Summary 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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Province-wide solutions. Better health.

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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.[1] 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. At the same time, 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 a range of 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 been successful.

Obesity and other weight-related issues can certainly 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, 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.[1] Current research suggests that, depending on the situation and setting (e.g., home, schools, workplaces, health care) almost all overweight and obese people face stigma of some sort, with experiences of stigmatization increasing with BMI.[2-4] Children and youth are also subject to weight bias, stigma, bullying and discrimination, all of which can seriously harm mental (and, eventually, physical) well-being. While it is often said that there is no health without mental health, this notion is neglected in most responses to issues of overweight and obesity.

This paper summarizes an evidence-review commissioned by the British Columbia Provincial Health Services Authority (PHSA) on 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:

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?

The review also highlights promising public health policies and practices that address issues of weight and mental well-being. Readers are encouraged to refer to the main review paper, *From Weight to Well-Being: Time for a Shift in Paradigms?* for additional details, including the report methodology.

3.0 PART I: Physical and Mental Consequences of Obesity

Overweight and obesity are defined by the World Health Organization (WHO)[5] 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[6] 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. 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.[7] These concerns are grounded in the strong links between obesity and sleep apnea, type 2 diabetes, asthma, gallbladder disease, osteoarthritis, chronic back pain, several types of cancers, cardiovascular diseases, and depression.[6] Severe obesity is associated with premature mortality.[6] 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.[6]

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 below.

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

Adults

- Over the past three decades, the prevalence of obesity has nearly doubled among Canadian adults.
- Over one in four adults are obese in Canada. Over half (52.3%) are overweight or obese (2010 figures).
- In BC, 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*** (2010; self-reported data).
- Obesity rates for both men and women increase with age, starting at age 20 and continuing until age 65.

Children and Youth

- 6.3% of Canadian children aged 2 to 5 are obese; 8.6% of those aged 6 to 17 are obese.
- In Canada, 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*** (self-reported data).
- In BC, 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*** (self-reported data).

Source: Public Health Agency of Canada, Statistics Canada and the Canadian Community Health Survey.

It is unclear if the 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.[8, 9]

Obesity/Overweight and Health Status

The WHO[5] states that overweight/obesity is the fifth leading risk factor for global deaths, causing at least 2.8 million adults to die 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.

However, the relationship between body weight and disease or mortality is complex. For example, a number of studies have found that those who are excessively thin or excessively overweight have significantly increased all-cause mortality, while those who are overweight have significantly *decreased* all-cause mortality.[6, 10-14] Obese people with diseases such as type 2 diabetes, hypertension, cardiovascular disease and chronic kidney disease can live longer than thinner counterparts.[15-18] Finally, an estimated 20 to 30 per cent of the obese population may be metabolically healthy, in relation to risk for diabetes and heart disease.[21-26] That is, they may have normal blood pressure, triglyceride and cholesterol levels, and other signs of health. There is debate in the literature about the merits of weight reduction for this group. Obese but metabolically normal individuals may still be at increased risk for mortality,[27] so lifestyle-induced weight loss is still beneficial for improving selected cardio-metabolic risk factors.[28] On the other hand, some people of *normal* weight and BMI may be metabolically *unhealthy*.[21, 23, 29-31]

Additional research is required to fully understand these phenomena. Nevertheless, there may be value in considering a focus on improved metabolic health for people of all weights, sizes and shapes through healthful eating and moderate physical activity. Continuous monitoring of the emerging evidence is required to inform this process.

Body Mass Index (BMI)

BMI is a useful indicator for tracking obesity at a population level, but for individuals, weight and BMI may work best as a "first screen," indicating the need for further assessment regarding risks to health.[7, 32] As an individual measure, this further assessment should take into account the distribution of fat and muscle,[33] and waist circumference, which has a closer association with morbidity and mortality than BMI.[7]

Issues Associated with Weight Loss

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.[2, 7, 17, 34-38] It is estimated that between one-third and two-thirds of people on calorie restricted diets regain more

weight than they lost. Those who manage to sustain their weight loss are the "rare exception".[36, pg 230] Experts agree that health care providers should counsel patients to try to lose no more than ten per cent of their total body weight.[2]

Restrictive dieting leads to increased hunger pangs, obsessive thoughts about food and eating, and greater risk of depression and overeating. It 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.[39] Only bariatric surgery has proven successful for extremely obese adults who need or want to lose more than 15 per cent of their body weight.[34]

Weight Fluctuations Associated With Dieting

Weight cycling associated with the repeated loss and regain of weight[36, 40, 41] can cause increased cardiovascular risks, including insulin resistance and dyslipidemia.[42] Fluctuations in blood pressure, heart rate, sympathetic activity, glomerular filtration rate, blood glucose and lipids that may occur during weight cycling stress the cardiovascular system, not only among obese people, but also for those of normal weight. The increasing incidence of weight cycling among girls and young women, at ever-younger ages, is likely to become a serious public health problem.

Health Benefits Through Moderate or No Weight Loss

Evidence points to the benefits people with obesity can achieve through as little as a five to ten per cent loss of body weight.[34, 37] Further, behavioural changes *without* weight loss can contribute to better health. A moderate increase in physical activity, achieved through regular walking for example, improves aerobic fitness, insulin sensitivity and blood pressure, and reduces coronary heart disease risk, regardless of weight.[43-46] A diet rich in fruits, vegetables and low fat dairy foods, with reduced saturated and total fat, can substantially lower blood pressure.[47]

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)

The consequences of weight bias, stigma, bullying and discrimination are serious and may, in fact, cause many of the negative physical and mental health outcomes of obesity.[48-55] Weight discrimination begins very early in life (as young as age three),[56] and is increasing in North America.[57] Rather than motivate individuals to change their behaviours, weight bias has significant negative consequences, including overeating, avoidance of exercise and psychological harm.[2] If there is indeed an "obesity epidemic" then there is also an accompanying shadow epidemic of weight-related bias, stigma, bullying and discrimination.

Effects on Children and Youth

Children and youth who are overweight or obese are more likely to be victims of weight-based bullying and victimization, even from their parents and teachers.[58, 59] The psychological consequences of stigma include heightened vulnerability to depression, anxiety, lower self-esteem and social isolation and exclusion.[55, 60] Those who are bullied are two to three times more likely to have suicidal thoughts and behaviours than overweight children who are not.[58, 61] The physical health threats of teasing include disordered eating, such as binge eating, and unhealthy weight control practices.[61] Children and youth may withdraw from physical activity,[35, 58] and begin a cycle of disordered eating and avoiding physical activity, which may in turn promote weight gain.

Possible longer-term consequences of weight-based bullying include poor school performance,[58] diminishing future education and job prospects, single marital status, lower household income and reduced self-esteem.[54] These outcomes 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.

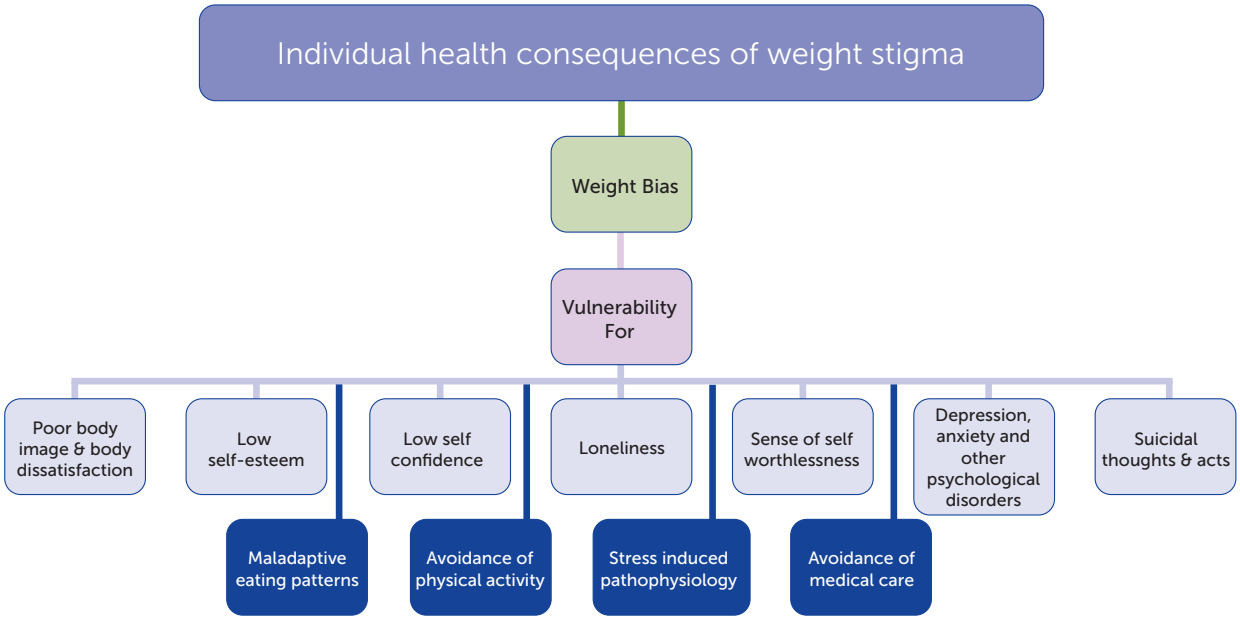
Effects on Adults

Obese adults face multiple forms of prejudice and discrimination because of their weight, according to a systematic review conducted in the United States.[2] There is strong evidence that a high percentage of obese individuals are discriminated against in the workplace, including in hiring decisions and remuneration; in health care settings, by physicians, nurses and student dieticians; and in the media.[2] Doctors were reported as second only to family members as the most common source of stigma among a list of over 20 possible sources.[62]

Early findings suggest that weight bias may contribute to psychological distress among adults, including vulnerability to depression, low self-esteem, poor body image and other psychiatric disorders.[2] Weight bias may also increase stress and subsequent cardiovascular reactivity, and lead to the avoidance of preventative and medical care, posing additional health risks.

In both children and adults, much of the psychological harm associated with overweight and obesity comes from the experience of stigma and discrimination, not weight per se. The harm is most intense when stigma is internalized.[2, 63, 64] Therefore, efforts to decrease weight bias among children and youth are particularly important. Figure 1 on page 14 summarizes individual health consequences of weight stigma.

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

Stigma and the Spectrum of Weight-Related Issues

Overweight, obesity and disordered eating and eating disorders can be conceived as a spectrum of weight-related issues. **Eating disorders** are psychiatric illnesses marked by disordered eating attitudes and behaviours that include anorexia nervosa, bulimia nervosa and "eating disorder not otherwise specified" (EDNOS) – more prevalent and equally serious, but not meeting all the disease-specific diagnostic criteria.[65] **Disordered eating** includes many of the same practices, somewhat less severely.[66]

Overweight and obese individuals are at higher risk of disordered eating and eating disorders than the general public. People 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.

Young girls appear particularly susceptible to eating disorders. Between 27 and 57 per cent of adolescent girls and an increasing number of boys report disordered eating attitudes and behaviours in North America.[67-69] Excessive concern about body image and weight, sometimes due to societal and media pressure, can seriously impact psychosocial development, dietary intake, physical growth and the development of eating disorders.[68] Common risk factors for youth obesity and disordered eating include weight-based teasing and stigmatization, low self-esteem, body dissatisfaction, poor nutrition, physical inactivity, media exposure and marketing to young children, low socioeconomic status, and ethnic and cultural differences.[70, 71] The home environment can be both a risk and protective factor, with regularity of family mealtimes serving as a protective function.

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. Caucasian Americans tend to define obesity in negative terms.[72] So, there is considerable variation within ethnic groups and no "formula" for cultural sensitivity.[73] Those working in the health care field need to deal with individuals as situated within both their ethnic and local community contexts.

In the Western world, the interaction of socio-cultural factors, body image and psychological issues is thought to predispose women, particularly young women, to development of eating disorders. The "ideal" body weight promoted through popular culture is far lower than healthy body weight, as determined by the medical community.[74] At the same time, food plays an important role in society for comfort and celebration, so cannot be positioned as "the enemy" in weight control.[43]

Social and Health Inequities

As with health generally, obesity tends to follows the social gradient. People lower down on the income ladder tend to be less healthy and more prone to obesity than those the next step above them.[75] Those in minority or disadvantaged groups are further marginalized.[6, 7, 73, 76] So while "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".[77] Risk for obesity is higher among women who are food-insecure,[78] regardless of their income, behaviours or education.[77]

Societal and environmental conditions clearly contribute to obesity. A focus on individual responsibility exacerbates negative stereotypes, increases weight bias and perpetuates inequities.[79] By tackling the environmental and social conditions that shape weight in our society, there is greater potential for population-level effects.

4.0 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 2 below.

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.[43]

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 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 causing harm to mental well-being.

Table 2: Paradigms to address 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 to actively engage 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 non-obesogenic environments that promote positive mental and physical well-being, going beyond addressing the determinants of weight to addressing the determinants of health. The goal is to promote flourishing in mind and body for all.

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. Interventions are based on the assumptions that weight loss is essential for and will invariably improve health, and that it is a practical goal, fully within the control of individuals. Prevention and treatment encompass education, behaviour change, pharmaceutical therapies and surgery.

A growing body of evidence 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.[6, 7, 37, 80, 81] The evidence cited above points to the unintended negative consequences of a (individual) focus on weight loss in isolation from overall health and well-being.

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*?

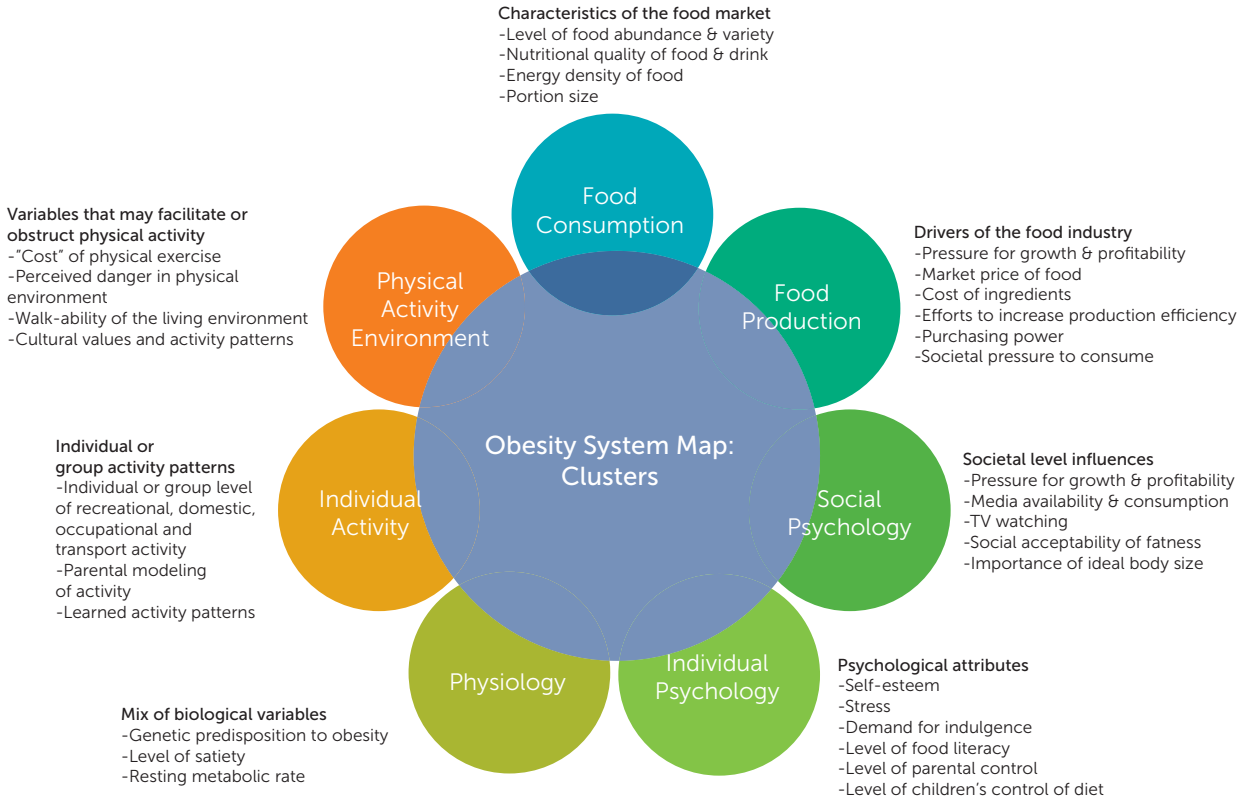
Paradigm Two: Tackling the obesogenic environment

Paradigm Two moves beyond "fixing" individuals, to address population health by focusing on the "obesogenic environment" – the "influences that the surroundings, opportunities or conditions of life have on promoting obesity in individuals and populations."[82] It recognizes the dynamic interaction of human biology, individual and group behaviours and major societal changes, such as different work patterns, modes of transport, food production and food sales.[7] A large body of compelling evidence affirms that our natural biological tendency to gain weight is being influenced by an obesogenic environment.[7]

Thus, obesity is viewed as a complex societal issue rather than a biomedical problem perpetuated by poor individual lifestyle behaviours and choices.[7, 81, 83] For example, some researchers speak of the "sub-optimal defaults" to which youth are continually exposed, in an environment where "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."[35, pg S8] Multiple, broad interacting and dynamic "clusters" have been proposed within an "obesity system" (Figure 2 on page 18).

Figure 2: The Obesogenic Environment: Obesity Clusters



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

Paradigm Two Responses to Obesity

Paradigm Two approaches obesity by positioning health as a societal and economic issue.[7] It requires action from multiple levels – individual, family, community and society – and sectors, including industry, the media and government, as identified in Figure 2. Change requires a comprehensive, long-term strategy that: i) creates and sustains environments that facilitate healthy choices; and, ii) encourages

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.

individuals to "desire, seek and make different choices" within the families and groups that influence their behaviour.[7, pg 122]

The Public Health Agency of Canada, for example, adopts a population health approach to the obesity issue, examining, "both the... 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."[6, pg 1]

The Agency recommends comprehensive initiatives for children and youth that target the obesogenic environment, by focusing on increased physical activity, better availability and affordability of nutritious foods, restrictions on "junk food" marketing, and communities that support active living. Their framework also mentions positive mental health.

Well-Being-Oriented Paradigms – Paradigms Three and Four

Well-being oriented paradigms address weight-related issues in ways that protect and promote mental well-being, as well as physical health. "Flourishing" is the term often used to describe optimal mental well-being, incorporating emotional (positive feelings, happiness, life satisfaction); psychological (self-acceptance, personal growth, purpose); and social (positive relationships with others; sense of belonging; social acceptance) well-being.[84] Research 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.[85-86]

Paradigms Three and Four build on core protective factors and the social determinants of health to create optimal mental and physical well-being.

Core Protective Factors for Health and Well-Being

Actions on core protective factors strengthen individuals and communities, and improve socioeconomic and environmental conditions. They are important pathways through which the wider social determinants influence health outcomes. Four core protective factors have been identified as foundational for mental and physical health:[87]

- **Enhancing control/empowerment** – Empowerment allows for choice and control – essential factors to address weight-related issues. Empowerment includes sufficient material resources and the opportunity to participate in decision making that affects health.[87] Lack of control and influence are risk factors for stress and concomitant mental and physical pathology.[87]
- **Increasing resilience and community assets** – Social relationships and strong positive social networks are central to creating resilience. Enhancing community capacity allows groups to effectively address their priorities for health and well-being. It can highlight possible reasons behind

weight issues and inform the development of effective, customized patient and family centred ways of addressing them.

- **Facilitating participation** – Social participation is the extent to which people are engaged in activities outside their immediate household, including culture, volunteering and civic engagement.[87, pg 21] It is associated with better self-reported health and reduced risk of coronary heart disease.[87]
- **Promoting social inclusion** – Inclusion entails opportunities for full and equal participation in economic, social, cultural and political institutions for all people.[88] It speaks to the inclusion of any marginalized people, including those stigmatized through obesity.

The Social Determinants of Health

The social determinants of health are the structural factors that shape opportunities to experience well-being. They include education and life-long learning, meaningful activity, financial security, housing, food security, culture, gender and healthy child development.

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. They emphasize participatory and empowerment-oriented approaches that build upon existing strengths, assets and capacities. Interventions are evidence-informed, often multi-sectoral and are tailored and culturally appropriate to participants.[89] It is an approach than lends itself well to supporting or promoting healthy weights, as described in Table 3.

Table 3: Health Promotion Strategies to Support Healthy Weights

Re-oriented health services – Develop capacity for addressing weight-related issues in ways that protect and promote mental health.

Individual skill development – Enhance skills to promote body satisfaction and self-esteem, and develop coping skills to deal with stigmatization and discrimination.

Small group development – Support interactions with others, as in peer support groups, to develop a sense of connectedness and empowerment, and the strength and skills to act upon factors for improved health, such as self-esteem.

Supportive environments for health – Create spaces where people live, work and play to support health and/or offer protection from threats to health. A supportive workplace would take special measures to be inclusive and supportive to people of all body types.

Community capacity building & strengthening community action for health – Work with communities to facilitate effective action to identify and address broad health concerns.

Mass information/awareness and social marketing – Customize strategies to change norms and practices by providing targeted information and other opportunities for behaviour change. A campaign on weight issues could move beyond blaming individuals to understanding the complexities of obesity.

Coalition building and advocacy – Tackle weight-related bias, stigma and discrimination, or challenge existing social norms regarding "beauty".

Healthy public policy – Create a supportive environment through policies concerned with health, equity and accountability for health impact.[91] Supportive policies related to weight and well-being would ensure equitable access to green spaces and affordable and accessible food.

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

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

Paradigm Three is a "weight-neutral" approach aimed at *adults*. The approach encourages individuals to adopt sustainable health behaviours, with some evidence to support small group or peer support strategies. The approach follows health promotion principles, encouraging body acceptance, intuitive eating and participation in enjoyable physical activity. Paradigm Three 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.[43]

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 improvements in health can be gained through healthy eating and exercise, with little or no weight loss[43, 100]
- 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.

Noting the lack of success and the harms associated with dieting, organizations such the American Dietetic Association (ADA),[91] the Canadian Obesity Network (CON) and Health at Every Size©[i] (HAES) support a "non-dieting" approach. CON's "Best Weight" approach recognizes obesity as a chronic condition and promotes long-term weight management that encourages positive relationships with food and "sets people up for success rather than failure."[43, pg 12] According to CON, "A patient's best weight is whatever weight they achieve while living the healthiest lifestyle they can truly enjoy."[43, pg 12]

While it has not been extensively researched, HAES has been described as the standard of practice in the eating disorders world.[15] [ii] Results of randomized controlled studies, albeit with relatively small numbers of participants, have yielded 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).[92-99]

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

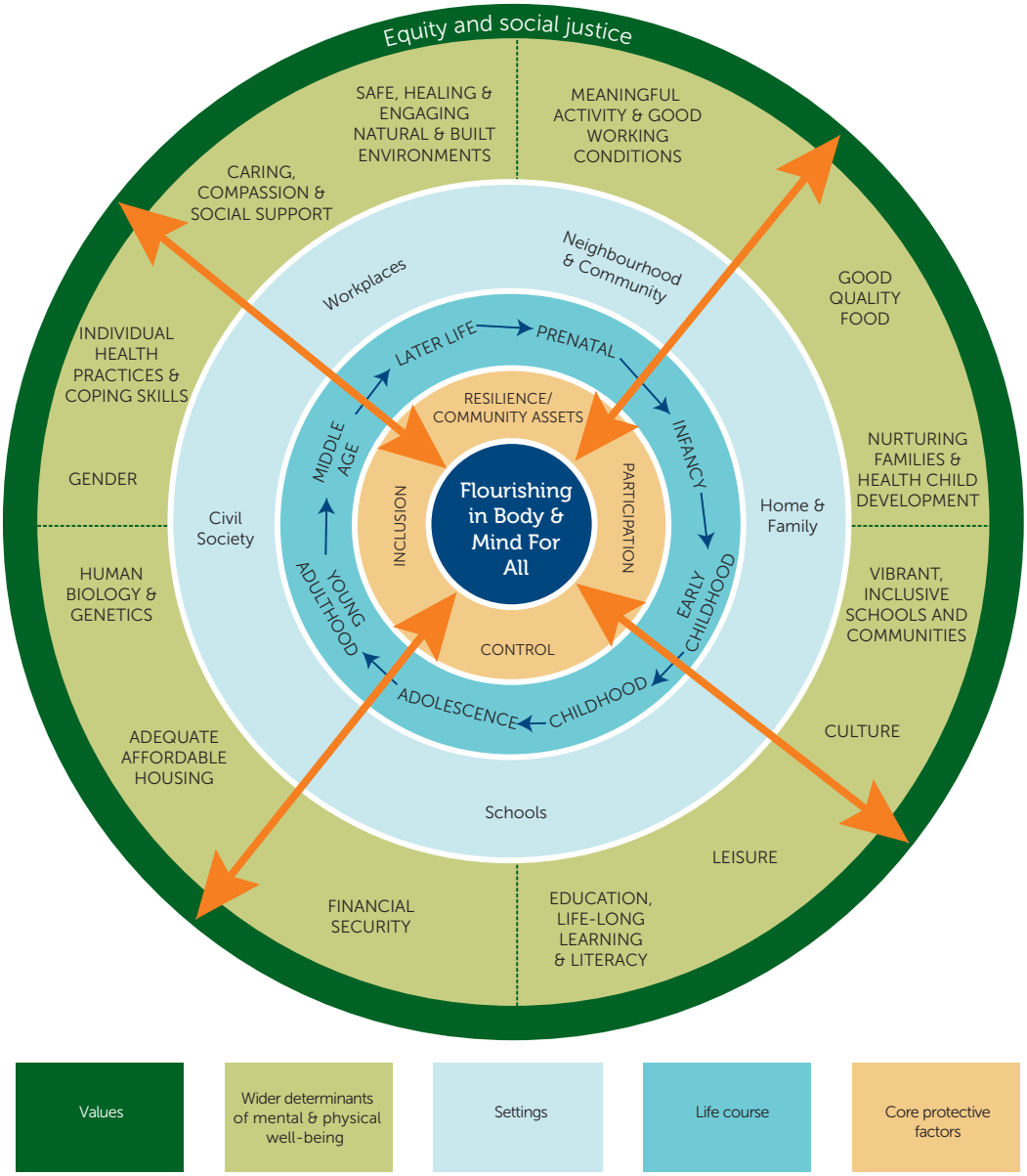
Paradigm Four uses a socio-environmental health promotion model to tackle the determinants that weight and health have in common. It promotes flourishing – mental and physical well-being – extending well beyond issues associated with weight to address other chronic health conditions. Paradigm Four emphasizes actions by many sectors – education, housing, economic development,

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

ii 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.

early child development, culture, arts – and in many settings, including communities, schools and workplaces. As such, it can be difficult to delineate areas of responsibility, identify cross-sectoral accountabilities, and share resources. This paradigm requires effective collective action.

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 lie in the social determinants of health, while actions to promote flourishing are grounded in mental health and health promotion principles and strategies. To illustrate this, the Friedli model of mental well-being has been adapted to include physical health and a life-cycle approach, showing a clear integration of body and mind. (See Figure 3 on page 23.)

Mental well-being is articulated in the four core protective factors (resilience/community assets, participation, control and inclusion), depicted in the second inner-most circle of the model. Consistent with the Friedli model, the dark outer circle of the diagram represents equity and social justice, foundational values for well-being and flourishing. The arrows which cross all dimensions further signify the importance of equity and social justice.

The determinants of mental and physical well-being noted in Flourishing in Body and Mind for All (pale green outer circle of Figure 3 on page 23) are:

- Financial security
- Caring, compassion and social support
- Education, life-long learning and literacy
- Meaningful activity and good working conditions
- Vibrant, inclusive schools and communities (social environments)
- Safe, healing and engaging natural & built environments (physical environments, including housing)
- Individual health practices and coping skills
- Nurturing families and healthy child development
- Good quality food (and food security)
- Human biology and genetics
- Culture
- Gender
- Leisure (e.g. arts and creativity, sport, culture)

(Note: for a description of each determinant, please refer to the main review paper, *From Weight to Well-Being: Time for a Shift in Paradigms?*)

Paradigm Four Synopsis

Paradigm Four is based on the Friedli model of mental well-being, adapted to include physical health and a life-cycle approach. 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.

5.0 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, at the individual level through to whole-of-government approaches. Examples of effective programs and actions suggested in this section are compiled in Appendix 1 on page 52.

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

The health promotion principles presented in Table 4 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 4: Key principles for addressing weight-related issues and promoting well-being in body and mind (flourishing) for all

Principle	Description
First, do no harm	Focusing on weight through individual behaviours and in isolation from health and well-being may contribute to weight stigma 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. To neglect the mind can cause harm.

Table 4: Key principles for addressing weight-related issues and promoting well-being in body and mind (flourishing) for all

Principle	Description
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 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.
Have compassion and seek to understand	To arrive at effective solutions and avoid possible psychological harm, actions to address weight-related issues should be grounded in 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	It is crucial to address the broader social factors that contribute to weight-related issues. 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 of 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.
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 and discrimination are social injustices that lead to health inequities. Provide care and services in culturally appropriate and sensitive ways.

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 those working in the private sector. The following suggestions are aimed at reducing weight bias, stigma, bullying and discrimination in all spheres.

- **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 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, particularly the internalization of bias and discrimination.[101] The health promotion strategies of building individual coping skills and small group support are particularly helpful for these purposes.
- **Provide training across sectors about obesity and obese people, including:**
    - *An understanding of the complex relationships between weight and health.* Overweight/obese, 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.
    - *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 wellbeing 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 online 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 5.
          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 5: Strategies for providers to reduce weight bias

- Recognize the complex etiology of obesity and its multiple contributors, including genetics, biology, sociocultural 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. On a scale of undesirable to very undesirable, research subjects rated the word "fatness" as least desirable, followed closely by "fat" and "obesity". The only term that rated favourably was the word "weight".[43, pg 8]
- **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, including possible layering of stigma** in programs or initiatives crossing system levels and sectors.[50] 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.[50]

...in the Public Sphere

Despite strong evidence of the harm invoked by weight bias, stigma, bullying and discrimination, it remains largely unaddressed. 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.

- **Critically screen public health communication messages** for stereotyping, blaming, misinformation and possible layering of stigma. 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. When the focus is on obesity, it perpetuates bias.[34]
  - **Eliminate messaging that may place blame** on individuals or encourages dieting or other unhealthy weight control practice. Messages about the cost of obesity can appear to lay blame, and may be particularly damaging. Key questions to ask include: [34]
    - 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 should be replaced with more accurate and positive personal messages. 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. Messages could include:
    - 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" www.obesitynetwork.ca/image_bank.aspx?menu=40&app=236&cat1=641
  - The Rudd Center for Obesity and Food Policy www.yaleruddcenter.org/press/image_gallery_intro.aspx

Source: Both images are from the Canadian Obesity Network image gallery

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

Health practitioners often work with individuals and their families regarding weight-related issues. Examples of initiatives that prevent or address weight-related issues in mentally-healthy ways are listed in Appendix 1 on page 52.

Working With Children and Youth to Prevent Weight-Related Issues

Many adolescents report body dissatisfaction and disordered eating, calling for a comprehensive approach to prevent both overweight and disordered eating. Table 6 presents a number of protective factors specific to weight-related issues, along with examples of topics for discussion at individual and environmental levels.[102]

Table 6: 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 the food industry.
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. Strive for free access to community centres for those who can't pay.
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.

Table 6: Discussions for Enhancing Protective Factors in Children and Youth		
Broader Protective Factors	**Examples of Topics For Discussion/Action**	
	Individual Level	**Environmental Level**
Emotional health/ coping and communication skills	Identify and appropriately deal with feelings. Decode 'fat' and 'diet' talk, e.g., "I feel fat" is a 'teachable moment'; an opportunity to explore feelings that are being inappropriately attributed to the body.	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.

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.** Asking, "Do you have any health concerns about your weight that you'd like to talk about?" allows the patient to drive the conversation.[43, 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.[43]
- **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.[43]

- **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, sets patients up for success.[43, 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.[43, pg 12]
- **Adopt a commonsense approach to food** – eating is not simply about survival. Food should not be positioned as the enemy, as it is often a source of comfort and imbued with celebration.
- **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.

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 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 7, the limitations of this approach are noted, along with alternate, Paradigm Four-oriented approaches.

Table 7. 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.[103]	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 which 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?

Table 7. 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 by adults as "problematic" can be dispiriting and negatively impact self-esteem and motivation for change. This can even lead to unhealthy behaviours.[104] Further, this problem-based focus can blind well-intentioned interveners to the strengths of youth.[105, 106]	***Strive to identify strengths, abilities, resources and build upon them.*** For example:[107] ■ 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?
Interventions devised by even well-intentioned "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.

It has been shown conclusively that a focus on individual deficits is not cost-effective.[108] 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.*

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

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.

Adolescence

Youth are faced with significant and rapid physiological, psychological and cognitive developmental changes. 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.

Positive youth development is triggered when young people have greater control over what happens to them – when their advice, participation and engagement are sought.[109] An integrated weight-related program becomes particularly powerful when it builds resilience and supports positive youth development through empowerment, assertiveness, and the ability to cope with distressing emotions.[110] [iii] Resilience buffers children and youth from the effects of risk factors and lessens the effects of risk behaviours.[105, 111]

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

Schools are important environments for promoting mental and physical well-being. 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.[112] Effective school health programs actively engage students in exploring health and well-being through priorities that are important to them. It is this participatory, inclusive approach that builds the core protective factors. The Directorate of Agencies for School Health (DASH) BC's comprehensive school health initiative emphasizes youth engagement, and is an example of an empowerment-oriented approach.

iii A succinct overview of approaches that promote mental well-being in school settings, is provided in 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

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.

2. Develop Vibrant, Inclusive Communities

"Whole-of-community" approaches are directed toward building community capacity to enable groups to work effectively together, and to identify and address broad priority health issues and aspirations. Systematic reviews of school and community-based programs specific to preventing obesity are somewhat discouraging; however, more promising results have emerged from community capacity building, whole-of-community initiatives.[83] Examples include:

- EPODE – This large-scale child obesity prevention initiative began in France and has shown promising reductions in weight.[83] The initiative is designed to build community capacity and leadership, and provides training and skill development, evaluation and the development of suitable structures.
- BC's SCOPE (Sustainable Childhood Obesity Prevention through Community Engagement) - This project works to prevent obesity by building community capacity. 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).
- The worldwide healthy cities/communities movement – This global movement 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.[113] The approach is participatory and inclusive, where community members identify priorities that are most relevant to them, including, for example, economic development, the provision of child care, community gardens, and so forth. 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.

3. 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"*[69] based on the

Eating Disorders Quality Improvement Plan of Vancouver Coastal Health[114] outlines 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 media messages. Media literacy promotes adaptive behaviour indirectly by teaching people to evaluate media critically, thereby reducing the credibility and persuasive influence of media messages.[110, 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.[110]

The **ÉquiLibre** organization in Quebec is using a collaborative, rather than a confrontational approach to promote healthy body image and appreciation of body diversity. Its "Behind the Mirror" campaign honours retailers, while its work with Quebec fashion design schools encourages them to design clothing for people of all sizes and shapes.

4. Implement Healthy Public Policy

Implementing healthy public policy is important to promoting mental and physical well-being for all. Most provincial and territorial strategies or plans focus on healthy eating and/or active living, framing obesity as a secondary issue or as an indicator of the need for action. Alberta has a dedicated obesity strategy, and New Brunswick and Quebec include mental well-being in their approaches to active living and weight.

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.

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?** It may be time to re-assess the public's receptivity to this message, to ensure that it remains relevant and worthy of 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:
    - For adults, "healthy weight" could be aligned with the Canadian Obesity Network's "best weight" – the best weight one can achieve and still have a healthy enjoyable life – distinct from an "ideal" or "normal" weight or BMI.
    - "Healthy eating" might be defined more in terms of intuitive eating – that is eating when hungry and stopping when full, and eating a variety of nutritious foods. The "comfort" and "social-celebratory" aspects of food must be recognized.
    - "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 policies or strategies?** Promoting mental well-being means emphasizing core protective factors (control/empowerment, fostering participation and inclusion, and resilience), and fostering emotional, psychological and social 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.

To properly evaluate them, policies and programs that address weight-related issues through Paradigm Three and Four-type approaches will require a shift in the way that "health" and "weight issues" are measured. A number of well-formulated sets of mental health and well-being indicators exist. Resources are cited in the full report, *From Weight to Well-Being*.

5. 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 and towards a broader focus on health and well-being. 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 strong evidence for the value of extending the focus beyond the individual level of action, to the population and societal levels.

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 recognition that the health care system contributes only in a small way to health and that individual behaviour-change approaches are limited. An inter-sectoral, whole-of-government approach is called for to address population-wide health and well-being. Due to their complexity, this is especially true of weight-related issues and disorders.

Measuring Mental Well-Being, Flourishing and Weight Related Issues

A shift toward paradigm Three and Four-type approaches will require a shift in how "health" and "weight issues" are measured. Work is underway to generate new measures for assessing positive mental health, flourishing, community based obesity actions and tracking societal well-being.

Further areas of inquiry, research and evaluation is needed to further inform dialogue, policy and evidence based action to address the challenge of overweight and obesity in context of promoting mental and physical health.

6.0 Summary: Key Messages

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.

Obesity is strongly associated with many serious and costly chronic health conditions, but the relationships are complex. While obesity is strongly linked with numerous medical conditions, the connections are not entirely understood. Some people who are obese are metabolically healthy while others of normal weight are not. Changes in physical activity and diet can improve metabolic health, with little or no weight loss. These findings beg the questions, "What is a "healthy" weight? and "Should the focus be on weight or on other indicators of health?" Continuous monitoring of the research evidence is required to effectively address these questions.

Harm is generated through weight cycling, and the perpetuation of weight bias, stigma, bullying and discrimination. The repeated loss and regain of weight can harm physical and mental health, and there is growing evidence that the mental and physical harm caused by weight bias may be more damaging than obesity and overweight itself, and poses a significant threat to population health.

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. Obesity and other weight-related issues are complex and deeply entrenched in the social and cultural fabric of our society. Weight bias and strong cultural norms regarding attractiveness in Western society can result in body dissatisfaction, leading to unhealthy weight control practices which in turn can contribute to obesity, disordered eating and eating disorders. Efforts to promote healthy weights need to go beyond individual behaviours to address the social issues that underlie them.

"Healthy weight" requires a focus on overall well-being, including mental health. Given the harmful effects of weight bias, mental health and well-being must be given equal consideration with physical health in all actions addressing obesity. Health promotion principles and practices can strengthen core protective factors and, where possible, address the obesogenic environment and the social determinants of health. A "weight-neutral" approach shifts the focus from weight to one of promoting health and well-being, especially mental well-being.

There is significant potential in shifting to a broader approach that addresses the determinants of mental and physical well-being. An opportunity exists to address a number of pressing health and social issues, including but well beyond weight-related issues, to provide the "greatest improvement in the health of the population".[115] This paradigm rooted in health, well-being and flourishing holds much promise in British Columbia.

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 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 ways to encourage sustained behaviour changes, such an approach will address healthy weights in a way that also protects and promotes mental well-being.

Those who work in population and public health can apply health promotion strategies to take action on the determinants of weight and the determinants of health and well-being. Public health approaches and messages must ensure they 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 it can be more easily understood as an upstream issue that is social, economic and political in nature." (Dorfman & Wallack, 2007)

Obesity, alongside other pressing issues such as poverty, homelessness, rising rates of mental health issues and food insecurity are "wicked" or complex problems to which there are no simple solutions. The solutions to wicked problems are grounded in the dynamic social, political, economic, technological and environmental contexts in which we live, learn, work and play. In other words, there are no simple fixes. A growing body of evidence has demonstrated the importance of addressing the underlying conditions that predispose people to poor health.

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 British Columbia.

7.0 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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Appendices

Appendix 1: Resources for Weight-Related Issues

(Details of the resources noted here are available in Appendix 6 of the technical paper, *From Weight to Well-Being: Time for a Shift in Paradigms?*)

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

Examples of Weight- and Body-Image Focused Initiatives in British Columbia

1. "Being Me: Promoting Positive Body Image" – Action Schools! B.C. Initiative www.actionschoolsbc.ca/Images/Being%20Me-WEB.pdf
2. Family FUNdamentals – Family Services of the North Shore www.familyservices.bc.ca/professionals-a-educators/jessies-legacy/resources-for-educators/fundamentals/430-fundamentals-
3. Promoting health and acceptance of diverse body shapes and sizes – Contact Carrie Matteson, Simon Fraser University, matteson@sfu.ca

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

4. *The Student Body: Promoting Health at Any Size* – IWK Health Centre, Hospital for Sick Children, Toronto. http://research.aboutkidshealth.ca/thestudentbody/home.asp
5. *Dieting and Children* http://connection.ebscohost.com/c/articles/19813012/dieting-children
6. *ÉquiLibre - Quebec*. The French website can be accessed at : www.equilibre.ca/

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

7. Helping Parents to Talk with and Support their Children re: Weight and Dealing with Weight Bias, Yale-Rudd Center For Food Policy and Obesity.
    - Advice to parents for talking with their children about weight: http://www.yaleruddcenter.org/resources/upload/docs/what/bias/parents/Parents-HowtoTalktoYourChildaboutWeight.pdf
    - Ways for Parents to Combat Weight bias: http://www.yaleruddcenter.org/resources/upload/docs/what/bias/parents/Parents-WaystoCombatWeightBias.pdf
    - How to Talk to Your Child about Weight Bias: http://www.yaleruddcenter.org/resources/upload/docs/what/bias/parents/Parents-HowtoTalktoYourChildaboutWeightBias.pdf
8. Shapedown BC - http://www.bcchildrens.ca/KidsTeensFam/HealthyWeights/Services/ShapedownBC.htm

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

9. *Best Weight. A Practical Guide to Office-Based Obesity Management,* Canadian Obesity Network http://www.obesitynetwork.ca/page.aspx?menu=40&app=221&cat1=607&tp=2&lk=no
10. *23 and 1/2 hours: What is the single best thing we can do for our health?* U-tube presentation http://www.youtube.com/watch?v=aUaInS6HIGo&feature=youtu.be
11. ÉquiLibre – Quebec. *What about Weight Loss?* The French website can be accessed at : http://www.equilibre.ca/

Resources for Promoting Healthy Child and Youth Development

12. Authentic Youth Engagement in Comprehensive School Health – DASH BC http://fulton.sd22.bc.ca/documents/healthy_schls.pdf; www.dashbc.ca

Resources for Promoting the Development of Vibrant, Inclusive Communities

13. BC's Sustainable Childhood Obesity Prevention Through Community Engagement (SCOPE) Project http://www.childhood-obesity-prevention.org/
14. BC Healthy Communities http://www.bchealthycommunities.ca/

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

15. ÉquiLibre - Quebec. The French website can be accessed at : http://www.equilibre.ca/

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

Name	Position
Dr. Arya Sharma	Scientific Director, Canadian Obesity Network Edmonton, Alberta
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.	