable, thus sustainable activity.
    - "Healthy living" could be equated with enjoyable living.
- **How can mental and physical well-being be integrally tied together in these policies or strategies?** Promoting mental well-being means emphasizing core protective factors (control/empowerment, fostering participation and inclusion, and resilience). It includes fostering emotional (happiness, life satisfaction), psychological (self-acceptance, personal growth) and social (positive relationships with others, sense of belonging) well-being. People value their health as key to living a life that is rich, rewarding, enjoyable and meaningful. This kind of message could be used to integrate mental and physical health and well-being.
- **How can "healthy active living" be embedded in the bigger picture of the broad determinants of health?** Explore how policies or strategies aimed at changing individual health behaviours can acknowledge and address issues of equity and social justice, and the environmental, social, political and economic factors that shape individual behaviours.

Adopt a Whole-of-Government Approach

The evidence summarized in this paper makes a persuasive case for shifting away from a sole focus on weight, towards a broader focus on health and well-being. It suggests that by continuing to take a narrow, weight-focused approach there is a risk of unintentionally causing harm to mental well-being, and of perpetuating health inequities. There is also strong evidence for extending the focus beyond the individual level of action, to the population and society level.

The shift to Paradigm Four may be viewed as a significant, transformational one. Yet, nationally and internationally, there are increasing calls for a broader focus on the determinants of health from a variety of sources, including the World Health Organization (2011) and Canada's Standing Senate Committee

on Social Affairs, Science and Technology (2009). There is wide and increasing recognition that the health care system contributes only in a small way to health and well-being.

In a recent report, *"Stepping it Up: Moving the Focus from Health Care in Canada to a Healthier Canada"*, the Health Council of Canada (2010) makes a strong case for moving forward with an inter-sectoral, whole-of-government approach to health and well-being. The report opens with the following quote from Roy Romanow:

> "If we want Canadians to be the healthiest people in the world...we have to cure 'hardening of the categories' which has over the years drastically compartmentalized many of the policy and programmatic tools that must be brought together to move us along the health outcome continuum" (Romanow, 2004, cited in Health Council of Canada, 2010, pg.1.)

The Health Council of Canada describes a whole-of-government approach as follows:

> "Whole-of-government is the term for a movement that is attempting to change the work of the public sector from a focus on the individual work of ministries or departments – sometimes described as a silo mentality – to a focus on complex issues that can only be addressed through a collaborative, integrated approach of multiple government ministries or departments with a common goal." (p14)

Building on a report of the Senate Subcommittee on Population Health, *"A Healthy, Productive Canada: A Determinant of Health Approach"*, the Council argues that making this shift happen requires recognizing that the "low hanging fruit of individual lifestyle have been picked", and it is now time to adopt whole-of-government and inter-sectoral approaches to address complex issues that affect health and well-being (Health Council of Canada, 2010). Drawing from the Senate report, the Council emphasizes six key recommendations as being important for shifting from a focus on health care to a focus on health and well-being for all: (Health Council of Canada, 2010, pg. 30)

1. Adopt a more integrated set of actions across Canada aimed at revitalizing the national health goals and matching these goals with indicators and targets for health disparities.
2. Adopt a reinvigorated approach to fund and encourage health impact assessment within all governments to assess the potential impact of their policies on health.
3. Conduct research that identifies which public policy interventions work and how to do the research, followed by dissemination of this information about what works best. More specifically, there needs to be methods to advance the collection and sharing of promising practices regarding whole-of-government and inter-sectoral approaches.
4. Provide a database infrastructure to ensure the collection, monitoring, analysis and sharing of health equity and population health indicators at national, regional and local levels.
5. Increase the public's understanding of the social determinants of health and the costs to society of not acting on these determinants.
6. Enable and support communities to manage situations locally.

The last recommendation resonates with the point made by the Health Council of Canada (2010), that there is increasing recognition that whole-of-government approaches needs to work in conjunction with "all of society" approaches to address the determinants of health. Engaging members of the public and communities to work at a local level becomes critically important.

Because of the complexity of weight-related issues and disorders, and the evidence provided in this paper, a whole-of-government approach would be of value. Only through multi-sectoral collaboration can the determinants of obesity and the broader determinants of health and flourishing be addressed.

Measuring Mental Well-Being, Flourishing and Weight-Related Issues

It is often said that what gets measured matters. A shift toward Paradigm Three and Four-type approaches will require an associated shift in the way that "health" and "weight issues" are measured. Possible sources and foci of relevant data are highlighted below:

- Recent work in the positive mental health field has generated ***new measures for assessing the presence of positive mental health*** in contrast to the presence of mental health problems or illnesses. The work of Keyes (2009a, 2009b, 2007) is particularly suited to measuring flourishing/ positive mental health. Keyes has developed "mental health continuum" short forms for measuring flourishing in adults over age 18 and in youth ages 12 to 18.
- ***Promising work in this area is also being conducted in Scotland***, as flourishing is a priority for the Scottish government. See:
    - http://www.healthscotland.com/understanding/population/mental-health-indicators.aspx
    - http://www.edphis.org/system/files/Establishing+a+core+set+of+national,+sustainable+Scottish+mental+health+indicators+-+final+report+-+2007_0.pdf
- In Canada, the ***Canadian Institute for Health Information (CIHI, 2009) has also done some work on measuring positive mental health.*** Dimensions measured and reported on by province include:
    - life enjoyment
    - coping ability
    - emotional well-being
    - spiritual values
    - social connectedness

  See: http://www.cpa.ca/cpasite/userfiles/Documents/Practice_Page/positive_mh_en.pdf
- ***The Canadian Community Health Survey regularly collects information about life satisfaction and other dimensions of positive mental health,*** which includes a question about satisfaction with body image. It could be used to generate indicators such as (Mike Pennock, pc, March 27, 2012):
    - % of persons satisfied with the way their body looks by gender and by age
    - % of underweight, normal weight, overweight and obese persons who:

- rate their mental health as very good or excellent
- are very satisfied with their lives
- are active in their leisure activities
- eat 5 or more servings of fruit and vegetables per day
- are diagnosed with mood or anxiety disorders
- are non-smokers

- Swinburn (2008) recommends use of the following ***measures of safety*** (i.e. potential unanticipated consequences of a focus on weight) in community-based obesity initiatives:
    - experience of weight bias, stigma, bullying and or discrimination; these measures would ideally also include source of bias (e.g., family, friends, school, work)
    - prevalence of underweight
    - self-reported levels of body dissatisfaction with body size
    - proportion of individuals not feeling good about themselves
    - attempts to lose weight in previous 12 months
    - frequency of teasing about weight
- Finally, tracking societal level changes focused on mental and physical well-being (aligned with Paradigm Four) is an area of active research internationally, with promising work going on in Canada. *The Canadian Index of Well-Being Network,* under the leadership of Roy Romanow, measures well-being so that it becomes visible and governments and citizens can see how our nation is progressing as a society. The tagline on their website is *"measuring what matters"*. The Network is currently using the following working definition of well-being: *"The presence of the highest possible quality of life in its full breadth of expression, focused on but not necessarily exclusive to: good living standards, robust health, a sustainable environment, vital communities, an educated populace, balanced time use, high levels of democratic participation, and access to and participation in leisure and culture."* See: http://ciw.ca/en/

Areas for Future Inquiry, Research and Evaluation

To further inform discussion and action regarding the promotion of healthy weights and mental well-being, some topics for further inquiry (i.e., environmental scans, literature searches, new research) include:

- Participatory research with children and youth (e.g., youth engagement initiatives) to discern how they perceive and experience issues related to weight and health, and to work with them to develop and implement their own ideas for action.
- Strategies for building protective factors against the internalization of weight bias, stigma and discrimination.
- Participatory approaches in program design and policy development – including people who are experiencing weight-related issues in developing policy regarding "healthy weights", for example.

- Determining the appropriateness of a "best-weight" approach for working with children and youth who are overweight or obese through a review of literature regarding current approaches to managing child overweight and obesity, and helping children to "grow into a healthy weight".
- Gender-based analyses of weight-related issues and development of recommendations for addressing healthy weights and promoting mental well-being in ways that address gender issues.
- Interventions for adults regarding body satisfaction and building a healthy relationship with food.
- Innovations for reducing weight bias, stigma and discrimination.
- The experiences of seniors regarding weight-related issues – including body satisfaction and mental well-being, factors/supports that facilitate mental and physical well-being.
- Strategies for social marketing regarding the social determinants of health.
- On a broader scale, ways to shift paradigms in complex health systems and governments – how to move toward a well-being focused paradigm and how to adopt whole-of-government approaches. It would be worthwhile to examine new approaches in Sweden and the United Kingdom where local and municipal governments are taking greater responsibility for the well-being of citizens.
- Widen the lens of exploration to include fields other than medicine. The fields of anthropology, sociology, nursing, community psychology, arts and culture, and urban design, for example, have much to offer in terms of moving beyond a focus on weight and for framing obesity as a complex socio-cultural issue rather than merely a biomedical one.
- Place greater emphasis on finding ways to implement effective action. As described previously, a number of promising activities are currently underway in BC. Across Canada and internationally, there are promising practices that can be adapted and used in a variety of BC contexts. The emphasis needs to be on evaluating these initiatives, with the aim of increasing understanding of approaches that work well, in what contexts and why. As the Government Office for Science (2007, pg. 62) notes,

  > "Given the pressing need to tackle obesity, it is likely that interventions to prevent obesity will have to take place when the evidence is neither complete nor perfect. Instead, the evidence base needs to develop alongside the delivery of novel interventions, informed by the available evidence and strengthened by expert advice".

  This approach resonates with the developmental evaluation approach, as described by Michael Quinn Patton (2011). In developmental evaluation the focus is on continual learning, gathering and assessing information to inform decision making and actions taken along the way. This ongoing process informs the development of an initiative, shaping it and perhaps even re-directing it as it evolves. This approach is ideally suited to initiatives and projects that address complex issues and complex environments, such as weight-related issues.

Part III: Summary and Conclusions

This section presented several ideas for addressing weight-related issues in ways that protect and promote mental well-being. Actions with children and youth have been emphasized, as this seems to be a particularly important group for promotion and prevention efforts.

However, before action is taken, fundamental work in BC is likely needed. It may be particularly valuable to draw key stakeholders, including those experiencing weight-related issues, together to:

- **Take stock.** Many excellent initiatives are already underway in PHSA and BC. There appears to be a certain level of readiness to build on this foundation and move forward in new ways. Which approaches are indeed protecting and promoting mental health? Which ones may have potential to cause harm to mental health? How could they be modified to reduce this potential to cause harm?
- **Seek opportunities to collaborate.** Some of the key informants for this review suggested there would be great value in finding ways to work more collaboratively on weight-related issues within PHSA and, more broadly, within the province. This would enable development of a comprehensive and coordinated spectrum of services and supports.
- **Decide how to move forward.** All of the key informants from BC suggested that there is a degree of readiness to move to a different paradigm within the province – one that resembles Paradigms Three and Four. An important first step would be strategic planning about what this might look like, and how progress toward a new paradigm could be achieved.

Given the findings of the evidence review and the apparent willingness to find new ways of addressing these old issues, it would seem that a new paradigm rooted in health, well-being and flourishing may have much to offer.

7.0 Summary and Reflections

The review of evidence has provided a number of insights into weight-related issues and suggested a new way forward that promises to be more protective and supportive of mental health than current approaches. In summary, the review of evidence has shown that:

The State of Overweight and Obesity in Our Society

1. **Overweight and obesity are increasing.**
   Rates of overweight and obesity in Canada and globally have risen steadily over the past three decades. Among Canadian provinces and territories, BC has a lower prevalence of overweight and obesity, but the numbers are still significant, with 44 per cent of adults and 16 per cent of youth aged 12 to 17 being overweight or obese.

2. **Obesity is strongly associated with many serious and costly chronic health conditions, but the relationships are complex.**
   The strong links between obesity and the development of numerous medical conditions and chronic diseases are well-established. Obesity is associated with sleep apnea, type 2 diabetes, asthma, gallbladder disease, osteoarthritis, chronic back pain, several types of cancers, cardiovascular diseases and depression. Severe obesity is associated with premature mortality. Childhood obesity increases the risk of obesity in later life and can contribute to development of type 2 diabetes, heart disease and high blood pressure.

   Ongoing research has demonstrated, however, that the relationships between obesity, health and disease are complex and not entirely understood. Some people who are obese are metabolically healthy, while others of normal weight are metabolically unhealthy. Overweight and mild obesity have been found in some studies to be protective of health. Small amounts of weight loss can produce improvements in metabolic health without achieving an "ideal" weight; indeed, improvements to physical health can be made through changes in physical activity and diet in the absence of weight loss. These counter-intuitive findings beg the questions, "What is a "healthy weight?", and, "Should the focus be on weight, per se, or on other indicators of health?"

The Impact of Current Approaches

3. **The simple "cure" of weight loss can harm mental and physical health.**
   The instinctive solution for overweight and obesity is to recommend that people lose weight by reducing caloric intake and increasing energy expenditure, with the goal of achieving a "normal" weight and body mass index (BMI). But after five decades of attempting to address obesity in this way, rates of overweight and obesity have only continued to rise. And, there is growing evidence that the simple "cure" of weight loss can, in and of itself, cause harm to mental and physical health.

   This harm comes in the form of unrealistic expectations that weight loss is simple and that the inability to achieve and sustain weight loss is thus a personal failure. In reality, significant and sustained weight loss is difficult to achieve. While there are exceptions, most people who lose weight through dieting regain the weight they lost and often more. Cycles of weight loss and regain associated with dieting have been linked to increased risk for cardiovascular disease. The

potential for self-recrimination and psychological harm may accompany repeated failures to achieve and sustain an "ideal" weight.

4. **Harm is generated through the perpetuation of weight bias, stigma, bullying and discrimination.** Alongside the "obesity epidemic" is a shadow epidemic of weight bias. Ironically, as obesity rates have increased, so have rates of weight bias, stigmatization and discrimination. There is strong evidence that health care professionals endorse negative stereotypes and attitudes toward obese patients. Some health professionals have argued that weight bias will motivate individual behaviour change; however, this has been proven untrue. Instead, there is extensive evidence demonstrating strong linkages between weight bias and harm to mental and physical health and well-being, including poor body image, body dissatisfaction, low self-esteem and low self-confidence, loneliness, sense of self-worthlessness, depression, anxiety and other psychological disorders, suicidal thoughts and actions, maladaptive eating patterns, avoidance of physical activity, stress-induced pathophysiology and avoidance of medical care. Given that approximately half of Canadians are overweight or obese and that many, including children and youth, will experience some form of weight bias, this shadow epidemic also poses a significant threat to population health.

5. **Harm is also generated through reinforcement of unrealistic cultural ideals that equate thinness with attractiveness, success and health.**
Weight bias and strong cultural norms regarding beauty and attractiveness in Western society are mutually reinforcing phenomena that can promote a fear of being fat and socially unacceptable. For many, particularly young girls and women – even those of normal weight – this fuels body dissatisfaction, leading to unhealthy weight control practices which in turn can contribute to obesity, disordered eating and eating disorders. As weight bias and societal pressures to be thin have increased, so has the incidence of disordered eating and eating disorders. Public health messages about the obesity epidemic and its costs, and the need for people to lose weight, can inadvertently add fuel to the fire.

6. **There is merit in combining efforts to address obesity and other weight-related issues such as disordered eating and eating disorders.**
Overweight, obesity, disordered eating and eating disorders share multiple risk and protective factors and thus can be considered as a spectrum of weight-related issues and disorders. Many, if not most, of the shared risk factors relate to mental health issues such as weight-based teasing, low self-esteem, body dissatisfaction and weight concerns associated with dieting and binge eating. Mental health promoting approaches adopted in the fields of disordered eating and eating disorders may be relevant for addressing overweight and obesity in ways that protect and promote mental well-being.

7. **Obesity and other weight-related issues are shaped by an "obesogenic environment" and the broader social, cultural, economic, political and environmental contexts in which we live, learn, work and play. They are social issues, not merely individual problems.** The obesity epidemic cannot be solved by changing one individual at a time. It is clear that obesity and other weight-related issues are complex and deeply entrenched in the social and cultural fabric of our society.

   Growing attention is being given to the "obesogenic" environment – the sum of influences that living conditions have on promoting obesity in individuals and populations. These influences include, for example, sedentary work, transport, food production, food marketing, opportunities

for recreation and physical activity, and so on. Beyond the obesogenic environment are the social determinants of health such as equity, income, education, gender and healthy child development that influence opportunities for mental and physical well-being. Obesity follows the social gradient, so that, just as people tend to be less healthy than those the next step above them on the income ladder, so too is there more obesity as income drops. Efforts to promote healthy weights and mental well-being need to ensure that they do not inadvertently increase disparities in health status or behaviours.

Suggested Ways Forward

8. **Any solutions to the obesity crisis need to integrate mental and physical health and well-being.**
The harmful effects of weight bias provide clear evidence that to neglect mental well-being when addressing weight is folly. How then, might it be possible to promote healthy weights while also protecting and promoting mental well-being? A central thesis in this paper, based on the review of evidence, is that physical and mental health and well-being cannot be disentangled – each affects the other in myriad ways. Further, bringing dimensions of mental well-being into the prevention and treatment of weight-related issues can generate new perspectives and new strategies for tackling these serious social and health issues. Whether the focus is on individuals, families, schools, communities, the obesogenic environment or actions on the social determinants of health, mental health and well-being needs to be considered equally as important and integrally interconnected with physical health and well-being.

9. **Promoting "healthy weights" while protecting and promoting mental well-being requires looking beyond the numbers on the scale to encompass overall well-being.**
Addressing healthy weights in ways that protect and promote mental well-being requires the integration of health promotion principles and practices that strengthen core protective factors (control/empowerment, inclusion, participation and resilience), and where possible, address the obesogenic environment and the social determinants of health. These approaches are possible whether working with individuals in community or clinical settings or in the wider scope of public health and population health.

   At the individual level of intervention there is emerging evidence of promising approaches to promote healthy weights and mental well-being. While further study will be beneficial, for adults, it has been found that improvements to mental and physical health can be achieved through simple non-dieting approaches to healthy eating and engaging in moderate physical activity, while emphasizing self-acceptance, self-care and self-empowerment. A central aspect of this "weight-neutral" approach is shifting the focus from weight to a focus on promoting health and well-being, especially mental well-being.

10. **There is significant potential in shifting to an even broader approach that addresses the determinants of mental and physical well-being – flourishing.**
An opportunity exists to address a number of pressing health and social issues, including but well beyond weight-related issues. A challenge with tackling the obesogenic environment is that it requires the mobilization and coordination of many resources. This is a daunting task, but as the Health Council of Canada (2010, pg., 4), has noted, 35 years of health promotion experience has *"unequivocally shown that taking action on the broad conditions that affect people's lives offers the greatest improvement in the health of the population"*. This paradigm rooted in health, well-being and flourishing holds much promise in BC and across Canada.

Implications for Health Professionals

Those working in health care, whether with individuals in acute care settings, with groups in schools and community settings, or at the policy level, can apply these findings to their practices.

For Those Who Work with Individuals

For those who work with patients, no matter the health setting, it is critical to honour choice and control in a way that is respectful, inclusive, participative and builds upon patients' existing strengths and assets. Combined with new knowledge about the complexity of weight issues, such an approach will address healthy weights in a way that also protects and promotes mental well-being. Practice must incorporate effective ways to encourage sustained behaviour changes; knowledge of the dangers and ineffectiveness of calorie restricted dieting; current good practices regarding healthful, intuitive eating and enjoyable physical activity; and an understanding of the impact of the broader social determinants of weight and of health and well-being. An understanding of mental well-being is crucial to promoting both healthy weights *and* mental well-being.

For Those Who Work in Population and Public Health

Practitioners in population and public health have a wide array of health promotion strategies from which to build their practices. There is clear evidence to support action on the determinants of weight, and more broadly, the determinants of health and well-being. Addressing these determinants is the foundation of population and public health. Part III of this review provides many suggestions for possible places to begin or expand on this work. It is important that public health approaches and messages do not inadvertently perpetuate myths and stigma related to weight.

Moving Upstream

> "The challenge for the field is to reframe the concept of obesity so that is can be more easily understood as an upstream issue that is social, economic and political in nature." (Dorfman & Wallack, 2007, pg. S47)

Obesity, alongside other pressing issues such as poverty, homelessness, the growing gap between rich and poor, rising rates of mental health issues, and food insecurity are "wicked" or complex problems to which there are no simple solutions. By definition, "wicked" problems are complex; the "rightness" or "wrongness" of solutions depend on the contexts in which they are tested, and the perspectives, opinions, values and goals held by various stakeholders (Conklin, 2008). Solutions are grounded in the dynamic social, political, economic, technological and environmental contexts in which we live, learn, work and play. A growing body of evidence has demonstrated the importance of addressing the underlying conditions that predispose people to poor health. This review underscores the importance of creating the conditions under which all citizens have an equal opportunity to thrive, to flourish and to

enjoy the best possible mental and physical health and well-being so that they can lead enjoyable and fulfilling lives.

BC has a number of innovative approaches to enhancing mental and physical well-being in a broad sense. Examples include: the BC Healthy Communities initiative; youth-driven comprehensive school health initiatives; a provincial mental health strategy (i.e., Healthy Minds, Healthy Bodies); and the BC Mental Health and Addiction Services Promoting Healthy Weights Working Group. There is evidence of successful interdepartmental collaboration in government (e.g., Healthy Families BC) and across various levels (local, provincial, federal) of government.

Developing communities and societies that foster health and well-being for all is a daunting challenge. However, models of success exist globally that build on multi-sectoral, whole-of-government approaches. The long-term benefits, including reduced social and health costs, warrant a focused effort in BC.

The Senate Standing Committee on Social Affairs, Science and Technology (2009, pg. 1) has noted:

> "Change will demand the attention of all individuals, NGOs, business, communities, all levels of government and all sectors of our Canadian society. Success will require leadership from our prime minister and first ministers, from our mayors, municipal leaders, community leaders and the leaders of our Aboriginal peoples. A whole-of-government approach is required with inter-sectoral action ... This will not be easy, but it can and must be done. We cannot afford to do otherwise."

8.0 Glossary

Best weight – "Whatever weight one achieves while living the healthiest lifestyle s/he can truly enjoy. There comes a point when a person cannot eat less or exercise more and still like their life. The weight they attain while still liking their life is thus their 'best' weight as, without the addition of pharmacotherapy or a surgical intervention, no further weight loss will be possible." (Freedhoff & Sharma, 2010, pg. 12)

Body mass index – A derived variable calculated by dividing a person's measured body weight (in kilograms) by the square of his/her height (in metres) (PHAC, 2011, pg. 36).

Bullying victimization - Refers to an individual being repeatedly exposed to the negative actions of others with the intention to hurt. This victimization can be overt (physical – e.g., hitting), verbal (e.g., name calling) or relational (e.g., social exclusion) (Griffiths & Page, 2008, pg. S39).

Dieting - "A broad range of eating behaviours and cognitions that are unhealthy and potentially harmful from a physical and psychological standpoint. Examples include overly restrictive eating (i.e. excessively low calorie intake, cutting out entire food groups), strict and rigid food rules and dietary changes that are not practical or sustainable long term. Dieting can be distinguished from healthful dietary practices and cognitions, such as having a balanced diet, aiming to eat the recommended servings of fruits and vegetables, being flexible about food choices, and engaging in practical and sustainable dietary practices." (National Eating Disorders Collaboration, 2011, pg. 1)

Disordered eating is defined as "troublesome eating behaviors such as purgative practices, bingeing, food restriction and other inadequate methods to lose or control weight which occur less frequently or are less severe than those required to meet the full criteria for the diagnosis of an eating disorder." (Pereira & Alvarenga, 2007 pg. 142)

Eating disorders are defined as "psychiatric illnesses marked by disordered eating behaviours, disordered food intake, disordered eating attitudes, and often inadequate methods of weight control." (Pereira & Alvarenga, 2007 pg. 142) These include anorexia nervosa, bulimia nervosa and eating disorder not otherwise specified (EDNOS) which is diagnosed when an individual "suffers from binge eating disorder or has a clinically significant eating disorder but does not currently meet all the diagnostic criteria for anorexia nervosa or bulimia nervosa." (American Psychological Association [APA], Online) EDNOS is more prevalent than, but just as serious as, anorexia nervosa or bulimia nervosa (APA, Online).

Equity and inequities in health – Equity in health is not the same as equality in *health status*. Inequalities in *health status* between individuals and populations are inevitable consequences of genetic differences, of different social and economic conditions, or a result of personal lifestyle choices. Inequities occur as a consequence of differences in opportunity which result, for example in unequal access to health services, to nutritious food, adequate housing and so on. In such cases, inequalities in *health status* arise as a consequence of inequities in opportunities in life (WHO, 1998, pg. 7).

Flourishing – often adopted to describe positive mental health or optimal mental well-being. "Flourishing" is equated with emotional well-being (positive feelings, happiness, life satisfaction); psychological well-being (self-acceptance, personal growth, purpose); and, social well-being (positive relationships with others; sense of belonging; social acceptance) (Keyes, 2003).

Health promotion - "The process of enabling people to increase control over and to improve their health." (WHO, 1986)

Healthy city/community – One "that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and developing to their maximum potential" (WHO, 1998).

Intuitive eating - reliance on internal cues, such as hunger and satiety, to guide food choices. Intuitive eating is about increasing one's awareness of the impact of various foods on one's body, and making connections between what one eats and how one feels – food, mood, concentration, energy levels, fullness, ease of bowel movements, comfort eating, appetite, satiety, hunger and pleasure as guiding principles (Bacon & Aphramor, 2011, pg. 7).

Mental well-being – [see "Positive mental health"]

Metabolic health (fitness) - The state of metabolic systems and variables predictive of the risk of diabetes and cardiovascular disease which can be favourably altered by increased physical activity or regular endurance exercise (Despres, et al, 1991; Despres, et al., 1990). Includes sub-components such as blood sugar levels, blood lipid levels and blood hormone levels.

Normal eating – Includes the ingestion of healthy foods, the intake of a mixed and balanced diet that contains enough nutrients and calories to meet the body's needs and a positive attitude about food (no labelling of foods as "good" or "bad", "healthy" or "fattening", which can lead to feelings of guilt and anxiety). Normal eating is ...both flexible and pleasurable.

Normal weight – for adults over age 18 is defined as a BMI of 18.5 – 24.9 (Raine, 2004)

Obesity – Overweight and obesity are defined by the World Health Organization (WHO, Online) as "abnormal or excessive fat accumulation that may impair health". They are also commonly defined using body mass index (BMI) which is calculated by dividing an individual's weight (in kilograms) by height (in metres) squared. Obesity is defined as a BMI of over 30 (PHAC, 2011).

Obesogenic environment - "the sum of influences that the surroundings, opportunities or conditions of life have on promoting obesity in individuals and populations" (Swinburn, Eggar and Raza, 1999, pg. 564).

Overweight – for adults, a BMI of between 25 and 29.9 (WHO, Online)

Positive mental health - "The capacity of each and all of us to feel, think, and act in ways that enhance our ability to enjoy life and deal with the challenges we face. It is a positive sense of emotional and

spiritual well-being that respects the importance of culture, equity, social justice, interconnections, and personal dignity." (Public Health Agency of Canada, Online)

Supportive environments for health - Supportive environments for health offer people protection from threats to health, and enable people to expand their capabilities and develop self reliance in health. They encompass where people live, their local community, their home, where they work and play, including people's access to resources for health, and opportunities for empowerment (WHO, 1998).

Underweight - for adults over age 18 is defined as a BMI of less than 18.5 (Raine, 2004)

Whole-of-government – "The term for a movement that is attempting to change the work of the public sector from a focus on the individual work of ministries or departments described as a silo-mentality – to a focus on complex issues that can only be addressed through a collaborative, integrated approach of multiple government ministries or departments with a common goal." (Health Council of Canada, 2010, pg. 14)

Weight bias - negative weight-related attitudes, beliefs, assumptions and judgments toward individuals who are overweight and obese (Puhl, 2011; Ciao &Latner, 2011). These attitudes are often manifested by false and negative stereotypes which cast overweight and/or obese individuals as being physically unattractive, incompetent, lazy, unmotivated, less competent, non-compliant, lacking self-discipline and sloppy (Puhl & Heuer, 2009; Rukavina & Li, 2008).

Weight stigma – the possession of some attribute or characteristic that is devalued in a particular social context (Puhl & Brownell, 2003, pg. 213). It is a "social sign that is carried by a person who is a victim of prejudice and weight bias" (Washington, 2011, pg. 1). [Stigmatization - is "the process by which the reaction of others interferes with individuals' normal identity and causes them to be socially discredited" (Goffman, 1963, cited in Brewis, 2011, pg. 116).]

Weight discrimination – "unequal, or unfair treatment of people because of their weight" (Puhl, n.d., pg.1). Thus, discrimination extends beyond beliefs and attitudes to unjust or unfair actions and behaviours toward people who are overweight or obese (Ciao & Latner 2011). Discrimination can take many forms, from verbal comments and derogatory remarks to excluding, avoiding, ignoring or rejecting, to cyber-bullying, physical aggression and victimization (Puhl, 2011).

Acronyms

ADA – American Dietetic Association

BC – British Columbia

BCMHAS – British Columbia Mental Health and Addiction Services

BMI – body mass index

CON – Canadian Obesity Network

EDNOS – eating disorder not otherwise specified

HAES© – Health at Every Size

n.d. – no date

p.c. – personal communication

PHAC – Public Health Agency of Canada

PHSA – Provincial Health Services Authority

SDOH – social determinants of health

UK – United Kingdom

US – United States

WHO – World Health Organization

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10.0 Appendices

Appendix 1: PHSA Reference Group

Name	Position
Ingrid Wellmeier	Provincial Manager, Population and Public Health Initiatives Provincial Health Services Authority - Chair
Kiera Ishmael	Project Manager, Health Literacy, BC Mental Health and Addition Services
Carmen Ng	Cardiac Epidemiologist, Cardiac Services, BC
Ann Pederson	Director, BC Centre of Excellence for Women's Health, BC Women's Hospital & Health Centre
Fahra Rajabali	Researcher, BC Injury Research & Prevention Unit

Appendix 2: Key Informants

Name	Position
Paola Ardiles	Project Manager, Education and Population Health BC Mental Health & Addiction Services
Valerie Cohen	Liaison Officer- Youth Sector ÉquiLibre, Groupe d'action sur le poids, Quebec
Dr. Connie Coniglio	Provincial Executive Director Children and Women's Mental Health and Substance Use Programs BC Mental Health & Addiction Services
Shannon Griffin	Director, Planning & Strategy Development BC Mental Health & Addiction Services
Dr. Janet Latner	Department of Psychology University of Hawaii at Manoa
Dr. Dianne Neumark-Sztainer	Professor, Division of Epidemiology and Community Health, School of Public Health University of Minnesota
Dr. Louise Masse	Associate Professor, Department of Pediatrics and Scientist Level 2, Centre for Community Child Health Research, Child & Family Research Institute University of British Columbia
Dr. Carrie Matteson	Research Associate and Director, Chronic Disease Systems Modeling Lab Simon Fraser University, British Columbia
Mike Pennock	Population Health Epidemiologist, Population and Public Health Provincial Health Services Authority, British Columbia
Dr. Rebecca Puhl	Senior Research Scientist & Director of Research Rudd Center for Food Policy & Obesity, Yale University
Jennifer Scarr	Policy Consultant, Regional Prevention Vancouver Coastal Health, British Columbia
Dr. Arya Sharma	Scientific Director, Canadian Obesity Network Edmonton, Alberta

Name	Position
Stephen Smith	Director, Mental Health Promotion and Mental Illness Prevention, Communicable Disease and Addictions Prevention BC Ministry of Health
NOTE: Dr. Gail McVey, Health Systems Research Scientist, Hospital for Sick Children and Associate Professor, Dalla Lana School of Public Health, University of Toronto kindly provided links to articles and resources via e-mail but was unable to participate in an interview.	

Appendix 3: Detailed Questions for the Evidence Review

1. Understanding linkages and relationships, across the life-course, among:
    - Overweight, obesity and anxiety and depression
    - Mental health, substance use and healthy weights
    - Overweight, obesity, and bullying, violence, and abuse
    - Social determinants of mental health and the risk and protective factors that impact disordered eating. One consideration here would be the relationship between obesity, overweight and culture – specifically, how is weight bias experienced by different cultures?
2. Understanding current approaches to the promotion of healthy weights and their potential impact, across the life-course on:
    - Mental health
    - Body image, weight stigma and weight bias
3. Identifying practices that promote healthy weights and positive mental health across the life-course
    - How can healthy weights be promoted without causing mental health problems, eating disorders and disordered eating?
    - What is the relationship between protective factors that contribute to the promotion of positive mental health and the promotion of healthy weights?
    - Where and when can the promotion of positive mental health/well-being and healthy weights be integrated and complementary?
    - What are the settings in which protective factors common to mental health promotion and healthy weights can be promoted most effectively?
    - What are culturally appropriate methods of mental health promotion and the promotion of healthy weights?

Appendix 4: Literature Search Strategy

Obesity Review – Development of Search Strategy

Key Questions of Review:

- Underlying risks and protective factors re obesity/overweight and disordered eating.
- Social determinants of health/mental health related to obesity/overweight and disordered eating.
- Relationship of obesity/overweight and/or healthy weights to mental health, anxiety, depression, tobacco use and alcohol use.
- Cultural attitudes towards obesity.
- Impact of current approaches to promoting healthy weight – body image, weight stigma, weight bias, mental health, eating disorders, disordered eating, bullying, violence, abuse.
- Effective practices that promote both healthy weights and positive mental health.
- How can healthy weights be promoted effectively without causing problems?
- How can the promotion of positive mental health/well-being and healthy weights be integrated and complementary?
- How best, where best, when best – across the lifespan?
- Using culturally appropriate and effective approaches.
- Strength of evidence around obesity/overweight as a major health issue.

Search Parameters:

- Research Databases:
  - CINAHL
  - EMBASE
  - MEDLINE
  - Psychology and Behavioral Sciences Collection
  - PsycINFO
  - PubMed
  - Social Services Abstracts
  - Social Work Abstracts
  - SocINDEX
  - Sociological Abstracts
- Limits:
  - Published literature reviews
  - Five years – 2007 to 2012
  - English only
  - Developed world – Europe, North America, Australia, New Zealand

Key Concepts and Terms of Interest:

Note: * indicates major topic area

MAJOR CONCEPT #1 = OBESITY *Obesity, *Overweight, Fat-ism, Body mass index			
CONCEPT #2 **Determinants of Obesity**	**CONCEPT #3** **Promotion of Healthy Weight**	**CONCEPT #3A** **Combined with terms re delivery**	**CONCEPT #4** **Harms**
Social determinants of health	Public health	Planning	Disordered eating
Social determinants of obesity	Prevention	Policy	Eating disorders
Population obesity trends	Health promotion	Strategy	Eating pathology
Demographic characteristics	Healthy weight promotion	Strategies	Anorexia
Passive obesity	Mental health promotion	Programs	Bulimia
Physical environment	Community health	Program development	Mental health
Built environment	Community mental health	Services	Psychological processes
Living environment	Psychological well-being	Best practice	Psychological distress
Toxic environment	Psychological health	Model	Negative affect
Obesogenic environment	Psychosocial well-being	Framework	Body image
Ecological framework	Eating disorder prevention	Strategy	Body dissatisfaction
Social environment	Relationship model	Strategies	Stigma
Socioeconomic status	Public awareness	Interventions	Social stigma
Cultural norms	Ecological framework	Initiatives	Social isolation
Cultural attitudes	Obesity reduction	Techniques	Social marginalization
Health status	Obesity management	Approaches	Weight stigma
Mental health	Management of obesity	Methods	Weight bias
Psychological well-being	Healthy living		Anti-fat bias
Psychological health	Healthy lifestyle		Discrimination
Psychosocial well-being	Lifestyle change		Weight discrimination
Anxiety	Behaviour change		Stereotype
Depression	Culturally sensitive		Stereotyping
Substance abuse	Culturally appropriate		Prejudice
Tobacco use			Weight intolerance
Alcohol use			Weight-based victimization
			Bullying
			Violence
			Abuse
			Aggression

Approach to Search:

- PRIORITY #1: How are current approaches to addressing obesity causing harm?
    - How as a public health system are we creating more harm by focusing on individual behavior change?
    - How can the promotion of positive mental health/well-being and healthy weights be integrated and complementary?
    - How best, where best, when best – across the lifespan and using culturally appropriate approaches?

SEARCH STRATEGY: Concept #1 AND (Concept #3 OR #3A) AND Concept #4 Obesity AND (Promotion of Healthy Weight OR delivery terms) AND Harms

- PRIORITY #2: What is the relationship between obesity and mental health?
    - What are the social determinants of health related to obesity (with a major emphasis on health)?
    - What are the underlying risks and protective factors related to obesity/overweight and disordered eating?
    - What are the relationships between obesity/overweight and anxiety and depression, substance abuse and mental illness?
    - What are the relationships between obesity/overweight and positive mental health?
    - What cultural norms and/or attitudes exist related to obesity?

SEARCH STRATEGY: Concept #1 AND Concept #2 Obesity AND Determinants of Obesity

- PRIORITY 3: What is the strength of the evidence related to obesity as a major health issue?
    - Should the focus be on other issues, i.e., physical inactivity?
    - Would a different focus be more effective at addressing obesity while creating less harm?

SEARCH STRATEGY: These topic areas should be picked up within the other searches. We can confirm this at the abstract review stage.

Appendix 5: Interview Guide

1. Introductions and overview of the project – our key focus is on finding ways to promote healthy weights and mental well-being (explain what we mean by mental well-being – positive sense, presence of meaning, purpose in life, happiness, belonging, and so on).
2. Inquire about the interviewee's area of expertise in relation to the focus of the paper.
3. What is your advice regarding how we can link your research/your understanding of the current context and existing initiatives in BC with our focus on interrelationships among overweight, obesity, weight bias and stigma and mental well-being?
4. What recommendations do you have for implementing new approaches to addressing weight-related issues in ways that protect and promote mental well-being?
5. What do you see as the key challenges to implementing new approaches to addressing weight-related issues in ways that protect and promote mental well-being? How might these be addressed?
6. Are you aware of any emerging or new areas of research that would inform our thinking for this paper?
7. Are you aware of any innovative programs and practices that might effectively be adapted for use in BC?
8. What are your thoughts about the relationships between weight issues and health equity/social justice?
9. Is there anything else you would like to add or say?

Appendix 6: Resources for Supporting Individuals and Families to Prevent or Address Weight-Related Issues

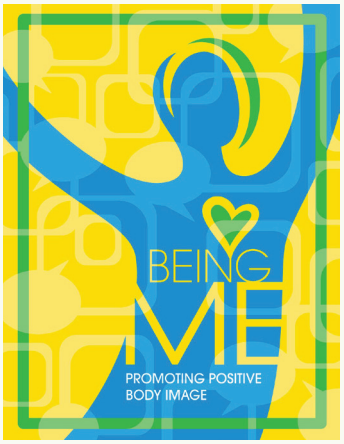
Examples of Weight- and Body-Image Focused Initiatives in BC

Action Schools! B.C. Initiative: "Being Me: Promoting Positive Body Image"

Action Schools BC is a best practices model designed to assist schools in creating individualized action plans to promote healthy living while achieving academic outcomes. The initiative is a source for practical and relevant professional development, including curriculum-linked resources and support for teachers across a variety of prescribed learning outcomes. One module of Action Schools BC is the "Being Me: Promoting Positive Body Image".

"The Being Me: Promoting Positive Body Image module has been developed to support existing physical activity and healthy eating frameworks and to complement Action Schools! BC's Classroom Healthy Eating Action Resource (CHEAR) while supporting the Ministry of Education's prescribed learning outcomes across the curriculum. Body image is a topic that links directly to healthy eating, as key messaging can have a tremendous impact on students' body image and self-esteem." (p5)

In this resource, the lesson and activities are designed to teach students about the development of positive body image and self-esteem, along with messages that serve to help prevent disordered eating. The learning activities from Kindergarten through grade 9 are grouped under the following topics as follows:



- KINDERGARTEN: Eat, Move and Being Me
- GRADE 1: Every Body is Different
- GRADE 2: Follow Me
- GRADE 3: Guess Who?
- GRADE 4: Active Living for Every Body
- GRADE 5: Stand Up
- GRADE 6, 8, 9: Hunger, Fullness and Triggers
- GRADE 7, 8, 9: Digging Up the Dirt on Dieting (TOC)

See: http://www.actionschoolsbc.ca/Images/Being%20Me-WEB.pdf

Family Services of the North Shore: Family FUNdamentals

This program takes a family-centred approach in working with children and families, engaging them in many fun, unique and nurturing activities. The goals of the program are to foster a competent parent/child relationship with food and activity to promote the healthy growth and development of children and prevent disordered eating that may lead to eating disorders or obesity. These goals are resonant with flourishing in body and mind. Topics covered in the program include:

- Healthy relationships
- Joyful eating
- Creative activity and movement
- Being confident

See: http://www.familyservices.bc.ca/professionals-a-educators/jessies-legacy/resources-for-educators/fundamentals/430-fundamentals-

Promoting Health and Acceptance of Diverse Body Shapes and Sizes

Dr. Carrie Matteson of Simon Fraser University has developed an engaging approach for working with students in schools regarding weight- and body-image related issues:

Developing healthy school communities that promote health and acceptance of a diversity of body shapes and sizes.

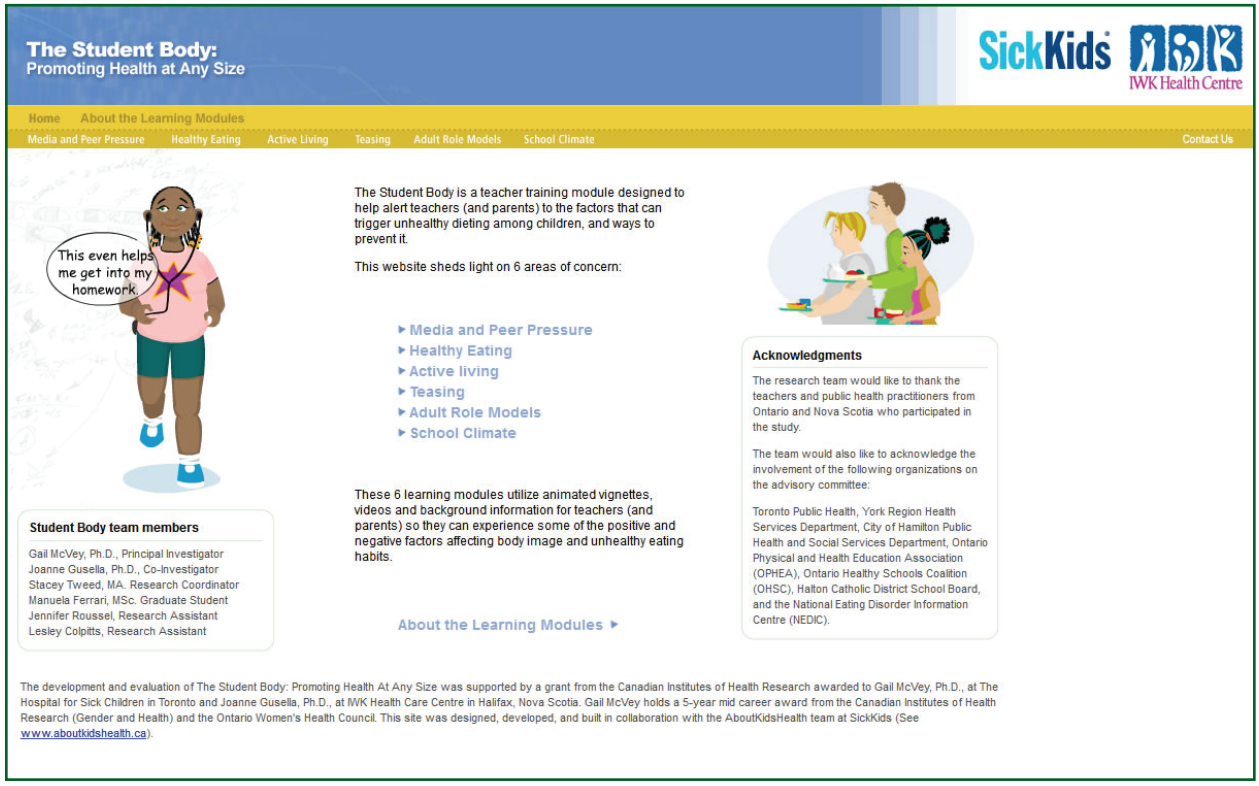
- Do we have posters showing active families eating a variety of foods?
- Are the images around the school inclusive of various ethnicities, body sizes and shapes, ages, etc?
- Do teachers and staff have opportunities to learn about how eating and attitudes about weight impact their behaviours and students?
- Are students included in all activities regardless of size or shape and skill level?
- Are there policies and discussions about weight-based teasing or harassment? Do students trust that policies are carried out?
- Do we have school guidelines about limits on advertising and imagery? Do we have a media literacy program?

Provided courtesy of Carrie Matteson, Simon Fraser University, March 2012. matteson@sfu.ca

Examples of Weight- and Body-Image Focused Initiatives in Other Provinces

The Student Body: Promoting Health at Any Size

As noted previously, Dr. Gail McVey et al., (2009) developed a program in that includes a website and training modules for elementary school teachers who work with children in Grades 4, 5, and 6. It was designed to help children develop positive body image and reduce their risk for developing unhealthy eating behaviours. Studies show 30% of girls and 25% of boys (10-14 years) were dieting to lose weight despite being within a healthy weight range. See: http://research.aboutkidshealth.ca/thestudentbody/home.asp



Dieting and Children

In the article, *"Dieting and Children"*, McVey and Ferrari (2005) identify tips to help children develop a positive body image, including awareness of how fashion magazines alter images, that there is no one "ideal" body shape, no quick ways to lose weight, and the harm associated with restrictive forms of dieting. See: http://connection.ebscohost.com/c/articles/19813012/dieting-children

ÉquiLibre (Quebec)

ÉquiLibre is a non-profit organization known for its expertise in the areas of obesity, body image, obsession with thinness and excessive preoccupation with weight.

This Quebec-based non-profit organization has a number of resources including:

> "Awareness, training, and support for counselors and professionals in order to improve practices regarding weight and body image."

This training program, for people who work with youth, is intended to prevent weight-related problems and to promote healthy behaviours regarding weight, body image, eating and physical activity for young people from 12 to 17. The program is currently being translated into English (Valerie Cohen, personal communication, March 2012).

Healthy Mind, Healthy Body Program

Since 1996, the *Healthy Mind, Healthy Body* program has been putting forward new thoughts on the cult of physical appearance, thinness and body-building that is so fashionable in today's society. The program helps raise awareness of the influence that current beauty ideals have on body image, self-esteem and the adoption of healthy lifestyles. It is aimed at secondary school students and the adults in their lives, through the intervention of educators from the academic, healthcare, community and municipal fields.

Taking a light and interactive approach, the program offers suggestions for:

- innovative actions to address two important issues: obesity and excessive preoccupation with weight;
- interventions adapted to teenagers' needs – for both girls and boys – to encourage the adoption of healthy lifestyles;
- the creation of environments that promote healthy attitudes and behaviors toward the body, diet and physical activity (Valerie Cohen, personal communication, March 2012).

The French website can be accessed at: http://www.equilibre.ca/

Resources for Working With Children and Families Who are Experiencing Weight-Related Issues

Helping Parents to Talk with and Support Their Children Re: Weight and Dealing with Weight Bias

Three helpful guides can be found on the Yale-Rudd Center For Food Policy and Obesity website:

Advice to parents for talking with their children about weight can be found at the Yale-Rudd Centre for Food Policy and Obesity at: http://www.yaleruddcenter.org/resources/upload/docs/what/bias/parents/Parents-HowtoTalktoYourChildaboutWeight.pdf

To help parents support their children in dealing with weight bias there are two helpful resources. The first is, "Ways for Parents to Combat Weight bias" which can be found at: http://www.yaleruddcenter.org/resources/upload/docs/what/bias/parents/Parents-WaystoCombatWeightBias.pdf

The second is, "How to Talk to Your Child about Weight bias" which can be found at: http://www.yaleruddcenter.org/resources/upload/docs/what/bias/parents/Parents-HowtoTalktoYourChildaboutWeightBias.pdf

Shapedown BC

Shapedown BC is a program that helps children, adolescents and their families achieve healthy weights. There are no diets involved in the program. Instead, Shapedown BC supports families in creating healthy eating habits and an active lifestyle. Families learn to set goals that target positive lifestyle changes and also look at the issues that may block positive change.

Children and teens improve self-esteem and peer relationships and adopt healthier habits. Parents will learn to sharpen their nurturing and limit setting skills which will help them feel better about their relationship with their child. The whole family becomes healthier and closer. The results go beyond weight.

Eligible parents, children and teens (6 to 16 years of age with a BMI of greater than 95 per cent; both parents and children must be prepared to make changes and attend regularly; one parent who attends must be proficient in English) take part in a review of their medical, social, psychological and fitness needs. Specific goals are created for the family and outlined in a care plan.

The program consists of a 10 week group program specific for the child/youth's age group. Weekly two-hour sessions are held. A variety of topics related to making healthy lifestyle choices including healthy eating, active living and building strong relationships are discussed each week. Children/teens and their parents are often separated during the meetings to facilitate age-appropriate conversations. Children and teens engage in a 30-minute fun-filled active session with a qualified fitness instructor. Participants get a chance to enjoy a variety of healthy snack options.

Families are also encouraged to attend eight weekly fitness sessions at the YMCA Langara location. Each hour-long session is run by a certified fitness instructor. Free three-month passes to the YMCA are provided as incentives to participate in this eight-week fitness program.

See: http://www.bcchildrens.ca/KidsTeensFam/HealthyWeights/Services/ShapedownBC.htm

Resources for Working with Adults to Prevent or Address Weight-Related Issues

Best Weight. A Practical Guide to Office-Based Obesity Management

This book by Freedhoff and Sharma (2010) is a very helpful and thorough guide to working with individuals regarding obesity. It presents evidence regarding obesity management in a way that honours and protects mental health. The book can be downloaded free of cost* on the Canadian Obesity Network website at:
http://www.obesitynetwork.ca/page.aspx?menu=40&app=221&cat1=607&tp=2&lk=no

* A membership to the Canadian Obesity Network is required to download the book; membership is free and can be established online.

23 and 1/2 hours: What is the Single Best Thing We Can Do for Our Health?

This U-tube presentation provides a powerful case again for shifting from a focus on weight to a focus on health, which includes incorporating enjoyable activity into your life.

http://www.youtube.com/watch?v=aUaInS6HIGo&feature=youtu.be

ÉquiLibre (Quebec): What About Weight Loss?

This Quebec–based non-profit organization has a program, *"What about Weight Loss?"* which has a group-focused approach and an objective to help women preoccupied with their weight to make informed decisions about their method of weight loss.
The program is animated by a dyad (a nutritionist as well as a psycho-educator), adhering to a bio-psychosocial approach, taking into account the multiple determinants of weight, body image and lifestyle habits.

With over 20 years of intervention, EquiLibre delivers the program across Quebec social service centers (CSSS). The diffusion of the *"What about Weight Loss?"* program is written into the Quebec government action plan *Government Action Plan for the Promotion of Healthy Lifestyle Habits and Prevention Regarding Weight-Related Problems: 2006-2012;* as well as the public health program: 2003-2012 (updated in 2008) (*Valerie Cohen, personal communication, March 2012*).

The French website can be accessed at: http://www.equilibre.ca/

Appendix 7: Resources for Promoting Healthy Child and Youth Development

Settings for Healthy Child and Youth Development: Schools and Comprehensive School Health: Examples

Authentic Youth Engagement in Comprehensive School Health – DASH BC

An example of an empowerment-oriented approach appears to be occurring in BC via the Directorate of Agencies for School Health (DASH) BC. This approach emphasizes a participatory "by youth for youth" approach which "recognizes youth are the experts on their experiences, needs, and interactions with their local environments" (Healthy Schools Newsletter, 2012, pg. 1). Grounded in youth engagement principles, this approach actively engages youth in guiding the conversation about their health and education.

See: http://fulton.sd22.bc.ca/documents/healthy_schls.pdf

www.dashbc.ca

Comprehensive School Health in the Former David Thompson Health Region in Alberta

An example of a more fully participatory approach is one adopted by the former David Thompson Health Region in central Alberta.* In this comprehensive school health initiative, students were the primary actors in naming and addressing their priorities for actions to enhance their health and well-being. This typically began with a session to talk about "what makes us healthy" and "what adds to our well-being in our school environment" and "what can we do to promote our well-being within the school environment". Even in the primary grades, students were easily able to identify the broad determinants of health, and to define their own health and well-being in very holistic ways. The approach led to a wide variety of actions, including an initiative developed by Grade 5 and 6 students to talk with Grade 1 to 4 students about healthy lunches and healthy eating; a project in a high school to re-vamp the girl's washroom that had been perpetually subjected to acts of vandalism; an initiative to re-work school disciplinary policies; and development of a school community garden. Preliminary evaluations of this approach revealed numerous beneficial and empowerment-related outcomes; subsequent evaluations were not found via an internet search.

* This is based on the first author's involvement in the initiative.

Appendix 8: Resources for Promoting the Development of Vibrant, Inclusive Communities

BC's Sustainable Childhood Obesity Prevention Through Community Engagement (SCOPE) Project

SCOPE is a community-based project aimed at linking people in a community with a wide range of backgrounds, skills and knowledge, and working with them to develop an obesity prevention action plan. The project resembles the EPODE initiative which began in France and others such as Shape Up Somerville and Healthy Living Cambridge Kids.

Funding for SCOPE is through Child Health BC, an initiative of BC Children's Hospital which has created a network of health authorities and health care providers across the province, all dedicated to improving the health of infants, children and youth in BC. The cities of Prince George and Abbotsford are currently participating in the SCOPE project as pilot communities.

The focus of the project is on prevention with recognition that, "up until now, treatments for obesity haven't worked. The approach is based on community-based participatory research which is a joint effort between researchers and community representatives in all phases of the research process. This joint effort engages community members, employs local knowledge in understanding of health problems and the design of interventions and invests community members in the processes and product of research. The collaborative is invested in the dissemination and use of research findings to improve community health and reduce health disparities.

SCOPE Vision: A future where children eat healthy and are physically active, supported by a healthy community environment.

SCOPE Mission: To bring people together from all sectors of BC communities to make the healthy choice the easy choice for children.

Objectives include:

1. Develop and maintain effective community partnerships resulting in collaboration and collective action.
2. Work with the community to identify successful programs and areas of need, and define priorities for local action.
3. Implement sustainable and effective local action that builds upon existing successes and addresses areas of need.
4. Help community members measure the impact of their efforts over time.

The process begins with community engagement (development of partnerships and collaboration across sectors and across populations), community assessment (identifying community priorities, areas of need and strengths), action planning (local and collective action in short- and long-term), and implementation (building on strengths, addressing gaps) with ongoing evaluation.
See: http://www.childhood-obesity-prevention.org/

BC Healthy Communities

BC Healthy Communities (BCHC) is a province-wide organization that is committed to the ongoing development of healthy, thriving and resilient communities. The organization recognizes that communities deal with complex issues that are influenced by the multiple and inter-connected determinants of health. With a focus on capacity building, BCHC supports communities to identify and develop the processes, assets, and skills they need to explore and act on the root causes of the issues they face.

BC Healthy Communities
People. Place. Potential.

BCHC is part of the international Healthy Cities/Communities movement. It supports communities to identify and enhance the capacities that allow for a comprehensive approach to community building – one that attempts to include the well-being of the whole person in the whole community. Supports for communities include:

- Regional facilitators in five health regions of the province work directly with communities in a community capacity building approach that builds on existing community strengths.
- Workshops are available to support community members to identify and articulate a process for developing capacity in a community initiative or program.
- Provincial and regional learning opportunities are organized to meet emerging learning needs and provide an arena for "stretching thinking and practice" through dialogue, interactive networking and practical asset building.
- Provincial newsletters provide thoughtful articles and regional E-bulletins provide weekly updates.
- A small Seed Grant Program that supports communities to identify and develop optimum community building practices is also offered.

The framework includes processes that include community learning, community engagement, expanding assets, and community collaboration. Based on experiences in Canada, the initiative builds on four cornerstones of success: community involvement, inter-sectoral partnerships, political commitment and healthy public policy (BC Healthy Communities Online).

Information regarding the BC Healthy Communities can be found at:
http://www.bchealthycommunities.ca/

Appendix 9: Resources for Challenging Cultural Norms about the "Ideal" Body and Promoting Respect for Size Diversity

ÉquiLibre (Quebec)

ÉquiLibre is a non-profit organization known for its expertise in the areas of obesity, body image, and obsession with thinness and excessive preoccupation with weight. Two of its key areas for action are: "Awareness and mobilization of key players in the fashion, media and advertising industries in order to reduce unrealistic body representations and the encouragement of the cult of thinness; and, awareness and mobilization of youth and adults in order to encourage participation in changing social norms." Two of their programs in this regard are:

The Behind the Mirror Campaign: The campaign makes young people aware of the power they have in influencing the current standards of beauty among youth and the advertising and fashion industries through granting the annual Image/In award to a company that promotes a healthy and diverse body image. Jacob, the women's clothing chain, won the 2011 award through its no-retouching policy on photos of their models.

International No Diet Day (INDD) was celebrated for the first time in London on May 6th, 1992 thanks to Mary Evans Young who denounced, among other things:

- The ineffectiveness of weight-reduction diets;
- The risks related to our obsession with thinness.

Since then, it has been celebrated on May 6th every year, in several countries including the United States, Australia, Norway, South Africa New Zealand, Great Britain and Russia. Since 2007, EquiLibre has organized awareness campaigns encouraging Quebeckers to celebrate INDD.

(Valerie Cohen, p.c. March 2012)

The French website can be accessed at : http://www.equilibre.ca/

Appendix 10: Environmental Scan

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
British Columbia	**Healthy Families BC (2011)** ■ In May 2011, the Ministry of Health launched a provincial strategy that aims at improving the health and well-being of all British Columbians and the communities they live in. ■ The strategy focuses on supporting four key areas: ▪ Proper nutrition ▪ Personal responsibility and investment in a healthy lifestyle ▪ Helping the most vulnerable families give their babies the best start in life ▪ Encouraging citizens to lead healthier lifestyles where they live, work and play	√	√				
British Columbia	**Healthy Minds Healthy People (2010)** ■ The plan's vision is "children, youth and adults from all cultures in British Columbia achieve and maintain sound mental health and well-being, live in communities free of problems associated with substances, access effective support to recover from mental health and/or substance use problems that may develop over the lifespan, and lead fulfilling lives as engaged members of society without discrimination when these conditions persist."					√	

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
British Columbia	**Action Plan for Provincial Services for People with Eating Disorders 2010** Plan objectives are to: ■ Develop a current inventory of eating disorder services in BC and identify potential areas for improvement. ■ Identify the types of treatment and support services for children, youth and adults with eating disorders that are relevant for the BC population using best evidence. ■ Identify and act on opportunities to educate the public, in particular at risk target groups, to prevent disordered eating and eating disorders. ■ Identify and act on opportunities to provide primary care providers with resources to deliver eating disorder services using best evidence.				√		√
British Columbia	**Policy on Sport and Physical Activity (2002)** The Province's Vision for Sport and Physical Activity incorporates the following ideals: active communities, participant-centred, inclusiveness, full of hope, fun and positive experiences, quality of life, strong and sustainable structures, provincial pride, cultural identity and leadership.		√				
Alberta	**Active Alberta 2011-2021** ■ The framework includes outcomes related to developing more active Albertans, more active communities, being active outdoors, being engaged in activity and in community, and coordinated system of opportunities to achieve athletic excellence. ■ There is minimal mention of obesity – only that active living might help with obesity.		√				

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
Alberta	**Alberta Health Services Obesity Initiative (undated backgrounder) 2011** ■ The first year of the initiative focuses on increasing access to health promotion and prevention initiatives, expanding obesity-related training for health care providers, using current evidence, expanding specialty teams for bariatric care, and improving access to bariatric surgery. ■ Projects include the Healthy Eating Environment Policy addressing healthy food and beverage options in Alberta Health Services facilities; Mind, Exercise, Nutrition... Do it! (MEND) program adaptation for Alberta; Thrive on Wellness.	√	√	√			
Alberta	**Healthy U (Website included because of weight bias information)** ■ This website addresses strategies for active living, healthy eating and healthy places. ■ It includes a section under healthy eating on avoiding stereotypes related to body weight	√	√				√
Saskatchewan	**Healthier Places to Live, Work and Play: A Population Health Promotion Strategy for Saskatchewan (undated)** ■ This broad-based strategy includes accessible nutritious food and active communities as priory areas for action. ■ Obesity is identified as a significant problem for the province	√	√	√			

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
Manitoba	**Eating Disorders: Best Practices in Prevention and Intervention (2006)** ■ The document addresses best practices in prevention, identification and intervention. ■ Best practices for prevention included doing no harm (e.g., positive body image and dangers of dieting), enhancing self-esteem, facilitating media literacy, and facilitating peer support.				√	√	√
Manitoba	**Manitoba School Nutrition Handbook (2006)** ■ The handbook sets out guidelines for ensuring healthy food at schools and includes obesity statistics.	√					
Manitoba	**Manitoba in Motion (Website initiative was indicated as part of the provincial strategy on physical activity but no document was located.)** ■ Includes a range of programs focused on getting active in different settings and in different populations; obesity/weight not a focus.		√				
Manitoba	**Kids in Motion: An Early Start to Physical Activity for Babies, Toddlers and Preschoolers (undated)** ■ This document focuses on structured and unstructured play opportunities for young children. Obesity is not mentioned.		√				

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
Ontario	**Ontario's Action Plan for Healthy Eating and Active Living (2006)** ■ The plan identifies 14 initiatives including improved access to healthy food for young people, supporting healthy schools, promoting active and safe routes to school, making it easier for children and youth to be healthy and active, promoting and expanding the Eat Smart! Program, working with Aboriginal communities, promoting healthy urban design, and supporting public education and marketing problems ■ In terms of the connection to obesity, the document links the actions to "an epidemic of unhealthy weights".	√	√	√			
Ontario	**Ontario School Food and Beverage Policy Elementary Teacher Resource Guide (2011)** ■ In addition to providing guidelines for healthy food and drinks in schools, the document includes a section addressing societal norms for an "ideal body", which includes teaching tips alerting teachers to watch for and discuss issues related to weight-based teasing/bullying or weigh bias.	√					√

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
Quebec	**Quebec Charter for a Healthy and Diverse Body Image (not dated)** Support is pledged for seven avenues of action including: promote a diversity of body images; encourage healthy eating and weight control habits; discourage excessive behaviour with respect to weight loss or appearance modification; refuse to subscribe to esthetic ideals based on extreme slimness; remain vigilant and diligent to minimize the risks of anorexia, bulimia, and unhealthy concerns about weight; act as agents of change; and promote the Charter.				√	√	√
Quebec	**Plan d'action gouvernemental de promotion des saines habitudes de vie et de prévention des problèmes reliés au poids 2006-2012, Investir pour l'avenir (PAG) (2006)** ■ Objectives include helping Quebecers adopt and maintain healthy eating habits and an active lifestyle, reduce the prevalence of obesity and weight-related problems and their consequences, promote healthy lifestyles and a healthy attitude toward diverse body shapes and sizes. ■ Seven thrusts include: fostering healthy eating habits, fostering a physically active lifestyle, promoting positive social norms, improving services for people with weight problems, and adapting research.	√	√	√		√	√

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
Quebec	**Framework Policy on Health Eating and Active Living: Going The Healthy Route at School (2007** ■ The policy objectives include ensuring that food supplied in the school environment promotes the adoption of healthy eating habits, increasing physical activity opportunities for all students, creating communication programs to facilitate the adoption of sustainable healthy living habits, and mobilizing school and community partners to undertake actions that support healthy eating and active living. Other documents were referenced in a Quebec presentation to the 2nd National Obesity Summit, Montreal in April 2011 but translations were not located. These included: ■ Cadre re référence Miser sur une saine alimentation: une question de qualité (2009) ■ Redécouvrir le chemin de l'école Guide ■ Guide pour l'aménagement, l'organisation et l'animation de la course d'école – gouvernement program Kino-Québec	√	√				
New Brunswick	**Live Well, Be Well. New Brunswick's Wellness Strategy, 2009-2013** ■ Four pillars of wellness include: physical activity, healthy eating, tobacco-free living, mental fitness and resilience. The focus is not on obesity but statistics are cited. ■ Mental fitness and resilience are seen as a precursor of positive behaviour change, creating healthy lifestyles, and reducing risky behaviours.	√	√			√	

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
Prince Edward Island	**Prince Edward Island Healthy Eating Strategy, 2007-2010** ■ The strategy identified goals related to increased nutrition education and healthy eating, access to safe and healthy food, healthy eating policy, and research. ■ The strategy identifies the need to reduce childhood obesity.	√					
Prince Edward Island	**Prince Edward Island Strategy for Health Living (2003)** ■ The document includes targets for healthy body weights, obesity, hip to waist ratio, proportion of inactive adolescents and females, number of schools with daily physical activity, numerous food-related targets, schools with comprehensive healthy eating policy	√	√	√			
Nova Scotia	**Growing Up Healthy Discussion Framework for a Childhood Obesity Prevention Strategy (2011)** ■ The strategy focuses broadly on preventing childhood obesity primarily by increasing healthy eating and physical activity through interventions in a number of settings, and across sectors.	√	√	√			
Nova Scotia	**Active Kids Healthy Kids Strategy (2007)** ■ The strategy includes interventions at an individual, interpersonal, organization and community level targeted at increasing children's activity. ■ Obesity statistics are included.		√				
Nova Scotia	**Nova Scotia Pathways for People Framework for Action (2006)** ■ The framework is focused on encouraging active transportation (human-powered and non-motorized). ■ Active transportation is identified as a strategy than could help address obesity		√				

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
Nova Scotia	**Healthy Eating Nova Scotia (2005)** ■ The plan focuses on breastfeeding, children and youth, fruit and vegetable consumption, and food security. ■ Obesity is identified as a diet-relat4ed chronic condition.	√					
Newfoundland	**Department of Health and Community Services Strategic Plan 2011-2014** ■ This plan includes healthy eating/physical activity, and wellness as focus areas; specific strategies not identified.	√	√				
Newfoundland	**Active, Healthy Newfoundland and Labrador A Recreation and Sport Strategy for Newfoundland and Labrador (2007)** ■ This strategy identifies key directions including increasing involvement and participation in recreation sport and physical activity, and improving access for all.		√				
Newfoundland	**Eating Healthier in Newfoundland and Labrador (2006)** ■ This provincial food and nutrition framework also addresses physical activity. ■ Key directions include reinforcing healthy eating and physical activity, supporting vulnerable populations, food availability, and research. ■ Reducing obesity through a healthy weight campaign is one element of one strategy; obesity targets and indicators are included.		√				

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
Yukon	**Yukon Nutrition Framework (2010)** ■ This framework includes goals to promote healthy eating, improve food security, support special populations and their nutrition needs, and address nutrition-related health issues. Obesity focus is limited to statistics.	√					
Yukon	**Yukon Active Living Strategy (2000)** ■ The strategy includes recommendations for increasing active living.		√				
Northwest Territories	**Healthy Foods in Facilities, Food and Beverage Guidelines for Health and Social Services (2006)** ■ The guidelines provide a basis for a common definition and approach for foods used in health and social services facilities.	√					
Northwest Territories	**Healthy Choices Framework (undated)** ■ This series of programs focuses on a number of aspects of healthy living including healthy eating and physical activity.	√	√				
Northwest Territories	**Building on Our Foundation 2011-2016, A Strategic Plan for NWT Health and Social Services System (2011)** ■ This document includes a target focused on pilot projects aimed at weight loss for parents and children.			√			
Nunavut	**Developing Healthy Communities. A Public Health Strategy for Nunavut 2008-2013** ■ The strategy includes objectives related to increasing the number of children eating country foods, and a food security goal with objectives related to knowledge of healthy foods, and access to nutritious food, both traditional and commercial.	√					

Jurisdiction	Strategies or Plans Addressing Healthy Eating, Active Living, Obesity, Eating Disorders, Mental Health (in the context of weight), Weight Stigma/Body Image	Healthy Eating	Physical Activity	Obesity	Eating Disorders	Mental Health	Weight Stigma/ Body Image
Nunavut	**Nutrition in Nunavut. A Framework for Action (2007)** ■ The framework includes goals related to improving nutritional status of children, having sufficient nutrients food both market and traditional, increasing access to nutrition and acceptable food, and developing evidence –based policies and approaches that support healthy eating.	√					

Appendix 11: Provincial Policies that Promote Healthy Weights in a Manner that Supports Health and Well-Being

New Brunswick

New Brunswick's Ministry of Culture, Tourism and Healthy Living emphasizes mental fitness and resilience. What is notable about this approach is that it is situated in a department outside of health and that it recognizes the importance of mental well-being (mental fitness and resilience) as an integral component of overall well-being.

Definition of Mental Fitness and Resilience

"Mental fitness and resilience means having a positive sense of how we feel, think and act which improves our ability to enjoy life and respond to life's challenges. We are mentally fit and resilient when:

- Our skills and strengths are recognized and used by ourselves and others (competence);
- We have opportunities to make choices and take action to positively impact our lives (**autonomy**);
- We are connected to and encouraged by our family, friends, school, community and/or workplace (**relatedness**).

The Goal

To improve the mental fitness & resilience of New Brunswickers; recognising "that our capacity to make positive changes in our daily routines, whether choosing healthy eating, being physically active, or living tobacco-free is impacted by our Mental Fitness & Resilience."

See: http://www.gnb.ca/0131/Healthy-NB-en_sante/mental_fitness-e.asp

Quebec: Quebec Charter for a Healthy and Diverse Body Image (2009)

- Quebec is the only province in Canada to date to have developed a charter supporting body diversity.
- Support is pledged for seven avenues of action including: promote a diversity of body images; encourage healthy eating and weight control habits; discourage excessive behaviour with respect to weight loss or appearance modification; refuse to subscribe to aesthetic ideals based on extreme slimness; remain vigilant and diligent to minimize the risks of anorexia, bulimia, and unhealthy concerns about weight; act as agents of change; and promote the Charter. http://www.ijoinonline.com/en/charter.php

Government Action Plan to Promote Healthy Lifestyles and Prevention of Weight-Related Problems, 2006-2012, Investing for the Future (PAG) (2006)

- Quebec also has a plan that includes promoting positive social norms along with physical activity and healthy eating. It appears that Quebec is focusing on integrating healthy eating, physical activity, obesity, and weight stigma/body image in its approach.
- Objectives include helping Quebecers adopt and maintain healthy eating habits and an active lifestyle, reduce the prevalence of obesity and weight-related problems and their consequences, promote healthy lifestyles and a healthy attitude toward diverse body shapes and sizes.

BC's Healthy Minds Healthy People Plan

With BC's Healthy Minds Healthy People ten year plan (see box below), and its emphasis on promoting mental health for all British Columbians, there is clear potential for strong linkages to be made with Paradigm Four approaches outlined in this paper – that is, promoting flourishing in body and mind for all.

BC's Healthy Minds Healthy People Plan

In 2010, the BC Ministry of Health Services and the Ministry of Children and Family Development introduced a 10-year Healthy Minds Healthy People plan.

The vision of the plan is: "children youth and adults from all cultures in British Columbia achieve and maintain sound mental health and well-being, live in communities free of problems associated with substances, access effective support to recover from mental health and/or substance use problems that may develop over the lifespan, and lead fulfilling lives as engaged members of society without discrimination when these conditions persist."

The first of three goals is to improve mental health and well-being of the population such that "all people of BC will have opportunities to benefit from a society that promotes and protects mental health and prevents mental illness, problematic substance use and associated harms."

Frequent mention is made in the plan for an integrated approach and collective action. It is noted that, "by focusing resources on evidence based and best practices, everyone involved in promoting the healthy social and emotional development of British Columbians can maximize their investments and yield long term positive outcomes and economic gains for individuals, businesses and governments".

See: http://www.health.gov.bc.ca/library/publications/year/2010/healthy_minds_healthy_people.pdf