

**WEIGHING IN ON THE HEALTH AND ETHICAL  
IMPLICATIONS OF BRITISH COLUMBIA'S WEIGHT-  
CENTERED HEALTH PARADIGM**

By

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## **Abstract**

Promotion of the weight-centered health paradigm through weight reduction policies and programs may lead to negative health outcomes such as eating disorders, mental health issues and harms from weight cycling and social stigmatization. This study asked why the weight-centered paradigm is uncritically relied upon in public policy and identified effective alternatives to it. Methods used to explore this were discourse analysis of policy documents, case studies of research on Health at Every Size and stakeholder interviews to evaluate policy alternatives. Three policy options are recommended for government adoption: i) weight bias training for health care professionals; ii) framing health promotion in “healthy weight” not “obesity reduction” language; and iii) ensuring health surveillance is not limited to measuring weight alone and involves tracking for unintended outcomes (e.g. eating disorders). A further recommendation suggests that eating disorder prevention professionals take a lead role in advocating for health- rather than weight-centered approaches.

**Keywords:** Weight-centered health paradigm; overweight and obesity; weight stigma; public policy; Health at Every Size (HAES); eating disorder prevention

## **Executive Summary**

Research has shown that weight-centered approaches to health may lead to negative health outcomes such as eating disorders, mental health issues and harms from weight cycling and social stigmatization. Policies intended to reduce and prevent obesity are, by design, aligned with weight-centered approaches. This is problematic given the health consequences of the weight-centered health paradigm (e.g. eating disorders, weight cycling, etc), in conjunction with the evidence that suggests that intentional weight loss is rarely sustainable and often harmful and the research that shows that health can be improved regardless of weight, as long as positive health behaviours are in place.

In recent years in British Columbia there has been increasing attention devoted towards developing obesity reduction policies and programs, and importantly, the Province is in the process of unveiling a comprehensive Obesity Reduction Strategy (ORS). This Capstone focuses on the problems inherent in weight-centric approaches to health and proposes that considering the Province is poised to implement a comprehensive ORS, policy makers should pause and consider how to best design policies to avoid iatrogenic harms.

Given the evidence about the negative health implications of weight-centric policies, one objective of this study was to understand why the weight-centered paradigm is uncritically relied upon in public policy, especially when alternative ways of framing weight within health oriented approaches such as that of the Health at Every Size

(HAES)<sup>1</sup> approach are available. A second objective of this study was to formulate policy options for the Province of British Columbia to consider for synthesis with the ORS, to reduce the consequences of weight-centered approaches.

Primary methods employed to meet these objectives were discourse analysis of policy documents and case studies of research on HAES. Additionally I also conducted key stakeholder interviews to evaluate policy options.

The research question that guided discourse analysis was: why do policies uncritically rely on the weight-centered health paradigm? Discourse analysis was conducted on five seminal obesity-related policy documents in British Columbia. Each document was examined for its discursive, textual and social practices. Findings show that policy claims about the health consequences of overweight and obesity are often unfounded and acquire legitimacy from cultural beliefs about fatness and by referencing “health experts” rather than from methodologically reliable scientific studies. Language used to discuss obesity is unnecessarily inflammatory, evoking an emotional response that fuels a moral panic about obesity to the distinct benefit of select groups (i.e. the food and pharmaceutical industry) and to the detriment of others (i.e. women, overweight and obese people and people of low socio-economic status). Policy makers need to be aware of the questionable nature of the links between weight and health and the way in which promotion of the healthist and moralizing dominant obesity discourse may fuel weight-based stigma and worsen health outcomes.

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<sup>1</sup> Health at Every Size (SM) is a pending service mark of the Association for Size Diversity and Health. For simplicity, within this Capstone “Health at Every Size” or “HAES” will be used in place of “Health at Every Size (SM)” or “HAES (SM)”.

Case studies were undertaken to understand why non-diet interventions (e.g. HAES) have been evidenced as generally more effective at improving health than diet-oriented interventions, so that central components explaining the success of non-diet interventions could inform policy options. Three Randomized Control Trials were examined to answer this question, each of which compared the efficacy of non-diet to diet interventions and showed comparable or greater efficacy of the non-diet groups at improving both physiological and psychological health and health behaviours (i.e. diet and fitness). Findings reveal that the three primary explanatory variables underpinning the success of non-diet, HAES-informed interventions are: i) the importance of decreasing dietary restraint; ii) the importance of de-emphasizing weight; and iii) the importance of emphasising pleasurable physical activity. Decreasing dietary restraint is important because the human body, when presented with energy deficits, invokes psychological and physiological mechanisms that often compel a person to binge. De-emphasizing weight is integral to sustainable health habits, which are difficult to maintain when weight is the primary measure of success since weight loss is rarely sustainable in the long-term, and thus, often coincides with a return to less healthful habits in the presence of discouragement. Pleasurable activity is important because, when exercise is framed as fun rather than as punishment or necessity, motivation is likely to be intrinsic, and thus more likely to be sustainable.

Five policy options were derived from discourse analysis and case study findings, all targeted towards the provincial government, to reduce public policy promotion of, uncritical reliance on and consequences associated with weight-centered health approaches and to build evidentiary support for a shift to weight-neutral approaches.

These options are designed to be compatible with the proposed Obesity Reduction Strategy. Each option was analyzed for its respective strengths and drawbacks through a literature review and key stakeholders interviews with ten interviewees. Options were assessed based on the following criteria: effectiveness, equity, cost, political and public acceptability and implementation logistics. The policy options considered are: i) surveillance guidelines that mandate health surveillance are not limited to measuring weight alone and, in addition, track for unintended outcomes (e.g. eating disorders); ii) using “healthy weight” rather than “obesity reduction” language; iii) piloting Health at Every Size interventions in clinical and educational settings; and iv) instituting online weight bias or sensitivity training for primary health care professionals. I also consider a fifth option, framing the proposed ORS in “obesity reduction” language to render visible the negative health implications of such an approach.

Following this analysis, I recommended three policy options for government adoption: i) weight bias training for health care professionals; ii) framing health promotion in “healthy weight” not “obesity reduction” language; and iii) ensuring health surveillance is not limited to measuring weight alone and involves tracking for unintended outcomes (e.g. eating disorders). All three of these options are likely to reduce the consequences associated with, and reliance and promotion of, the weight-centered health paradigm. These options also were assessed favourably when considering their aggregate scores across criteria such as political feasibility, implementation logistics and cost. Further, given the important role of stakeholders in influencing policy direction, as revealed through my policy analysis, I also make a recommendation to the eating disorder prevention community in British Columbia. I propose that eating disorder



prevention professionals take a lead role in advocating for health- rather than weight-centered approaches, through the establishment of a committee designed to promote a weight-neutral agenda.

I conclude that government should seriously consider the policy options and findings presented in this paper and a future shift towards weight-neutral health promotion policies. Emerging evidence from academia, social justice and legal movements suggests that weight-centered approaches designed to reduce obesity are not only harmful to health, but also discriminatory. Government should, at a minimum, ensure care is taken to design policies in ways that avoid promoting weight stigma and prevent the likelihood of unnecessary, harmful preoccupation with weight and shape.

## **Dedication**

This work was inspired by the courage and insight shown by the women and men involved in the Fat Acceptance movement who are actively involved in fighting for a socially just world, where all people, regardless of size are respected and able to live their lives to the fullest.

I am eternally grateful to those in my life who supported me in becoming a woman capable of undertaking this research and challenging size oppression. I would not be here today without some very special people, namely: my family, Barbara, Jacqui and Linda. Thank you for all your wisdom and support.

I'd like to dedicate this Capstone to all the women and men out there who struggle with accepting their bodies, who feel shame, experience weight stigma or have fallen into a cycle of disordered eating. My message to you: it is possible to re-envision your relationship with your body and learn to love yourself. This is for you; one small step towards creating a society that honours the natural diversity in body sizes.

## **Acknowledgements**

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## 1: Introduction

Following the 2003 announcement by the World Health Organization (WHO) that almost all countries were experiencing an obesity epidemic (Campos, Saguy, Ersenberger, & Gaesser, 2005), governments internationally have devoted increasing attention towards preventing and reducing obesity (O'Hara & Gregg, 2010).

In 2004, 19 % of the population in British Columbia (BC) was classified as obese<sup>2</sup> and 40 % as overweight<sup>3</sup> (Tjepkema, 2005). As a result of growing concern about these statistics and the health implications and economic costs of overweight and obesity<sup>4</sup>, the last six years have seen an increasing number of obesity prevention, reduction and treatment initiatives put forward in BC<sup>5</sup>. Recently, and perhaps most importantly, the Provincial Health Services Authority (PHSA) has developed and proposed an intersectoral Obesity Reduction Strategy for BC, submitted in the fall of 2010 to the Ministry of Health Services – though not yet released – which is aimed at strengthening attempts to reduce obesity.

While evidence suggests that healthy eating and activity have important impacts on health (Campos et al., 2005), there have also been many studies published questioning

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<sup>2</sup> Twenty per cent of women and 18 % of men.

<sup>3</sup> This is lower than the average in Organization of Economic and Cooperative Development (OECD) countries, as stated by Sassi (2010), "...in almost half of OECD countries 50% or more of the population is overweight" (p 25). Similarly, these rates are lower than the national average according to the last measurement in 2004, whereby amongst adults, an estimated 23 % of the population is obese and 36 %overweight (Statistics Canada, 2005).

<sup>4</sup> Estimated at \$380 million in BC in 2006 (PHO, 2006).

<sup>5</sup> For example: the 2005 BC Guidelines for Overweight, Obesity and Physical Activity (GPAC, 2005); the provincial adoption and endorsement of Canada-wide guidelines for the "Management and Prevention of Obesity in Adults and Children" (Lau, Douketis, Morrison, Hramiak, Sharma, & Ur, 2007); and publicly funded treatment and prevention programs (e.g. the SCOPE project, piloted last year in an attempt to reduce childhood obesity [SCOPE, 2010]).

the validity of the presumed causal links between weight and morbidity and mortality (Durazo-Arvizu, McGee, Cooper, Liao, & Luke, 1998; Flegal, Graubard, Williamson, & Gail, 2005; McGee, 2005). Further, although unexplored in BC, recent international scientific evidence suggests that rather than helping to improve health outcomes, weight-centric health policies may increase the likelihood of negative health consequences. For example, weight-centered approaches have been known to contribute to worsened personal health habits (i.e. less physical activity, less nutritious eating habits), weight cycling and associated health problems, increased incidences of disordered eating, depression and self esteem difficulties and worsened direct indicators of health (e.g. blood pressure, blood lipid levels) (Bacon, 2010; Daniélsdóttir, 2009; Neumark-Sztainer, 2009; O’Hara & Gregg, 2010).

## **1.1 Policy problem statement**

Considering this evidence my Capstone policy problem is as follows:

*Promotion of the weight-centered health paradigm may lead to negative health outcomes such as eating disorders and mental health issues, as well as health consequences resulting from weight cycling and social stigmatization.*

Central tenets of the weight-centered paradigm, as adapted from O’Hara and Greg (2010) include:

1. That overweight and obesity are associated with excess energy intake and inadequate energy expenditure
2. That weight is reflective of health status and can predict future health outcomes
3. That excess weight causes morbidity and premature mortality
4. That weight loss is both possible and sustainable, and such methods are well known to science

5. That losing weight to achieve “normal” or “healthy” weight status will invariably improve health
6. That while weight may be the result of many factors outside an individual’s control, weight is at least partially volitional<sup>6</sup>

As I illustrate throughout this Capstone, the weight-centered health paradigm dominates public policies pertaining to nutrition and exercise in BC, determining what variables are studied, what methodology is used and subsequent policy and programming direction.

Within the next section of this Capstone I examine the evidence supporting the relationship between weight and health, explore the health consequences of conflating weight and health and conduct a preliminary discussion of how BC may inadvertently reproduce negative health outcomes via policies to reduce obesity.

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<sup>6</sup> O’Hara and Gregg (2010) assert that a central tenet of the weight centered paradigm is “[w]eight is mostly volitional and within the control of the individual” (p 433), however given the current recognition of “obesogenic” factors, or “obesity causing” factors largely outside an individual’s control (such as the food and built environment) that impact weight, I have adapted this tenet to reflect recent policy recognition of the obesogenic environment in BC.

## 2: Background

In this section I demonstrate the questionable nature of the evidence supporting correlations between weight and health and establish that not only is long-term weight loss generally unsustainable, but the pursuit of weight loss may also be detrimental to health. I provide an overview of some areas of concern with BC’s current approach to weight. I also discuss how, with the Province’s proposed – but not yet implemented – Obesity Reduction Strategy, we are in a unique position to either reconsider our approach to healthy living, eating and weight, or, risk increasing promotion of the weight-centered health paradigm and associated harms. Finally, I also provide a brief overview of an alternate approach to the weight-centered health paradigm, Health at Every Size (SM)<sup>7</sup>. For a description of the methods used to undertake this literature review see Appendix A.

It is essential to note that while the background section of this paper discusses the inherent problems with the weight-centered health paradigm – and by default the proposed Obesity Reduction Strategy – this should not be misconstrued as undermining the importance of promoting conditions that foster health seeking behaviours or enabling people to maximize their well-being<sup>8</sup>.

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<sup>7</sup> Health at Every Size (SM) or HAES (SM), a pending service mark of the Association for Size Diversity and Health, is based upon the premise that the best way to improve health is through honouring your body, learning to listen to internal hunger cues, and incorporating pleasurable exercise. HAES[SM] advocates for the adoption of healthy behaviours regardless of size and has been proven effective at improving health outcomes in a number of Randomized Control Trials and other studies. For simplicity, within this Capstone “HAES” will be used in place of “HAES[SM]”.

<sup>8</sup> There is no doubt that the food and physical environments in which we live have changed drastically in the last century. For example, technological change has resulted in much less reliance on physical sources of energy for transportation or food acquisition (Lakdawalla & Phillipson, 2001). Policies that seek to encourage more reliance on movement or physical activity as a goal in and of itself are favourable. Similarly, policies that attempt to regulate the

## 2.1 Interrogating the Relationship Between Weight and Health

Despite widespread beliefs about the health consequences of overweight and obesity, the evidence supporting the relationship between weight and health is questionable<sup>9</sup>. Specifically, critics allege that: normal weight is not predictive of improved health status; and diet, exercise and other cofounders are actually much more accurate predictors of health than weight (Bacon & Aphramor, 2011; Campos et al., 2005). For example, as discussed by Campos et al. (2005), many epidemiological studies that attempt to establish causal relationships between weight and health do not control for cofounders such as diet, fitness levels or socioeconomic status (SES), suggesting that weight may be a proxy for other variables. For instance, in two noteworthy studies<sup>10</sup>, when weight cycling was controlled for, the link between obesity and mortality disappeared. Only those who engaged in repeated dieting, weight loss and regain were at risk; those who were stable and obese were not at any additional risk (Diaz, Mainous, & Davis-Coelho, 2005; Lissner, Odell, & D'Agostino, 1991). Similarly, in the Aerobic Centre for Longitudinal Study, data showed that all of the excess all-cause mortality associated with obesity in men could be accounted for by low fitness levels (Lee, Blair, & Jackson, 1999). In this study physical activity was seen to ameliorate the consequences typically associated with higher levels of adiposity.

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prevalence of food additives known to be harmful to health, or to increase affordable access to healthy food should continue to be encouraged, not in the name of weight, but because healthy eating is an essential determinant of health (WHO, 1986) and food security is a basic human right.

<sup>9</sup> For both men and women.

<sup>10</sup> One in Framingham (Lissner, Odell, & D'Agostino, 1991) and the US based nationally representative National Health and Nutrition Examination Survey (NHANES) (Diaz, Mainous, & Davis-Coelho, 2005).

Other studies show that direct health outcomes (e.g. blood pressure, insulin sensitivity and blood lipids) can be improved even in the face of weight gain, as long as positive nutritional and exercise habits are practiced (Bjorntorp, De Jounge, Sjostrom, & Sullivan, 1970; Lamarche et al., 1992). Additional evidence demonstrates that those in the overweight category (Body Mass Index [BMI] 25-29.9) live longer than those in the normal weight category (BMI 18.5-24.9). In fact, body weight – except at statistical extremes – is actually a very poor indicator of health or mortality and the risk for mortality does not significantly increase until one’s BMI reaches 35 (Durazo-Arvizu et al., 1998; Flegal et al., 2005)<sup>11, 12</sup>.

It should also be noted that many people in the obese category are considered metabolically normal or healthy<sup>13</sup> and not at additional risk for disease because of their size. It has been estimated that one-third of people labelled obese by BMI standards can be considered metabolically normal and, when using body fat as a measure of obesity instead of BMI, the percentage of obese people estimated to be metabolically healthy is almost 50 per cent (Shea, Randell, & Sun, 2010). Attempting weight loss amongst this group may be particularly inadvisable given research that has shown that dieting amongst metabolically normal obese people may decrease insulin sensitivity and increase risk of type two diabetes (Perseghin, 2008).

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<sup>11</sup> This has been supported by a number of studies internationally, perhaps the most noteworthy of which were the US based, representative National Health and Nutrition Examination Surveys (NHANES), I, II and III (Flegal et al., 2005).

<sup>12</sup> It is worth noting that even amongst those above a BMI of 35 weight loss may still be inadvisable given the health consequences of the weight-centered health paradigm as discussed later in this paper and given that healthy behaviours can improve health regardless of weight.

<sup>13</sup> Metabolic health is measured in terms of triglyceride, high sensitivity C-reactive protein, glucose, high density lipoprotein, and cholesterol levels, along with insulin resistance and hypertension (Shea, Randell, & Sun, 2010).

Despite growing evidence questioning the links between weight and health, it is integral to note that a small number of mainstream obesity researchers have responded to these critiques and assert that despite the ambiguity, some evidence does exist to support the causal relationship between weight and health outcomes, particularly at statistical extremes. For example, in a report on preventing and managing obesity, WHO (2000) acknowledges the controversy about the correlation between obesity and mortality. The report points out that while some studies show higher mortality rates associated with both underweight and overweight, especially at extremes, other studies demonstrate a gradual increase in mortality with higher weights, while yet others report no association whatsoever.

Throughout my background research examining the correlations between weight and health I found that there is no consensus about the relationship between overweight or obesity and health. What is apparent, however, is that the relationship between health and weight is not as clear as we are led to believe through obesity reduction policies. Despite this ambiguity, BC policy documents (e.g. BCHLA, 2010; Jayatilaka, 2009) continue to hold that weight is reflective of health, can predict future health outcomes and that overweight and obesity causes morbidity and premature mortality<sup>14</sup>.

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<sup>14</sup> For example, in a discussion paper prepared for the BC's Obesity Reduction Strategy, Jayatilaka (2009) states, "[b]eing overweight and obese are major risk factors for developing chronic diseases – from heart disease and stroke to diabetes... and some types of cancers" (Jayatilaka, 2009, p 7). Similarly the BC Health Living Alliance, the authors of one of a handful of policy reports on obesity in BC state, "...overweight and obesity pose a major risk for serious diet-related chronic diseases (BCHLA, 2010, p 1 and 2), illustrating an uncritical reliance on, and acceptance of, the weight-centered health paradigm despite evidence in dispute of its validity.

## 2.2 Is Promoting Weight Loss a Realistic Goal?

Significant evidence exists suggesting long-term weight loss is generally unsustainable. For example, the US-based National Institutes of Health (NIH) found that dieters regain between one- to two-thirds of all weight loss and within five years almost all weight is regained (NIH, 1992)<sup>15</sup>. Similarly, the Women's Health Initiative (an eight-year Randomized Control Trial following 20,000 women on a low fat, low calorie diet), found no change in total weight at the end of the study and an increase in abdominal fat (Howard, 2006).

There is consensus in the literature that weight-loss is generally unsustainable in the long-term through traditional means such as intentional energy deficit diets or exercise (Mann, et al., 2007; Miller, 1999). For example, Mann et al. (2007) found that up to two-thirds of dieters regain more weight than they lost. In fact, in the literature reviewing the long-term maintenance of weight-loss it appears the debate is not so much whether or not someone will gain back weight, but at what pace they will regain the weight (Garner & Wooley, 1991; Mann et al., 2007).

While some studies do report success at weight loss, the majority of these studies do not include a follow up period of greater than two years (WHO, 2000), after which weight regain is more common (Mann et al., 2007). Mann et al. (2007), completed a literature review of online databases of diet studies with a four year or longer follow up

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<sup>15</sup> This data is based upon a 1992 National Institutes of Health panel soliciting testimony from scientists who had conducted obesity-related research in disciplines including metabolism, nutrition, epidemiology, behaviour, biostatistics and exercise physiology.



period, and of the 14 studies they located, eight reported, or made it possible to calculate, that a substantial percentage of participants weighed more at follow up<sup>16</sup>.

One reason that may explain why long-term weight loss is unrealistic is the inadequacy of what is known as the *energy balance equation* as a means of explaining patterns of weight loss and gain. The energy balance equation is related to tenet four of the weight-centered paradigm (*that methods for sustainable weight loss are well known to science*) and is based upon the hypothesis that weight loss is both possible and sustainable if energy consumed is less than energy expended<sup>17</sup>. The premise is that weight will be maintained if energy in equals energy out; and conversely if intake exceeds expenditure, weight will be gained (Aphramor & Gingras, 2008).

While it is true that weight will always be lost if ‘energy in’ is less than ‘energy expended’, proponents of the energy balance equation fail to recognize that certain homeostatic mechanisms within the body actually prevent people from manipulating the energy balance equation for any length of time. Specifically, because of the evolutionary need for humans to be equipped for famine, when dieting or other such energy deficit behaviour comes into the equation, the human body will slow its metabolic rate to resist weight loss (Bacon, 2010).

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<sup>16</sup> The remainder of the studies did not include adequate data such that failure rates of diets were not able to be computed. As put my Mann et al. (2007), “...studies always report the percentage of participants who manage to keep off some percentage of the lost weight, but only a subset reported on participants for whom the diet was counterproductive, even though this percentage is typically larger than the percentage who kept off substantial weight” (p 224).

<sup>17</sup> We see evidence of the energy balance equation in BC policy documents through statements such as “We know that people who are physically active and eat a healthy diet are much less likely to suffer from overweight or obesity” (BCHLA, 2010, p 1), and “...the likelihood that a child or adult will be overweight or obese occurs when caloric intake through the meals, drinks and snacks consumed exceeds the level of energy expended” (Legislative Assembly of BC, 2006, p 13). Similarly, publicly funded programs, such as SCOPE are premised on modifying the energy balance equation through physical activity and diet.

In response to the commonly accepted high failure rate of traditional weight loss approaches targeted at individual behavioural change, governments internationally have begun to suggest that interventions should instead be targeted at perceived environmental causes of obesity. These approaches stem from an increasing recognition of the difficulty of sustaining long-term weight loss through behaviour modification and propose instead directing policy efforts towards what has been termed the “obesogenic” – or obesity causing – environment<sup>18</sup> (McLaren, Shiell, & Ghali, 2004). The idea underlying efforts to modify the obesogenic environment, often thought of as the built or food environment, is that if such efforts are coordinated with more individualistic approaches, we will be able to reduce obesity. While obesogenic theories are, to date, based upon ecological correlations (Keith et al., 2006), obesity policies in BC presuppose that strategies to modify the obesogenic environment will succeed in promoting long-term weight loss<sup>19</sup>, despite the fact that no country has yet achieved this. Ironically, the premise underlying proposed policies to alter the obesogenic environment are in and of themselves favourable – a healthy living environment is after all important to health – but, as I illustrate in the next section, conflating health and weight and attempting to “reduce obesity” can have serious health implications.

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<sup>18</sup> The “obesogenic environment” is thought of as an unhealthy built or food environment, likely to promote weight gain (McLaren, Shiell, & Ghali, 2004). Please see Glossary of Terms for further information.

<sup>19</sup> This presupposition became evident through my literature review of seminal obesity-related policy documents in British Columbia (i.e. PHSA, 2010; Heart and Stroke Foundation of BC, 2009; Jayatilaka, 2009; BCHLA, 2010; Legislative Assembly, 2006), reviewed as part of my background research. While most of these documents acknowledge that weight loss is difficult to achieve, they also presume that if strategies adequately address the multiple determinants of weight in a coordinated manner, long-term weight loss and obesity reduction will be possible. This is despite the fact that no country has achieved this feat to date.

## **2.3 Health Consequences of the Weight-Centered Health Paradigm**

The following subsections outline the potential consequences that may arise from the weight centered-health paradigm and from promoting weight loss as feasible and beneficial. Specifically I examine: weight cycling and associated health problems, eating disorders and health consequences resulting from social stigmatization, including mental health issues.

### **2.3.1 Weight Cycling and Associated Health Consequences**

The health consequences associated with weight cycling are some of the more serious issues associated with policies that conflate weight and health. Although there is no standard definition, generally speaking, “weight cycling refers to the repeated loss and regain of weight that can occur as a result of recurrent dieting” (WHO, 2000, p 74). It has been recognized as an almost unavoidable result of weight loss behaviour (Aphramor & Gingras, 2008 as cited in the British Medical Journal, 2000). Because there is no standard definition (i.e. how many cycles constitute weight cycling or how great the weight loss or gain must be [National Task Force of the Prevention and Treatment of Obesity, 1994]), it is difficult to pinpoint both the incidence of weight cycling and what the health implications may be.

Nonetheless, several large-scale observational studies of overweight and obese people suggest that weight cycling is correlated with increased all-cause mortality (Blair, Shaten, Brownell, Collins, & Lissner, 1993<sup>20</sup>) and with increased risk of death from

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<sup>20</sup> The study was a over a six-seve year period, with 10529 men; weight cycling was the intrapersonal standard deviation of weight, divided into quartiles.

cardiovascular disease (Hamm, Shekelle, & Stamler, 1989<sup>21</sup>). Additional concerns associated with weight cycling include myocardial infarction, diabetes and stroke (French et al., 1997<sup>22</sup>) and elevated high-density lipoprotein cholesterol (Olson et al., 2000<sup>23</sup>).

The consequences of weight cycling are illustrated through two significant studies – the Framingham Heart Study (Lissner et al., 1991<sup>24</sup>) and the National Health and Nutrition Examination Survey (Diaz et al., 2005<sup>25</sup>) – whereby all of the obesity related excess mortality was attributed to weight cycling rather than adiposity. In fact, it has been suggested that weight cycling is associated with higher rates of mortality than high, but stable weights (Ersnberger & Koletsky, 1999).

Given the likelihood that weight cycling may result in negative health outcomes it is concerning that obesity-related BC policy documents (i.e. PHSA, 2010; Heart and Stroke Foundation of BC, 2009; Jayatilaka, 2009; BCHLA, 2010; Legislative Assembly, 2006) do not acknowledge weight cycling or its associated harms. Nor do the current guidelines for use by primary health care professionals, or publicly funded programs in the Province, such as SCOPE (2010), consider the health consequences of promoting weight loss as feasible and desirable.

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<sup>21</sup> Weight was measured in five-year intervals from age 20-40, for 1959 men where maximum loss or gain was ten per cent of body weight.

<sup>22</sup> Weight was measured based on previous self-reports at age 18, 30, 40 and 50 amongst women currently in the 55-69 year age range; weight variability was "...the root mean square error around the slope of weight on age" and "categorical measures of weight change" (p 217) (i.e. a large change was ten per cent or more total body weight lost between intervals, whereas a small change was considered greater than five per cent but less than ten per cent; less than five per cent was not considered as weight cycling).

<sup>23</sup> The study was of 485 women who engaged in intentional weight loss, with a minimum loss/gain of ten pounds at least three times.

<sup>24</sup> Weight cycling was defined as the coefficient of variation of body weight through eight biannual weight recalls.

<sup>25</sup> N= 8479, weighted sample=68,200,905, 1971-1992, weight change over five points in time.

### 2.3.1.1 Weight Cycling and the Weight-Centered Health Paradigm

While the causation of weight cycling is complex and beyond the scope of this paper it is likely the result of both the pursuit of thinness for aesthetic and cultural reasons and the conflation of weight and health<sup>26</sup>. Through the conflation of weight and health, overweight and obese people are given the message by policy makers and health care providers that their current weight is hazardous to their health and that losing weight will improve their health (for example Jayatilaka, 2009 and PHSA, 2010). Weight cycling is connected to policy reliance on the energy balance metaphor in that it is commonly posited within public policies<sup>27</sup> – and subsequently through government funded programs and recommended guidelines – that energy deficit through healthful eating and rigorous exercise will result in weight loss.

Reliance on the energy balance equation encourages cycles of dietary restraint and increased exercise, often followed by periods of less healthful eating, inactivity and sometimes binge eating, all of which can easily be correlated with weight cycling. Considering the human body will work hard to stay in homeostasis, or at its set point, when presented with energy deficits it will, although not right away, compensate by slowing the metabolic rate and conserving energy or storing fat. Eventually the human body often compels a person to counteract energy deficits by consuming large amounts of high energy foods in relatively short periods of time (Bacon, 2010). The combination of a slowed metabolic rate and binge eating creates a ripe environment for weight gain and

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<sup>26</sup> Evidence explicitly examining factors pre-empting weight cycling is not well established, thus this exploration can be considered a preliminary attempt at establishing correlations between weight cycling and the conflation of weight and health by policy makers.

<sup>27</sup> For example, as stated by Jayatilaka (2009) in a discussion paper prepared for the ORS, “[i]t is widely understood that obesity results from an imbalance between energy intake (food) and expenditure” (p 32).

weight cycling. In fact, research shows that people who attempt to lose weight will end up with less healthful eating habits in the long run than people who focus on eating healthfully independent of weight<sup>28</sup>. Similarly, these same studies also show that people who exercise solely for weight loss purposes are less likely to sustain these improved activity levels in the long-term than people who learn to incorporate activity into their lives in a pleasurable way for reasons other than weight loss or maintenance<sup>29</sup> (Bacon et al., 2002; Bacon, Stern, Van Loan, & Keim, 2005).

### **2.3.2 Eating Disorders and the Weight-Centered Health Paradigm**

Another concern about promoting weight loss as desirable for health reasons, or positing the thin body as the healthy ideal, is the risk of inadvertently promoting increased incidences of eating disorders, especially amongst women<sup>30</sup>. While there are many complex factors contributing to the aetiology of eating disorders<sup>31</sup>, the conflation of weight and health within public health discourse should be considered a risk factor precipitating the development of serious clinical eating disorders. As put by the WHO (2000), “[i]t is also important to recognize that, in many societies, an undue emphasis on thinness has been accompanied by an increased prevalence of eating disorders such as anorexia nervosa and bulimia” (p 154).

It is relatively commonly acknowledged that the media’s promotion of a very slim body as an aesthetic ideal has enormous implications in the development of disordered

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<sup>28</sup> Case studies presented later in this Capstone explore causal explanations for the negative influence of dieting on health behaviours.

<sup>29</sup> Case study research later in this capstone will explore why non-diet, weight neutral approaches to health may be more effective at improving health the weight-centered diet and exercise oriented approaches.

<sup>30</sup> Although incidences of eating disorders amongst men have been rising rapidly in recent years (Maudsley Parents, 2011).

<sup>31</sup> For example, genetics, family environments, personal history and the media.

eating. What is less often discussed is the role of the weight-centered health paradigm in contributing to the development of disordered eating. The adherence of the weight-centered paradigm to the energy balance equation implies that preventing obesity requires careful monitoring of energy intake versus expenditure, which may encourage unhealthy slimming practices and eating disorders. A crucial shortcoming of promotion of the energy balance equation, and thus the weight-centered health paradigm, is placing the emphasis on external cues for eating and exercise, and the failure to acknowledge that humans have internal regulatory systems that assist us in monitoring our intake and expenditure. When policies presume that the most appropriate way to maintain weight in a “healthy” range is to vigilantly monitor intake and activity levels, we are in essence teaching people to disconnect from their bodies inherent biological wisdom, and that dieting, whether referred to as that or not<sup>32</sup>, is a necessary practice to ensure health.

There is a risk that when health is measured largely through achievement of what, for some, may be an unrealistically slim weight, eating disordered behaviour may be encouraged from the promotion of dieting. For example, as stated by Flynn (2003), “...unhealthy slimming practices have been shown to lead to the development of serious clinical eating disorders” (p 49). As an example of this, in a study by Patton, Selzer, Coffey, Carlin and Wolfe (1999), adolescent females who dieted were 18 times more likely to develop an eating disorder than females who did not diet. This is concerning given the high number of high school aged females who are dieting. In data extracted by Flynn (2003) from the Trends in Health of Canadian Youth Report (as cited in

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<sup>32</sup> In light of the high failure rate of traditional diets, “lifestyle changes” are increasingly being marketed as viable alternatives, however when the goal is weight loss and the means is energy deficit this is essentially a repackaged diet with another name.

Mooibroek, 2001; Health Canada, 2000), Flynn (2003) found that by grade six, 30 % of Canadian females believed they needed to lose weight, which increased to 45 % by grade ten. Flynn also found that the percentage of females actually dieting increased from 25 % in grade six, to 36 % in grade ten.

Another concern pointed out by Flynn (2003) is that BMI in the highest quartile is independently linked to eating disorder symptoms (as cited in Jones et al. 2001), suggesting that messages about the need to engage in energy deficit practices seen in obesity reduction policies may be particularly harmful for people within the obese BMI category. Given the link between dieting and eating disorders and higher weights and eating disorders, policies and interventions to improve eating and exercise should take care to ensure that they do not inadvertently promote eating disordered behaviour. As framed by WHO, “[i]nterventions aimed at obesity prevention or management should... be carefully designed to avoid precipitating the development of eating disorders associated with undue fear of fatness” (p 154). Unfortunately, this is currently not being discussed within BC public policies. For example, through my literature review I found that within seminal policy documents in BC (i.e. PHSA, 2010; Heart and Stroke Foundation of BC, 2009; Jayatilaka, 2009; BCHLA, 2010; Legislative Assembly, 2006) there was limited to no awareness of the need to avoid inadvertently promoting eating disorders<sup>33</sup>.

Another concern with weight-centric approaches to health, is that energy deficit through calorie restriction is often posited as a primary – if not *the* primary – means of

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<sup>33</sup> With the exception of Jayatilaka (2009), who in a discussion paper prepared for the Obesity Reduction Strategy, briefly mentions the need to synthesize eating disorder policies with obesity reduction, however this is not explicated on.



improving health. For overweight and obese people who suffer from Binge Eating Disorder, inadequate attention to psychological or underlying issues fuelling binge eating will be unlikely to effectively improve health and may increase bingeing.

### **2.3.3 Social Stigmatization**

Weight stigmatization has been well documented within primary health care (Berryman, Dubale, Manchester, & Mittelstaed, 2006; Davis-Coelho, Waltz, & Davis-Coelho, 2000; Kristeller & Hoerr, 1997; Schwartz, O’Neal, Brownell, Blair, & Billington, 2003; Teachman & Brownell, 2001), employment (Paul & Townsend, 1995; Roehling, 1999) and educational sectors (Greenleaf & Weiller, 2005; Neumark-Sztainer et al., 1999; O’Brien, Hunter, & Banks, 2007). Findings from a recent American study<sup>34</sup> demonstrate that weight-based discrimination is now on par with race- or gender-based discrimination (Puhl, Andreyeva, & Brownell 2008), the reason for which, although unexplored within the literature, is likely in part due to the increased attention on obesity reduction and the promotion of the thin body as the healthy ideal within public health policies.

The way in which the weight-centered paradigm presumes that decreasing weight is feasible and that the thin body is invariably healthier is problematic because the larger body is then inherently pathological, and often, in mainstream policy discourse, this is attributed to personal food or exercise choices of the individual. For example, in BC we see this through policy statements such as:

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<sup>34</sup> The prevalence of weight discrimination is yet unexplored in Canada.

“...we are aware that obesity is in part the result of a more sedentary lifestyle and in part resulting from the types of foods and beverages we consume. There needs to be a shift in lifestyle and mentality to make time for fitness and healthy eating, and to value our health” (BCHLA, 2010, p 3).

The result of such statements and an individualistic focus is a moralizing discourse around body size, whereby the fat body is seen to be indicative of a number of personal moral failings such as laziness, poor self-control and gluttony (Evans, 2006). While work has occurred in recent years to shift the attention away from individual choices as determinants of weight and to the obesogenic environment, obesity reduction policies and programs in BC continue to view overweight and obesity largely as a problem of excess energy consumption and inadequate expenditure, thus overweight and obesity remain largely an individual problem<sup>35</sup>.

While weight-based stigmatization originates from multiple sources, it is likely tied, in part, to the conflation of weight and health and dominant obesity discourse within health policy. As stated by the WHO (2000), when discussing adolescents, “the psychosocial problems associated with obesity are not the inevitable consequences of obesity but rather of the culture-bound values by which people view body fat as ‘unhealthy’ and ‘ugly’” (p 56). For example, through discourse analysis completed by Boero (2007), it was found that the medicalization of obesity by scientific and policy documents is one way in which the “epidemic” (also referred to as a moral panic, as distinct from purely medical epidemics like cholera) of obesity is sustained, generating fear and stigma about obesity across the population.

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<sup>35</sup> For example in the final report published by the ORS Food Working Group, two main factors are cited as causing obesity: individual and societal factors (PHSA, 2010).

### 2.3.3.1 Social Stigmatization and Mental Health Difficulties

Weight-based social stigmatization has large impacts on emotional and mental well-being (Eisenberger, Neumark-Sztainer, & Story, 2003; Friendman et al., 2005). With respect to adolescents, research has demonstrated that those who experience weight stigma tend to internalize negative attitudes and beliefs about themselves and that such stigma is also associated with low self-esteem, depression, social isolation and suicide (The Obesity Society, 2010). Weight stigma is also associated with poor body image and suicidal ideation and attempts (Eisenberg et al., 2003). Further, amongst obese treatment seeking individuals, weight-based stigma was often experienced when seeking treatment, resulting in increased mental health disturbances, including general psychiatric symptoms<sup>36</sup> such as depression (Friendman et al., 2005).

Unfortunately, given the complex aetiology of mental health issues, it is difficult to pinpoint the incidences of depression resulting from stigma associated with the weight-centered health paradigm, versus stigma resulting from other psychological or sociological processes. Nonetheless, public policies pertaining to weight have a large influence on how the media frames obesity and how doctors and other health professionals treat overweight and obese people, illustrating the enormous power of policies to dominate the discourse around bodies and reduce the likelihood of stigma.

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<sup>36</sup> General psychiatric symptoms measures in this study were those accounted for by the “Symptom Checklist-90” (Derogatis, 1997), an instrument that evaluates a range of psychiatric symptoms including: somatization, obsessive compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism.

### **2.3.3.2 Stigma and Physical Health**

The consequences of weight stigmatization, as described above, are not limited to psychosocial or psychological issues. Rather, there are physiological reactions in the human body to the stress created by stigma, which increase the risk of chronic disease. For example, stress is associated with hypertension, coronary heart disease and diabetes (Vitaliano et al., 2002) and, in fact, stress alters metabolic responses independent of eating or exercise habits (Raikkonen, Matthews, & Kuller, 2002).

In addition to this, an increasing body of international research has recognized that weight stigma and discrimination have impacts on both nutritional decisions and health. For example, adults who face stigmatization and discrimination report consuming increased quantities of food (e.g. Puhl & Brownell, 2006<sup>37</sup>) and avoiding exercise (e.g. Neumark-Sztainer et al., 2002<sup>38</sup>), which in turn increases the risk of worsened direct indicators of health (i.e. blood lipids and blood pressure). This suggests that a more effective way of improving health may be to target weight stigma, rather than overweight and obesity, particularly given the questionable relationship between weight and health and the difficulty in achieving long-term weight loss.

## **2.4 The Weight-Centered Health Paradigm in British Columbia**

Thus far in this capstone I have demonstrated the questionable nature of the correlations between weight and health and illustrated some of the ways in which

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<sup>37</sup> Also see Haines, Neumark-Sztainer, Eisenberg, & Hannan, 2006; Neumark-Sztainer et al., 2002; Puhl, Moss-Racusin, & Schwartz, 2007.

<sup>38</sup> Also see Faith, Leone, Ayers, & Moonseong, 2002; Stortch et al., 2007; Vartanian, & Shaprow, 2008.

promotion of the weight-centered health paradigm may result in negative health outcomes. In the next two background subsections I now focus specifically on BC.

#### **2.4.1 The Status Quo: Weight-Centered Policy Discourse and Programming**

The current approach to healthy eating and exercise in BC is overwhelmingly weight-centered. See, for example, Appendix A, which provides a comprehensive overview of the tenets of the weight-centered health paradigm as evident in recent obesity-related policy documents (i.e. PHSA, 2010; Heart and Stroke Foundation of BC, 2009; Jayatilaka, 2009; BCHLA, 2010; Legislative Assembly, 2006).

In 2005 we saw increasing strategizing around obesity reduction begin with the Provincial Health Services Authority stating that “[p]lanning for healthy weight strategies in BC is at a critical juncture...the problem has reached epidemic levels.” (PHSA, 2005, p 7) and the dissemination of a report by the PHSA synthesising “better<sup>39</sup>” practices in preventing overweight and obesity. Included within this were strategies for adults such as meal replacements, education around exercise, pharmaceutical interventions, surgery, media campaigns and school curriculum based on behaviour change (PHSA, 2005). Also in 2005 we saw the approval and implementation of the province-wide “Guidelines for Overweight, Obesity and Physical Activity” for use in the primary care setting, focused on measuring BMI, diet, activity level, advising on the risks of overweight and obesity and recommending overweight and obese clients embark upon behaviour change (GPAC, 2005). Then, in 2006, The Legislative Assembly of BC released “A Strategy for Combatting Childhood Obesity and Physical Activity in BC”. As the title implies, the

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<sup>39</sup> The report defines better practices as “...plausible, appropriate, evidence-based and well-executed actions and processes that will reduce the current and future burden of disease” and go on to say that given obesity is a serious health problem, actions should be based on best available evidence, rather than waiting for the best possible evidence (PHSA, 2005, p 7)

strategy recommended reducing childhood obesity through long-term social marketing about healthy eating and exercise, using the media to persuade the public about the need to reform, increasing monitoring of children's weights and implementing educational strategies. More recently, the BC Healthy Living Alliance (BCHLA, 2010) also released their "Recommendations For Tackling obesity in BC", also recommending a social marketing component, aimed at education about the importance of healthy living as a means of preventing and reducing overweight and obesity. Most recently, we have also seen the SCOPE program emerge, funded by the PHSA, as a means of mobilizing communities to promote healthy eating and exercise and reduce childhood obesity (SCOPE, 2010). Finally, there has been the proposed province-wide Obesity Reduction Strategy, put forward by the PHSA for Ministry of Health Services review in fall of 2010.

#### **2.4.2 British Columbia's Obesity Reduction Strategy: Opportunity for Change or More of the Same?**

In April 2009 the Health Officer's Council of BC resolved to develop an Obesity Reduction Strategy (ORS), premised on the belief that obesity is a major health concern in BC that causes an unnecessary burden on the health care system and increases rates of chronic disease. The Provincial Health Services Authority (PHSA) was chosen to coordinate the Strategy in light of its provincial mandate and experience in intersectoral work<sup>40</sup>. Following the decision to create the Strategy, the PSHA established a 20-member Task Force to lead its development (Jayatilaka, 2009)<sup>41</sup> and four Working Groups, the

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<sup>40</sup> Within the PHSA, the development of the Strategy was led by the Population and Public Health Program (PPH).

<sup>41</sup> The Task Force is comprised of high-level officials primarily from the health sector, including academia, non-profits (i.e. the Heart and Stroke Foundations-BC Region, Dietitians of Canada-BC Region and the BC Healthy Living Alliance) and government officials from health-related ministries and health authorities (Jayatilaka, 2009).

purpose of which were to come up with policy options for obesity reduction (Jayatilaka, 2009).

Of the four Working Groups, three were content specific Working Groups (food, physical activity and treatment, respectively) and a fourth group was dedicated to research and surveillance. By August 2010 all three content Working Groups had completed recommendations (PHSA, 2010; PHSA, 2010c; PHSA, 2010d).

In October 2010 the PHSA forwarded their proposed ORS to the Ministry of Health Services, where it remains awaiting review and approval. At this time, it is anticipated that there will be a delay in response from the Ministry given that the previous Minister recently stepped down and has only just been replaced (personal communication, key stakeholder interview, 2011). The benefit of this delay is that, because the recommendations have yet to be implemented, the Ministry will have a unique window of opportunity to reflect on ways in which the ORS may inadvertently create harm through uncritical promotion of the weight centred paradigm and to come up with a portfolio of policy responses to ensure this does not occur.

Based on the information that has been released to date about the proposed Strategy and through interviews conducted with individuals involved its development, it has become clear that while the Strategy is in many ways an improvement over the status quo insofar as being a comprehensive, structural and environmental health promotion initiative<sup>42</sup>, it is strongly aligned with weight-centered approaches. Policy options proposed later in this paper are directed toward government officials involved with the

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<sup>42</sup> For example, the Obesity Reduction Strategy marks a shift away from individualistic approaches to health promotion, focusing largely on structural factors influencing health, such as access to healthy, affordable food and addressing the built environment in which we live (Jayatilaka, 2009; PHSA, 2010).

ORS to help meet the goal of reducing reliance on, and promotion of, the weight-centered health paradigm.

The below table summarizes proposed actions within the ORS and outlines possible components that can be considered weight-neutral and positive, along with components that remain weight-centered, likely increasing widespread promotion of the weight-centered health paradigm if implemented.



Table 1- Overview of proposed Obesity Reduction Strategy: Working Group Policy Options<sup>43</sup>

Working Group	Summary	Weight-centered components	Weight-neutral components <sup>44</sup>
<b>Treatment Working Group</b>	Policy recommendations are directed towards overweight and obese people without medical complications and those with concurrent health concerns (PHSA, 2010c; key stakeholder interview, 2011)	<ul style="list-style-type: none"> <li>• Targeting overweight people who do not exhibit metabolic complications</li> <li>• Expanding screening of overweight and obesity in medical and non-profit sectors</li> <li>• Encouraging doctors to recognize overweight early in children and plot BMI on appropriate growth curves</li> <li>• Expand the Centre for Healthy Weights Shapedown BC Program to additional locations to children who are obese with metabolic complications</li> <li>• Proposal to publically fund a bariatric surgery centre and pilot gastric banding for children</li> <li>• Overwhelmingly focused on behaviour change</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Food Working Group</b>	Policy recommendations seek to increase access to healthy foods and reduce access to healthy foods through education, increasing consumer awareness about healthy eating and through environmental policy shifts (PHSA, 2010)	<ul style="list-style-type: none"> <li>• Social marketing campaigns to promote healthy eating (potential to be weight neutral or weight centered) with goal of reducing overweight and obesity</li> <li>• Education initiatives in school curricula to support understandings about healthy eating (potential to be weight-neutral or weight-centered)</li> </ul>	<ul style="list-style-type: none"> <li>• Increase access to healthy foods in schools</li> <li>• Restrict advertising of unhealthy foods to children</li> <li>• Labelling initiatives</li> </ul>
<b>Physical Activity Working Group</b>	Policy recommendations include changing individual and population activity levels through promoting change at the individual level, but primarily through	<ul style="list-style-type: none"> <li>• None (the food Working Group has no weight-centered policy recommendations. However, the presumed correlation between physical activity and</li> </ul>	<ul style="list-style-type: none"> <li>• Intention to make healthy living affordable and accessible through re-examining</li> </ul>

<sup>43</sup> The content of this table is based on information I have compiled via Final Reports completed by the Working Groups, information provided to me through one of my key stakeholder interviews with an individual involved in developing the ORS and through the draft ORS made available at a public forum in Spring, 2010.

<sup>44</sup> Note, as long as policies are with objective of reducing obesity, no policy can truly be weight-neutral.

	focusing on modifying the obesogenic (i.e. obesity causing) built environment (PHSA, 2010d; key stakeholder interview, 2011)	obesity is discussed throughout, although the link is also made between inactivity and chronic disease).	minimum wage and welfare <ul style="list-style-type: none"> <li>• Promote access to recreation via reduced transit fares for low-income and increased street safety</li> <li>• Modify the built environment through zoning and community plans</li> </ul>
<b>Surveillance Working Group</b>	Policy options are targeted towards surveillance of the younger population, however it should be noted that surveillance is expected to be built into each of the above recommended policy options (PHSA, 2010b; Jayatilaka, 2009; key stakeholder interview, 2011)	<ul style="list-style-type: none"> <li>• Increasing surveillance of overweight and obesity in multiple settings</li> <li>• Proposed bi-annual surveys in schools</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>

## 2.5 Alternatives to the Weight-Centered Health Paradigm

Given the poor efficacy and questionable ethics associated with the weight-centered paradigm, a shift away from weight-centric policies and towards weight-neutral approaches to health has been recommended (Bacon & Aphramor, 2011; Berg & Burke, 1998). Fortunately, as we envision what such a shift would look like in practice we can draw on expertise from a model known as Health at Every Size (HAES). HAES is a health-centered paradigm that has been known to help people re-envision their relationships with their bodies and food, become more physically active and increase

healthful eating and self-esteem (Wood, 2006)<sup>45</sup>. A number of research trials have been completed on HAES, illustrating that unlike traditional diet and behaviour modification focused weight loss programs, HAES can improve health in the long-run, regardless of whether weight is lost (Bacon et al., 2002; Bacon et al., 2005; Ciliska, 1998; Provencher et al., 2007; Provencher et al., 2009; Tanco, 1998).

Considering that long-term weight loss is often unsustainable, that the pursuit of weight loss may result in eating disorders, nutritional deficiencies, poor self esteem and even mental health difficulties, and that the promotion of weight loss as feasible, possible and desirable may increase stigma, the Province may wish to consider strategies to move towards weight-neutral approaches to health that have been evidenced as effective in improving health outcomes. In order to help determine how a shift away from weight-centric approaches can occur, my research seeks to understand why policies continue to uncritically rely on the weight-centered health paradigm. I also explore why alternate paradigms such as HAES have been more effective at improving health than weight-focused programs, so that core components of HAES and similar approaches can be woven into the Province's policies to help improve health.

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<sup>45</sup> Core principles of the Health at Every Size paradigm (ASDAH, 2010), include: 1) Acknowledging diversity in body size and shape; 2) Acknowledging the multidimensional nature of health, including physical, spiritual, social, occupational, emotional and mental; 3) Promoting all dimensions of health for people of all sizes; 4) Encouraging eating in a way which balances nutritional needs, hunger and satiety, appetite and pleasure; 5) Endorsing enjoyable, life-enhancing physical activity and movement, rather than exercise with the goal of weight loss.

### 3: Methodology

The overall objectives of my research were to understand why the weight-centered health paradigm continues to be promoted without question in public policy discourse within BC, despite evidence of its flaws, and to develop policy alternatives to alleviate the health consequences associated with an uncritical reliance on, and promotion of, the weight-centered health paradigm. The primary research question guiding my work, addressed through discourse analysis, was: *why do policies uncritically rely on the weight-centered health paradigm?* This was selected to help understand why the weight-centered paradigm continues to dominate public policy with the hope that this knowledge could be used to inform policy options that would assist in a shift away from weight-centric approaches. In seeking to move away from a weight-centered paradigm I recognized that it would be important to provide alternative approaches to healthy eating and exercise. With this in mind, I also asked: *why do non-diet type interventions generally improve health outcomes and personal health habits, whereas traditional behaviour modification approaches may fail to create lasting improvements in either health outcomes or health habits?* This research question, addressed through case studies, was informed by research trials conducted on Health at Every Size and similar non-diet approaches that illustrate the long-term health benefits of HAES; a stark comparison to the failure rates of weight loss focused diets.

To answer my research questions I relied upon two primary methods: i) discourse analysis; and ii) multiple explanatory case studies (including interviews with expert

researchers). Additionally, to analyze the strengths and drawbacks of policy alternatives to the weight-centered health paradigm I also conducted key stakeholder interviews .See Appendix B to view my approved ethics submission, including interview schedules and informed consent for each method.

### **3.1 Discourse Analysis**

The research question that directed my discourse analysis was, *why do policies uncritically rely on the weight-centered health paradigm?* Discourse analysis was also undertaken to better understand the extent to which the weight-centered health paradigm benefits certain groups and marginalizes others, to illuminate the implications of this discourse on the health and well being of British Columbians and to inform policy options.

#### **3.1.1 What is Discourse Analysis?**

Discourse is a particular way of speaking about something, which can be located in texts, and is indicative of belief systems and social practices (Parker, 1999) that may impact on society. It is argued that dominant discourses have great power in shaping perceived reality. As Parker (1992) suggests, discourses “...construct ‘representations’ of the world which have a reality almost as coercive as gravity” (p 8). The aim of discourse analysis then is to critically examine the role of language use, or discourse, and to understand how this constructs and legitimizes a reality, often to the benefit of some groups and at the expense of others.

### 3.1.2 Research Design: Discourse Analysis

1. The documents used in the discourse analysis were: PHSA (2010), *Final Report: PHSA/Working Group on Food Recommendations for Obesity Reduction in BC*.
2. Jayatilaka (2009), *Designing a Process for a Comprehensive Obesity Reduction Strategy (CORS) For British Columbia*
3. BC Healthy Living Alliance (BCHLA) (2010), *Recommendations for Tackling Obesity in BC*
4. The Legislative Assembly of BC Select Standing Committee on Health (2006), *A Strategy for Combating Childhood Obesity and Physical Inactivity in BC*
5. The Heart and Stroke Foundation of BC and Yukon (2009), *Obesity Reduction in BC, Position Statement*

These documents were selected based upon the policy relevance to the obesity reduction efforts in BC<sup>46</sup>.

In seeking to understand why policies uncritically rely on the weight-centered health paradigm I utilized discourse analysis to examine each document for: i) discursive practices; ii) textual practices; and iii) social practices.

*Discursive practices* (Jacobs, 2006) are the ways in which a given text warrants any claims it may make (i.e. through citing references or naming “experts”). Through examining the discursive practices of each text I sought to understand how the text was legitimized and how conclusions acquired truth status. To assist with this I paid specific

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<sup>46</sup> For example, the Jayatilaka (2009) paper was prepared by the School of Public Administration under contract with the Obesity Reduction Strategy to help design the structure of the Strategy. The recommendations from Jayatilaka have been woven into the Strategy, illustrating its relevance. The BCHLA (2010) and the Heart and Stroke Foundation (2009) documents were reviewed as major policy papers completed on obesity in BC, and because members of the Task Force come from both of these organizations. The Legislative Assembly of BC Select Standing Committee on Health 2006 report was selected because this document is considered a precursor to the Strategy and set the stage for the perceived need to take action on obesity in BC.

attention to the methodological approach used. For example, each text was analyzed to determine whether overweight and obesity were posited as harmful without drawing upon evidence to support this claim. If texts drew upon evidence to support such claims I sought the original assertion and examined the study for whether or not the study controlled for cofounders other than weight (i.e. diet, fitness, socioeconomic status) and was otherwise methodologically reliable.

*Textual practices* (Jacobs, 2006) concern the ways in which grammar, metaphors and language are used to create a discourse or particular way of speaking about a subject. To complete my textual analysis I sought patterns of reoccurrence and thematic metaphors and identified the dominant meanings of word choices and metaphors in order to begin formulating a “dominant obesity discourse”.

*Social practices* (Jacobs, 2006) are the ways in which a given discourse is used to reinforce wider power structures and ideologies. Specifically I looked for: how overweight and obesity were socially constructed, including who was talked about, what the recipients of the discourse would say if they had a voice, how the discourse could be historically located and who was advantaged/disadvantaged by the texts.

By looking at the social, discursive and textual practices of the texts I was able to answer my research question of why policies uncritically rely on the weight-centered health paradigm.

### **3.2 Case Studies**

Case studies were employed to understand why Randomized Control Trials (RCTs) have shown non-diet interventions to be as, or more, effective at improving

health than traditional diet-oriented interventions. The research question was: *why do non-diet type interventions generally improve health outcomes and personal health habits, whereas traditional behaviour modification approaches may fail to create lasting improvements in either health outcomes or health habits?* The purpose of this research was to understand what aspects of HAES or similar non-diet approaches should be included within policy options. Through my case studies I gained insights that then influenced the development of my policy options.

### **3.2.1 What are Case Studies?**

Case studies often employ qualitative methods to answer ‘how’ or ‘why’ questions. The type of case study I relied upon was the multiple explanatory case study (Yin, 2003), which seeks to explain why a particular outcome occurred across multiple cases.

Important aspects of case study research design include: selecting units of analysis<sup>47</sup>, which should in some way facilitate comparison across cases; theoretical propositions, which should suggest correlations between phenomena; and criteria for interpreting findings (which I later refer to as “case comparative factors”), which provide the researcher with a means for assessing the reliability of the cases included (Yin, 2003).

### **3.2.2 Research Design: Case Studies**

To date seven RCTs have been undertaken comparing the efficacy of HAES, or non-diet interventions, to diet or behaviour modification approaches. To select from

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<sup>47</sup> This includes developing case boundaries, which are important to ensure only cases are included which will facilitate comparison and thus maximize reliability.



among these cases I used the following case boundaries: i) preference given to RCTs; ii) cases must include a dietary restraint/diet/behaviour modification group and a HAES/intuitive eating/non-diet group; and iii) cases must measure changes in physiological health. Of the seven studies, the three that met my case boundaries were selected, as follows:

1. An RCT completed by Bacon et al. (2002; 2005), comparing a HAES and diet intervention
2. An RCT completed by Rapoport, Clarke and Wardle (2000), comparing modified cognitive-behavioural treatment (a non-diet intervention) and standard-cognitive behavioural treatment (diet intervention).
3. An RCT is the process of being completed by Mensinger, Close and Ku. (2009; no date), comparing a HAES-informed non diet intervention to a diet program.

Please see Appendix D for a table summarizing my choice of cases. An overview of the three selected cases is provided in my findings section.

In order to ensure reliability of data collection and analysis of case studies it is essential to predetermine what criteria or factors will be used to compare cases. The following outlines the factors of each RCT that I examined.

Table 2- Case Comparative Factors

Factor	Rationale
Outcome measures and findings	<p>Cases were compared on their success in improving outcome measures in three categories:</p> <ul style="list-style-type: none"> <li>• Physiological health</li> <li>• Eating/exercise behaviours</li> <li>• Psychological health</li> </ul>
Methodology <sup>48</sup>	<p>I examined the following sub-factors of each case to determine methodological validity:</p> <ul style="list-style-type: none"> <li>• Sample size and information</li> <li>• Length of study and duration of follow up</li> <li>• Reliability of data collection and analysis methods</li> <li>• Overall limitations</li> </ul>
Core components of intervention <sup>49</sup>	<p>The following sub-factors were examined to determine if they were explanatory variables for the success of non-diet interventions:</p> <ul style="list-style-type: none"> <li>• Approach to weight</li> <li>• Approach to exercise</li> <li>• Approach to eating</li> <li>• Focus on self esteem and self acceptance</li> <li>• Curricula materials</li> <li>• Group structure</li> <li>• Group leader</li> <li>• Additional components of interest</li> </ul>

### 3.2.2.1 Data Collection and Analysis: Case Studies

Data for case study evaluation was obtained through published, publicly available articles and books, grey literature and interviews with researchers involved in the studies. Two semi-structured interviews were conducted by telephone with researchers associated with the Bacon and Mensinger cases: Dr. Linda Bacon and Dr. Janell Mensinger<sup>50</sup>.

<sup>48</sup> Methodology of each RCT is important to examine in order to ensure that findings within the study can be considered reliable, to understand whether methodological and study design decisions may have influenced outcomes, and understand to what extent the RCT study findings can be generalized.

<sup>49</sup> It was essential to understand what core components of each case were in order to answer my research question of why non-diet interventions generally improve health outcomes and personal health habits, whereas traditional behaviour modification approaches may fail to create lasting improvements in either health outcomes or health habits.

<sup>50</sup> Interview participants were given the option to be identified by name, sector/organization, or to remain anonymous.

Interviewees were asked questions about the drawbacks of weight-centered approaches, the benefits of non-diet approaches and specifics about their research trial in order to answer the research question<sup>51</sup>.

The analytic technique used to interpret case study data was explanation building, which is a type of pattern matching that seeks to compare a predicted pattern or theory with an empirically located pattern or theory (Yin, 2003). In explanation building initial propositions and rival theories are developed to hypothesize why something occurred. These hypotheses are then compared to findings from each case one by one, and modified accordingly, until a theoretical explanation is developed that explains why a particular outcome occurred (Yin, 2003). This was chosen as the preferred analytic technique because I wanted to understand essential components of non-diet interventions that are likely to improve health to help inform my policy options and to overcome some of the difficulties of a weight-centered approach<sup>52</sup> (see Appendix D for a breakdown of the steps associated with explanation building).

### **3.3 Key Stakeholder Interviews**

Following development of my policy options I undertook a range of diverse key stakeholder interviews to assist in examining the relative benefits and drawbacks of each policy option. Interviews were semi-structured, with interviewees asked to speak about a number of different themes to aid in my analysis of each policy option. Specifically they

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<sup>51</sup> For detailed information on the interview schedule see Appendix B.

<sup>52</sup> Once I determined essential components of non-diet interventions necessary for success, I sought to weave these components within several of my policy options.

were asked for feedback on the effectiveness, feasibility, acceptability and equity of each option and alternate criteria and policy options that I may not have considered<sup>53</sup>.

Ten interviews were completed in total, with interviewees having the option of remaining confidential. Specifically, I interviewed three individuals intimately involved with the development of the ORS<sup>54</sup>, all of whom will remain confidential. These stakeholders were chosen because of their familiarity with the subject matter, government policies and practices and their subsequent ability to assess the feasibility and acceptability of each option.

I also interviewed two published scholars from within Fat Studies<sup>55</sup>, both with activist experience in the size acceptance movement. Specifically, I interviewed Dr. Deb Burgard (a psychologist with significant experience in eating disorders and HAES) and Marilyn Wann, activist and author of “FAT!SO?” (Wann, 1998)<sup>56</sup>. These individuals were selected for their familiarity with weight stigma, HAES and social justice concerns.

I also interviewed four experts working in the field of eating disorder prevention who were loosely associated with the proposed ORS<sup>57</sup>, chosen because of the familiarity with the subject matter, all of whom chose not to be identified by name. I also

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<sup>53</sup> For detailed information on the interview schedule see Appendix B.

<sup>54</sup> Two interviews conducted by phone, one in person.

<sup>55</sup> Fat Studies is a growing field of inquiry transcending disciplinary boundaries, sitting at the intersection of health research, public policy, women’s studies, sociology and nutrition and examining social constructions of fatness: both how current understandings about bodies are maintained and how these understanding impact health and well-being.

<sup>56</sup> Both interviews conducted by email.

<sup>57</sup> Conducted in person.

interviewed one medical professional at the doctoral level<sup>58</sup>, who also chose to remain confidential, with experience in health promotion and familiarity with eating disorders.

### **3.3.1 Analysis: Key Stakeholder Interviews**

The analytic technique employed to examine the data from the key stakeholder interviews was thematic analysis (see Braun & Clarke, 2006 for an overview of the steps associated with thematic analysis). Thematic analysis was used to assist in organizing the data in such a way that clear patterns could emerge, and reoccurring themes were rendered visible, on both latent and surface levels, the findings of which were then woven into my policy analysis section.

The following section summarizes the findings from my discourse analysis and case studies, answering why policies uncritically rely on the weight-centered health paradigm and explaining why non-diet interventions are more effective at improving health.

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<sup>58</sup> Conducted in person. This interviewee was interviewed while I was in the process of developing policy options, thus while my findings from the interview helped further develop my options they are not referenced in the analysis chapter to the same extent as the other interviews.

## **4: Findings**

### **4.1 Findings: Discourse Analysis**

In this section I answer my primary research question, explaining why policies uncritically rely on the weight-centered health paradigm through an examination of the discursive, textual and social practices of the “dominant obesity discourse” located within the five documents reviewed<sup>59</sup>. The central component of the dominant obesity discourse – a discourse that is medical, political and socio-cultural – is that fat is unhealthy, indicative of personal moral failings, is a burden on society and must be eradicated. As I present below, it is an oppressive, stigmatizing, discriminatory discourse that is uncritically accepted by most and largely influenced by cultural beliefs and power relations within society.

#### **4.1.1 Discursive Practices**

**Summary of findings:** Analysis of the discursive practices indicates that claims about obesity within policy documents should not be taken as reliable assertions of truth. The source of assertions about obesity can often be traced back to sources with high credibility such as the World Health Organization, whose findings acquire political legitimacy because of their status as leading health experts, even when claims are not based on strong scientific evidence. Similarly, at other times, policy officials uncritically

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<sup>59</sup> PHSA, 2010; BCHLA, 2010; Legislative Assembly of BC (LA-BC), 2006; Heart and Stroke Foundation (HSF) of BC and Yukon, 2009. For a summary of these documents please see Appendix A.

accept assertions about obesity because these claims are made in published scientific studies in peer-reviewed journals. Tracing the source of claims reveals methodological flaws that render findings questionable. Because there is no current requirement to adhere to evidence-based standards in obesity research, policy makers accept findings from methodologically flawed studies as fact without a critical examination of the reliability of the methodology of the studies.

**Analysis and discussion:** In health care research it is considered standard practice to adhere to evidence-based principles. For example, when making claims about a disease, or a cure for a given illness, it is regarded as essential to found such claims in sound, methodologically reliable research. Unfortunately, my research illustrates that policy texts within BC do not adequately warrant claims about the health consequences of overweight and obesity. Instead, my analysis demonstrates that cultural beliefs about obesity are so deeply entrenched that assumptions about the dangers of adiposity and the imperative for action are often not justified. For example, in my analysis I found overweight and obesity were often posited as harmful without drawing on any evidence whatsoever to support this claim (e.g. Legislative Assembly (2006), see Appendix C reference 1.1; PHSA (2010), see Appendix C reference 2.1).

Other times, when effort was made to reference evidence in support of the claims of negative health implications of overweight and obesity, the cited references themselves were not gold standard scientific studies, but were often re-hashed claims made by respected sources such as the WHO (i.e. BCHLA (2010), see Appendix C reference 3.1).

In other instances, when references were cited, following up with the citation revealed second hand sources, illustrating the need to track down the original study upon

which the claim was based. This process revealed that the original studies almost always had methodological flaws (i.e. failure to control for diet, exercise or socioeconomic status) rendering the study findings questionable at best (i.e. Jayatilaka (2009), see Appendix C, reference 4.1; Heart and Stroke Foundation (2009), see Appendix C reference 5.1). This leads to the inevitable question: if the methods underpinning claims in policy documents and scientific studies about the dangers of overweight and obesity are so unreliable, then we must ask whether overweight and obesity are really as dangerous as we are led to believe.

Despite this lack of strong scientific evidence, all of the policy documents posit the dangers of overweight and obesity uncritically as ‘fact’, which enhanced the persuasive nature of the claims within. For example, the discursive analysis highlighted a noticeable absence of phrases like “this suggests...” or “this may indicate...”. The practice of stating something as ‘fact’ rather than ‘possibility’ is an effective way to warrant negative claims about obesity and generate reader buy-in. This is an important point given that policy makers and the general public are unlikely to question these claims as they cohere strongly with our deeply entrenched cultural beliefs about obesity.

#### **4.1.2 Textual Practices**

**Summary of findings:** The analysis of textual practices shows that inflammatory language use in the dominant obesity discourse, as seen through four separate thematic metaphors, creates a climate of fear about obesity and evokes an emotional response, such that emotions rather than sound methodological practices inform obesity policies. Textual practices within the dominant obesity discourse, for instance the use of aggressive words such as “combat” and “task force”, frame the problem – and thus the



solution and policy response – in a particular way that does not allow for compassionate, weight-neutral responses to emerge in the policy sector.

**Analysis and discussion:** In framing social problems, the language that is used has enormous implications, especially when that language employs metaphors, as metaphors help to construct our understandings and feelings about a situation being described (O’Halloran, 2006). It is important to recognize that how we frame overweight and obesity will influence how we choose, as a society, to treat people who are overweight or obese. Consider for example, the use of word “combat” (HSF, 2009; LA-BC, 2006) or the term “Task Force” (PHSA, 2010). Because of the choice of words with war-like connotations the resulting policy solutions are unlikely to bring about respectful or kind treatment of fat people that will better their health and recognize that well being is far more of an expansive concept than body weight.

The implications of the thematic metaphors present within the documents I analyzed, in conjunction with claims about the health consequences of obesity, act to create a societal panic about obesity, leading us to believe that obesity is a threat to us all and if we are not careful any one of us could become overweight or obese and die early.

For instance, consider the emotional reactions evoked by the following four thematic metaphors identified in the analysis.

A common thematic metaphor identified was *the dangers of overweight and obesity*, seen through assertions that both overweight and obesity lead to chronic disease and early death. Through the establishment of a causal relationship between overweight/obesity and death within the texts, scare mongering tactics, such as phrases like overweight and obesity leading to “premature death” (BCHLA, 2010) are used,

instilling fear in the reader. It should be noted that within the documents analyzed, overweight and obesity are treated as synonymous, with no recognition of the diverging health outcomes of these two BMI categories.

Once fear about the health consequences of overweight and obesity is instilled, a second and less obvious theme – *overweight and obesity as spreadable* – emerges, further entrenching fears about overweight and obesity by those privy to the discourse. This is seen through the use of the words such as “epidemic” and terms like “exploding”, implying that we all need to vigilantly monitor our food and exercise, otherwise encroaching weight gain will almost invariably lead to negative health consequences.

Once the negative health implications and possible spreadability of being overweight or obese are established, the policy documents consistently used textual practices to reinforce another theme, *the urgent need for aggressive social action against obesity*. This became clear through the oft-utilized word “combat”, evoking images of the need to fight a war on obesity. This was also seen through statements such as “[r]ates of overweight and obesity have exploded” (BCHLA, 2010 p 1), or reference to overweight and obesity as “alarming” (BCHLA, 2010) or a “crisis” (Legislative Assembly, 2006). Such language is not innocuous and has enormous implications for the ways in which we continue to address overweight and obesity, reinforcing the urgency of action and undermining the likelihood of care being taken to avoid iatrogenic harms.

Another thematic metaphor that evokes an emotional response – though a very different one from fear – is positing *overweight and obesity as resulting from (poor) individual choices*. While the analyzed texts illustrated a shift away from solely labelling overweight and obesity as resulting from individual choice, with recognition in some

documents of structural factors that influence weight (Jayatilaka, 2009, PHSA, 2010), overall the documents still clearly located overweight and obesity as an individual problem. This was illustrated through statements such as, "...we know that people who are physically active and eat a healthy diet are much less likely to suffer from overweight and obesity" (BCHLA, 2010, p 1) and "[t]here needs to be a shift in lifestyle and mentality of make time for physical fitness and healthy eating, and to value our health" (BCHLA, 2010, p 3). Such statements evoke a spectrum of emotional responses, including perhaps guilt in the fatter person for being unable to maintain a lower weight, or anger and disgust from the thinner person, especially considering the perceived cost burden of overweight and obesity.

A particularly interesting point highlighted by textual practices, is the way in which the terms "overweight" and "obesity" can in and of themselves be seen as discriminatory. For example, these terms can be seen to medicalize what may be natural human diversity, fuel weight-based discrimination and imply all overweight and obese people are inherently unhealthy (Wann, 2009). As put by Wann (2009), "[m]edicalization actually helps categorize fat people as social untouchables. It is little surprise, then, that when fat people do fall ill, we get blame, not compassion" (p xiv).

#### **4.1.3 Social Practices**

**Summary of findings:** Hierarchical power relations, which remain mostly invisible to policy makers and researchers, dictate the direction of policy because it is in the financial interests of particular organizations and industry to maintain the status quo and encourage reliance on the weight-centered health paradigm. As a result of the

dominant obesity discourse, fat people (especially women, people living in low-socioeconomic status and minority groups) may be disadvantaged.

**Analysis and discussion:** Discourse, or the way in which we articulate issues, has the power to either reinforce existing power relations in society or to contribute to social change for the benefit of marginalized groups (Chimobo & Roseberry, 1998). My analysis of social practices within the policy documents reviewed illustrates that rather than contributing to social change through addressing health disparities for marginalized groups, the dominant policy obesity discourse is medicalized, gendered, racialized, classed, healthist (Aphramor & Gingras, 2008) and moralizing. It is constructed by societal norms and political and economic forces, rather than evidence-based research, and is an oppressive discourse that advantages select groups at the expense of others.

### *Medicalization*

The policy documents consistently medicalized overweight and obesity. Adiposity was posited as contributing to disease and early death, despite evidence illustrating that overweight people live longer than thin people and that one-third to one-half of obese people are metabolically healthy (Shea et al., 2010). The implications of this are that such discourse may prompt overweight or obese people who are otherwise healthy to engage in harmful energy deficit practices. Also, even for those who may be overweight or obese because of poor diet and insufficient physical activity, they too may be harmed by the medicalization of their bodies, given that to date we have no safe and effective way to guarantee long-term weight loss in a significant sample of the population.

*Gendered, racialized and classed*

While none of the documents explicitly addressed overweight and obesity with specific reference to men or women, obesity discourse in general is highly gendered, disadvantaging women. For example, "...discussions of the dangers of higher weight and the benefits of weight-loss may encourage dieting, use of weight-loss medications, and/or weight-loss surgery, all of which are pursued more by women than by men" (Saguy, Gruys, & Gong, 2010, p 587). Women, who are at greater risk of developing eating disorders and attempting dieting, will then be disadvantaged by this policy discourse, which may result in worsened health outcomes. This is particularly concerning in light of the lack of consideration for nonmaleficence within most of the texts. Despite growing rates of eating disorders and a society wide preoccupation with body size and food, especially amongst women, there was minimal acknowledgement within the documents of the need to synthesize healthy eating and exercise policies with eating disorder prevention policies. Most of the texts I analyzed did not demonstrate awareness of the weight-centered health paradigm or its consequences<sup>60</sup>.

The racialized and classed nature of the obesity discourse also arose as a concern during the analysis. While not explicitly related to the consequences of the weight-centered health paradigm as set forth in this capstone, thus not elaborated upon, minority groups and people of low SES are more likely to be overweight and obese, and thus, more "...likely to be targeted and penalized when the state takes punitive approaches, by, for instance, imposing taxes on junk food" (Saguy, et al., 2010, p 587).

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<sup>60</sup> There were two exceptions to this. In Jayatilaka (2009), the need to synthesize policies with eating disorder strategies was briefly mentioned. Within the food Working Group Final Report (PHSA, 2010) was an appendix that included a terms of reference, in which the principle of doing no harm was mentioned, but not developed.

### *'Healthist' and moralizing*

Through my analysis it became clear that despite increasing recognition of environmental factors influencing body weight, overweight and obesity are largely still seen as the result of individual choices. When paired with the overwhelming importance of “health” within today’s society, this acts as a moralizing discourse that blames fat people for their inability to be thin and attributes this to personal failings.

Healthism can be defined as the fixation on personal health and individual behaviours as core causal factors influencing well being, thus in the presence of illness it is the individual behaviours, emotions and attitudes that require attention (Crawford, 1980). Through the presumption of individual control over health, when optimal health is not achieved, moral judgments (e.g. fat people as greedy, unrestrained) are directed towards the individuals who are unhealthy, rather than looking at the structural factors (e.g. poverty) contributing to ill health and helping people maximize their well being in a kind, compassionate, non-judgmental manner. The healthist, moralizing nature of the discourse in the texts is exemplified in comments such as “[t]here needs to be a shift in lifestyle and mentality to make time for physical fitness and healthy eating, and to value our health” (BHLA, p 3)<sup>61</sup>.

### *Construction by societal norms, political and economic forces*

Undoubtedly, the majority of people in the health care field, obesity research and those writing obesity policy documents have the best interests of the public at heart. However, obesity researchers and policy makers can inadvertently create harm by

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<sup>61</sup> While outside of the scope of this Capstone, such comments particularly disadvantage those who are more likely to be overweight and obese, such as Aboriginal peoples or women, potentially further contributing to oppressive social constructs about such groups.

circulating and referencing claims about the health consequences of obesity as fact without a critical examination of the source and legitimacy of such claims, especially considering the oppressive nature of the dominant obesity discourse. Clearly this is not the intention of health officials. Considering that the discourse analysis conducted for this Capstone has found that policy document claims about obesity are not grounded in evidence-based standards and hence may be inaccurate, the question arises: how do such claims continue to circulate as fact?

To help answer this it is useful to examine how claims about the health consequences of obesity and the benefits of weight loss are situated in our cultural, political and economic contexts.

In today's society thinness is seen not only as healthier, but morally superior (Jutel, 2005) and indicative of highly regarded values such as self-restraint and control. It is helpful to contrast this with historical constructs around body size. In the early 20<sup>th</sup> century the culturally ideal body size was much heavier (Jutel, 2005), illustrating the enormous power cultural norms have in influencing our perceptions. Should thinness cease to be seen as reflective of superior moral values it is unlikely that the dominant obesity discourse would be as powerful. This leads to the conclusion that reducing stigma around overweight and obesity would be one effective way to mitigate harms from food and exercise policies.

Another consideration in seeking to answer how claims about obesity circulate as fact, is to shed light on the select groups that are advantaged through the current dominant obesity discourse and the maintenance of structural inequality. For example, the pharmaceutical industry is heavily invested in the weight-loss industry, even funding

seminal research on obesity occurring in Canada (Gingras, 2009) and elsewhere. For instance, as pointed out by Campos et al. (2005), a large number of prominent obesity researchers, such as those that set the under-weight, normal, and over-weight categories, and classes of obesity, are funded by large pharmaceutical companies, a reality that exists in Canada as well. Consider, for example, that Dieticians of Canada – renowned for Canadian obesity research and also part of the PHSA Obesity Reduction Strategy – receives pharmaceutical sponsorship (Gingras, 2009). Another noteworthy point, is that the leadership of the anti-obesity movement is provided by organizations such as the International Obesity Taskforce, and the previous American Obesity Association (now incorporated into the Obesity Society), both of whom have fought to have obesity labelled as a disease and both of whom are funded by pharmaceutical and weight loss companies. A further insight is revealed when we consider that the International Obesity Task force has co-authored several of the World Health Organization reports on obesity (Campos et al., 2005), from which the majority of Western countries, including British Columbia and Canada, take strategic direction.

A further consideration is the potential for the food industry to continue to profit from the medicalization of overweight and obesity (Bacon, 2010). Through the current focus on “healthy eating” we are increasingly seeing the prevalence of low-fat, low-calorie alternatives to our favourite packaged foods, and despite these foods being half the size and half the calories, they are often double the price (Bacon, 2010). Undoubtedly the continued focus on individual food choices benefits the economic interests of food industry and major corporations operating in Canada and internationally. Should the focus shift more towards structural inequalities influencing weight – such as eliminating



low cost, poor quality foods like those with high fructose corn syrup which encourage over-eating and weight gain because they are very high in calories but are not decipherable in internal regulatory systems (Bacon, 2010) – it is likely a subsequent shift towards locally produced foods would occur. This would clearly disadvantage our multi-national food industry.

### *Discourse of the oppressed*

Given the medicalized, blaming, moralizing discourse around obesity and the high regard for thinness in our culture, it is possible that many overweight and obese people internalize the negative attitudes about them and would like nothing more than a “cure” for their body size<sup>62</sup>.

Some overweight and obese people, however, have rejected the labels put on them by society, claiming that they can be fat and healthy and that one of the more harmful health experiences associated with their weight has been ongoing social stigmatization. Further, many in this segment of the population, known as the ‘Fat Acceptance’<sup>63</sup> community, believe that policies with the objective of combating obesity are stigmatizing and blaming, neglectful of the fact that many – if not most – fat people have tried to lose weight unsuccessfully. Moreover, the war on fat is actually viewed as harmful and oppressive, a direct attack on the bodies and lives of fat people.

In finalizing my discourse analysis I conclude that policies uncritically adhere to the weight-centered health paradigm for three primary reasons: i) claims about obesity are made by groups with expert status, the result of which their assertions are accepted as

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<sup>62</sup> As evidenced by the growing trend towards bariatric surgery and the pharmaceutical weight loss industry.

<sup>63</sup> See the Fatosphere (2011) online: <http://feeds.feedburner.com/FatFuNotesFromTheFatosphere>.

fact; ii) language used to discuss overweight and obesity evokes an emotional response creating buy-in for the claims within policy documents; and iii) although possibly invisible to policy makers, existing power relationship within the food and pharmaceutical industry dictate policy direction. With this information it becomes clear that beliefs about obesity are deeply ingrained in our society and to shift the thinking of policy makers will require substantial effort and evidence standing against the weight-centered paradigm. In the next section I provide my case study findings, some of which are then woven into the policy option section to help facilitate a shift in thinking amongst policy officials.

#### **4.2 Findings: Case Studies**

In this subsection I provide an empirical explanation for why non-diet interventions may have greater success in improving health than diet interventions, with specific reference to three RCTs that have had success at improving health through non-diet approaches.

I begin by providing an overview of the selected RCTs and then discuss explanatory variables that explain the success of the non-diet interventions. A detailed summary of the three factors used for case comparison can be found in Appendix D.

### **4.3 Case descriptions**

#### **4.3.1 Overview of Bacon et al.**

In Bacon et al. the efficacy of HAES was compared with a traditional diet-type intervention based on the gold standard weight loss program known as “LEARN”<sup>64</sup>. Each group had 39 chronic dieting, overweight and obese women, ages 30-45. Both groups participated in six months of weekly treatment sessions<sup>65</sup>, which was followed with six months of monthly post-treatment<sup>66</sup>. Testing of outcome variables continued until the two-year mark, considered the minimum length of follow up necessary for reliable evidence-based results (WHO, 2000).

Overall the HAES group improved and sustained all outcome variables (physiological, psychological and eating/exercise behaviours) and maintained weight. The diet group showed initial improvement in many variables, however did not sustain the changes, nor the initial weight loss at the final testing (see Appendix D for a detailed summary of trial outcomes).

#### **4.3.2 Overview of Mensinger et al.**

In Mensinger et al., an RCT which is scheduled to have the final testing session in the Spring of 2011, a HAES informed program known as “HUGS”<sup>67</sup> (Omichinski, 2011) is compared with LEARN. Both groups consisted of 40 obese women. Sessions were weekly for six months, and testing until two years, with the final testing currently in process.

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<sup>64</sup> Lifestyle, Exercise, Attitudes, Relationships and Nutrition.

<sup>65</sup> Ninety minutes in length.

<sup>66</sup> During which time no new material was presented.

<sup>67</sup> Health focused, Understanding lifestyle, Group Supported, and Self-esteem building.

Interim findings, as per measurement at the six month testing session show that despite the LEARN group losing weight and the HUGS group maintaining weight, the HUGS group fared as well as or better than LEARN in most outcome variables. For example, the HUGS group significantly decreased triglycerides and low-density lipoprotein (LDL) cholesterol, whereas LEARN did not. Similarly, HUGS also improved psychological and eating/exercise behaviours in comparison with the LEARN group.

### **4.3.3 Overview of Rapoport et al.**

In Rapoport et al. a non-diet group entitled “modified cognitive behavioural treatment” (M-CBT) (n=37) was compared with “standard cognitive behavioural treatment” (S-CBT) (n=38). Ten weekly group sessions took place and testing was until the one-year mark.

Findings show that both groups lost weight. At the first testing session weight loss was greater for the S-CBT group, however at the final testing session weight loss was minimal and comparable across groups, and the S-CBT group actually had 47 per cent of participants weighing more than at the baseline, whereas only 40 per cent of M-CBT participants gained<sup>68</sup>. Both groups improved other physiological outcome variables, however there was no statistical difference between the groups. Results should be interpreted with caution given that testing did not adhere to the two-year follow up requirement as per evidence-based standards (WHO, 2000). Considering that both groups had a measure of success in improving health part of my research was to seek an

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<sup>68</sup> It is unknown whether these differences in weight regain were statistically significant as this was not stipulated either way in Rapoport et al. (2000).

explanation for why the diet group demonstrated similar improvements to the non-diet group.

#### **4.4 Case Comparisons: Content of Control Groups Within Interventions**

In this subsection I briefly compare the core components of the interventions, as content of the various interventions proved to be explanatory of the success of the non-diet groups and of the less favourable outcomes associated with the diet groups.

Components of particular note included: the approach to weight, approach to eating and approach to exercise of each control group. The following three tables compare the groups within each trial based upon their approaches to each of these factors. As is clearly illustrated in the below tables, the diet groups in all three trials were very similar, as were the Bacon and Mensinger non-diet groups, whereas the Rapoport non-diet group fell somewhere in between the weight-neutral approaches of the non-diet groups in Mensinger and Bacon and the weight-centered approaches of all three diet groups. A more fulsome summary of each of these three variables is provided in Appendix D.

Table 3- Approach to Weight

<b>Approach to weight</b>	<b>Complete acceptance of current size promoted</b>	<b>Sought to prevent weight gain, educate about dangers of obesity and accept current weight</b>	<b>Sought to reduce weight</b>
<b>Trial(s)</b>	Non-diet groups in Bacon et al. and Mensinger et al.	Non-diet group in Rapoport et al.	Diet groups in both Bacon et al. and Mensinger et al. The diet group in Rapoport et al. also sought to reduce weight, but simultaneously promoted self acceptance.

Table 4- Approach to Exercise

<b>Approach to exercise</b>	<b>Pleasurable exercise promoted</b>	<b>Realistic exercise goals encouraged</b>	<b>Recommended increased exercise at high intensity to lose weight</b>
<b>Trial(s)</b>	Non-diet groups in Bacon et al. and Mensinger et al.	Non-diet group in Rapoport et al.	Diet groups in all three trials

Table 5- Approach to Eating

<b>Approach to eating</b>	<b>Intuitive eating promoted</b>	<b>Elimination of restrictive eating and dieting and education about healthy eating</b>	<b>Energy deficit and nutrition education</b>
<b>Trial(s)</b>	Non-diet groups in Bacon et al. and Mensinger et al.	Non-diet group in Rapoport et al.	Diet groups in all three trials

#### 4.5 Case Studies: Theoretical Explanations and Findings

Through explanation building I systematically tested a set of initial propositions with the data of each case until I was able to reject some propositions and rival explanations, revise others, and ultimately put forward a set of theoretical explanations answering my research question of why non-diet interventions may be more effective at

improving health than diet interventions<sup>69</sup>. Below I provide an overview of the theoretical explanations that emerged from my analysis. Through analysis I found that some theoretical explanations had stronger evidence than others, thus, in the below discussion I have disaggregated theoretical explanations into primary and secondary explanations, the former of which I discuss in more detail<sup>70</sup>.

#### **4.5.1 Primary Theoretical Explanation: The Importance of Decreasing Dietary Restraint**

My findings reveal that encouraging dietary restraint may create a physiological and psychological starvation response that increases the likelihood of weight cycling and bingeing. Decreasing dietary restraint and increasing reliance on intuitive eating helps improve health outcomes and health habits, especially in the long-term. This finding was supported by comments such as the following quote through my interview with Bacon<sup>71</sup>:

“...there are so many mechanisms your body works on to try to push your cravings so that you are going to break your restriction, and you know we tend to just think it’s psychological, that, you know I crave that because I said I can’t have it. But physiologically we can see that there are shifts, that different foods will become appealing, a wider range of foods will become appealing just to force you to eat.”

Additional evidence was uncovered in my literature review, as seen in statements such as “[r]estrained eating has the potential to intensify the diet/overeating cycle” (Bacon et al., 2002, p 864) and “[d]ieting has been implicated in increasing eating problems (e.g. binge eating) and preoccupation with weight and shape” (Rapoport et al.,

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<sup>69</sup> In Appendix D (“Case Study Explanation Building: From Propositions to Theoretical Explanations”) you can find a table which outlines the evolution of each proposition or rival explanation and provides evidence from the literature and my interviews.

<sup>70</sup> Further details and evidence of both primary and secondary explanations is available in Appendix D.

<sup>71</sup> Bacon was a researcher on the Bacon et al. trial and is a nutrition science expert.

2000, p 1726). The reason for this, as discussed by Bacon in our interview and supported through my literature review, is that the human body has homeostatic mechanisms that will compel a person to consume a wider range of, and greater quantities of, food when faced with energy deficits.

This finding was supported by strong evidence from the Bacon and Mensinger trials where dietary restraint increased in the diet group, and decreased in the non-diet group, in which there were significantly better outcome variables overall. Evidence from Rapoport, though less strong, still supported this finding. In Rapoport, dietary restraint increased in the diet group and decreased in the non-diet group, however the influence of this was not seen on outcome variables, which were largely similar between groups, however, the diet group did report a higher percentage of participants weighing more at follow up, which may be related to restraint. The differences in the Rapoport findings are likely two-fold. For one, measurement did not continue beyond one-year which was the point in the Bacon trial where the initial findings regarding the diet group shifted from appearing positive to showing few, if any improvements, and even some decrement. Secondly, while Rapoport attempted to eliminate restrictive eating amongst non-diet participants, intuitive eating was not a key focus as was the case in the other trials, which, when combined with the fact that some aspects of restraint were maintained even in the non-diet group (like attempting to prevent weight gain), may provide an explanation for this difference.



#### **4.5.2 Primary Theoretical Explanation: The Importance of De-emphasizing Weight**

The importance of de-emphasizing weight is a key component of success of non-diet interventions. In the short term, when weight is used as an indicator of improved health we may see improvements in psychological and physiological variables. However, in the long-term, using weight loss as a measure of success is likely to lead to discouragement and a possible return to unhealthier eating/exercise habits and worsened psychological health outcomes if and when weight loss is not maintained. For example, as put by Bacon et al. (2002):

...weight loss failure may be damaging to chronic dieters' overall self image, particularly in light of the inordinate amount of importance that they place on their weight and shape when evaluating themselves as a person...[and] [i]f the weight loss cannot be accomplished or sustained, the benefits of diet programs may be limited and risk factors may become worse if individuals give up on health habit improvements when they are unsuccessful at achieving or sustaining weight loss" (p 864).

This finding was supported by the outcomes of the Bacon and Mensinger RCTs where we saw internalized weight bias improve in the non-diet groups, in comparison to the diet group. In Rapoport, weight was de-emphasized equally in both groups, which may help explain why both groups improved health outcomes to a similar extent.

#### **4.5.3 Primary Theoretical Explanation: The Importance of Pleasurable Physical Activity**

The importance of pleasurable activity also was revealed as a primary explanatory variable influencing the success of non-diet interventions. Enjoyable exercise is more likely to be sustained in the long-term than exercise that is to meet weight loss goals. The reason for this is enjoyable exercise is gradual, incorporated into everyday life and with

the purpose of feeling good as opposed to weight loss. For example, as Bacon shared with me during our interview:

“...I think in the past they always looked at exercise as punishment...something they were supposed to do because they weighed too much... But not something that was fun...when it started more from a sense of appreciating their bodies, celebrating their bodies, it became a lot easier and it wasn't effort anymore”.

#### 4.5.4 Secondary Theoretical Explanations

Three additional variables also emerged as explaining why non-diet interventions are generally more effective at improving health, specifically: the importance of minimizing internalized weight bias; the importance of facilitating self-acceptance; and likely greater effectiveness amongst chronic dieters or those with body image concerns. I briefly outline each of these in the below table, however for further details and supporting evidence see Appendix D.

*Table 6- Secondary Theoretical Explanations*

<b>Secondary Theoretical Explanation</b>	<b>Discussion</b>
The importance of minimizing internalised weight bias	Minimizing internalized weight bias helps to improve self esteem and self image, which can be seen as precursors to sustainable health habits. Destabilizing internalized weight bias was aided through helping participants enhance their sense of self worth independent of weight. Disentangling worth from weight necessitates that participants understand social constructions around body size.
The importance of facilitating self acceptance	A focus on self acceptance was a key component of success. Some ways to encourage self acceptance are through social support and helping participants understand cultural constructs about thinness
Non-diet approaches are especially effective amongst chronic dieters or those with poor body image	A non-diet approach is particularly beneficial for women who have a history of dieting or poor body image, though it has proven effective with participants with varying degrees of dietary restraint and body image concerns. It is likely that to be a useful model for other populations, such as youth or those with diabetes.

#### **4.6 Case Studies: Discussion of Limitations and Conclusions**

The analysis of my case studies was limited by a lack of data available on the Rapoport et al. case and the short-term nature of the follow-up associated with the Rapoport et al. trial. The Rapoport et al. findings are also limited in their generalizability about the success of non-diet type interventions given that the non-diet intervention in this case was still somewhat weight focused, in that one of the goals was to prevent future weight gain and within this overweight and obesity remained undesirable; a stark contrast to the complete acceptance of self regardless of weight promoted in the non-diet groups in the Bacon and Mensinger trials. Similarly, given that the Mensinger case is still underway, results illustrating the efficacy of the HUGS intervention over the LEARN intervention should be interpreted with caution and revisited in a years time.

Although it is unclear to what extent non-diet, weight-neutral interventions will improve health outside of a sample of female, obese adult women with tendencies to diet and have poor body image, recent evidence suggests that such HAES interventions are likely to have similar successes with other groups, such as youth who are susceptible to eating disorders or weight bias (Cool, 2007) or people living with diabetes (Bacon & Matz, 2010). This suggests that it would be in the interests of the health of British Columbians to fund opportunities to further explore the efficacy of HAES.

Overall it becomes clear that a focus on acceptance of self, acceptance of current weight, rejection of the diet mentality and learning to feel good in one's body through pleasurable eating and movement are key components of the weight-neutral, non-diet interventions influencing efficacy in improving holistic health. Principles of self-

acceptance, intuitive eating and pleasurable exercise should be incorporated within health promotion policies and programs that pertain to weight, food or exercise.

## 5: Policy Options

Within policy analysis, once a policy problem has been articulated it is appropriate to then derive policy options to eliminate the source of the problem or to mitigate its consequences. Considering my policy problem was that promotion of the weight-centered health paradigm may create harm<sup>72</sup>, one goal of the policy options outlined below is to reduce promotion of weight-centered approaches. Given that promotion of the weight-centered health paradigm is closely related to the unquestioning acceptance of the correlations between weight and health and other tenets of the weight-centered health paradigm, another goal of policy options is to reduce uncritical reliance on, and acceptance of, weight-centered approaches within public policy. A third goal of policy options is to reduce the likelihood of negative health consequences associated with weight-centric approaches and increase positive health outcomes. Given the demonstrably superior outcomes associated with a HAES approach<sup>73</sup>, a fourth goal of policy options is to build an evidence base for a future shift towards a completely weight-neutral HAES-informed paradigm.

In the following subsections I outline my policy options, all intended for synthesis with the proposed Obesity Reduction Strategy, which I then analyze in the policy analysis section for their respective strengths and drawbacks.

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<sup>72</sup> For example, eating disorders, mental health issues, weight cycling and social stigmatization.

<sup>73</sup> For example Bacon et al., 2005 and other RCTs completed on HAES and non-diet approaches.

## 5.1 Comprehensive Surveillance Guidelines

This option encourages the Province to develop and adopt comprehensive surveillance guidelines to integrate with the Strategy<sup>74</sup>, with the goal of reducing uncritical reliance on the weight-centered health paradigm and closely monitoring the effectiveness of weigh-related interventions, including tracking for unintended health outcomes. Comprehensive surveillance guidelines would require that health measurement account for a range of variables that may influence health (i.e. is not limited to measuring weight as a variable in isolation) and tracks unintended negative outcomes (e.g. eating disorders). With this in mind, this option has two central components:

1. Creation and adoption of guidelines stipulating that surveillance (both data collection and research) associated with the Strategy not be limited to measuring BMI as a variable alone, but rather health measurement take into account a range of factors, including health-behaviours (e.g. dietary habits and activity levels) and structural factors, such as socio-economic status. The reason for this is that evidence has shown these variables as central in determining health outcomes, independent of weight, yet, to date remain on the periphery of analysis within health promotion research. Inclusion of these variables may show that, as some evidence has already suggested, weight may be a proxy for other variables influencing health. Should this be found, this would have enormous implications for the kinds of policies and programs that are seen as likely to improve health and open the possibility for a future shift away from weight-centric approaches.
2. Creation and adoption of guidelines mandating that all interventions be accompanied by a research component to evaluate the effectiveness of weight-related initiatives. Included in this the Province should ensure all interventions and associated research take into account the potential for unintended consequences. Within this, surveillance related to determining efficacy of various programs associated with the ORS, or of measuring BMI (and other variables) in any setting must be accompanied by an equal increase in surveillance for

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<sup>74</sup> Given one of the intentions of the Obesity Reduction Strategy is to increase surveillance of overweight and obesity, as well as build an evidence base around what is and is not working to reduce chronic disease, there is a unique window for the Province to consider adopting surveillance guidelines.

iatrogenic harms through various risk factor indices associated with eating disorders, body image dissatisfaction and stigma.

## **5.2 Frame the Strategy in “Healthy Weight” Not Obesity Reduction” Language**

This policy option entails a paradigm shift, not in content, but in name and intention. Given the health consequences associated with weight stigma<sup>75</sup> and the moralizing aspects of the dominant obesity discourse<sup>76</sup> and that an over-emphasis on weight was identified through my case studies as a crucial factor precipitating the failure of behaviour modification approaches to health, this option asserts that what is required of the Province is to frame the Strategy in weight-neutral language.

This would necessitate that the Strategy not be marketed as the Province’s “Obesity Reduction Strategy” but rather as the Province’s “Healthy Weight Strategy”. Healthy weight would be defined as the weight at which a person’s body naturally settles when they are eating nutritiously and getting regular activity, with the understanding that this may range from thin to fat and will look different for every person. Within this option all marketing done in the name of the Strategy would be undertaken with a “first do no harm” approach whereby there would be the recognition that people come in a variety of shapes, sizes and weights and that it is not weight that is important but healthy living.

## **5.3 Reinforcing Weight-Centric Language: Implementation of the Obesity Reduction Strategy as Proposed**

In contrast to the proposed option of framing the ORS in “healthy weight” language, this policy option is in essence a “status quo” of sorts, although analysis does

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<sup>75</sup> As outlined in my background section.

<sup>76</sup> As outlined in my discourse analysis findings.

not consider any of the concrete *actions* proposed by the Strategy, but rather the *language*. This option takes for granted that the ORS be implemented as intended, crucial components of which will likely include social marketing about healthy eating and physical activity, changing the built environment and a range of other policies, all in the name of *obesity reduction*. Clearly this option does not meet objective one or two that I have set forth as goals of my policy options: that alternatives reduce promotion of, *and* uncritical reliance on, the weight-centered health paradigm. But it may, I expect some readers would think, likely still be efficacious at improving holistic health. Thus, it is included, as a potential method of impacting on health, in order to render visible potential benefits associated with promotion of “obesity reduction” and to make explicit some of the potential consequences on people’s well being.

#### **5.4 HAES-Oriented Weight Bias/Sensitivity Training for Health Care Professionals**

This option is intended as one possible method of reducing the harms associated with the weight-centered health paradigm. As the name states, this option would entail sensitivity training, or weight bias training, evidenced to reduce internalized weight bias amongst health care professionals (McVey, Gusella, Tweed, & Ferrari, 2009), be provided to health care professionals. This would require developing and implementing a web-based program for primary health care providers, designed to promote awareness about comments likely to promote body image concerns for their participants. In addition, given the efficacy of HAES approaches at improving health, this policy option would infuse sensitivity training with an awareness raising component about the evidence suggesting that people can be healthy regardless of weight as long as positive nutritional



and activity patterns are in place. It would also include information about the importance of intuitive eating and pleasurable exercise, as identified through my case studies as precursors to helping individuals negotiate healthy relationships with their bodies. Health care professionals would be educated on how to help patients identify their hunger and satiety signals and learn how to rely on internal, rather than external cues for eating<sup>77</sup>.

### **5.5 HAES Pilots in the Education System and in a Number of Treatment Locations**

This option entails piloting a research trial of Health at Every Size within the education system and as part of a broader “treatment” stream associated with the Strategy. The goal of this option is to improve holistic health, reduce the likelihood of iatrogenic harms occurring amongst participants and contribute to an evidence-base in support of a future shift to a weight-neutral, HAES-informed approach to health promotion.

Given the efficacy of HAES as evidenced through a number of RCTs, a HAES approach could be considered as an important component of the treatment stream of the proposed Strategy, as well as part of promoting healthy weights and healthy lifestyles. To be clear a HAES approach is not at all consistent or compatible with a goal of “obesity reduction”. This policy option does not presume that we should implement HAES in clinical settings with the objective of promoting weight loss. Rather, it suggests that given the evidence demonstrating health can be improved in the long-term *regardless of* weight and that a weight-centered approach may cause harm, serious consideration

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<sup>77</sup> It should be noted that this training is specifically recommended to be provided to health care professionals given the recommendations within the Strategy for increasing the role of the primary health care sector in the recognition and management of overweight and obesity, however, it could also easily be implemented in other locations, such as through teachers within the education system or in medical professional training.

should be given to further testing the efficacy of HAES as an alternative to current weight-centered approaches.

In the following section I present criteria, which I then use in my analysis chapter to assess each option.

## **6: Criteria for Analysis of Policy Options**

In policy analysis it is considered an essential practice to methodologically weigh out the respective strengths and weaknesses of each policy option to help determine which option(s) will be the best overall. The following matrix presents criteria that will help assess each policy alternative in my policy analysis section, including considerations such as effectiveness, equity, cost, political and public acceptability and implementation logistics. For my rationale for including each criterion see Appendix E.

Table 7- Criteria for Policy Analysis

Criteria	Definition	Measure <sup>78</sup>
<b>Efficacy</b>	<p>This criterion considers to what extent the option will reduce reliance on, and promotion of, the weight-centered health paradigm and its consequences.</p> <p>(Given that the effectiveness of an option must be high in order to reduce consequences associated with my policy problem, this criterion was weighted more heavily in analysis).</p>	<p>It asks, does the option:</p> <ol style="list-style-type: none"> <li>1. Reduce promotion of weight-centered approaches?</li> <li>2. Reduce reliance on and acceptance of weight-centered approaches?</li> <li>3. Improve health and reduce health consequences of the weight-centered paradigm?</li> <li>4. Reach a large percentage of the population?</li> </ol> <p>Scoring: 0 to 4 based on an answer of yes or no for each subset of the efficacy criterion.</p> <p>(A score of 0 implies it is not likely to be effective at reducing reliance on, or promotion of, the weight-centered health paradigm, unlikely to improve health and may be associated with health consequences. Conversely, a score of 4 means it is highly likely to be effective).</p>
<b>Equity</b>	<p>Equity refers to whether the option is fair, treating overweight and obese people without prejudice and reducing stigma.</p>	<p>Is it likely to reduce prejudice and stigma associated with overweight and obesity and, if so, to what extent?</p> <p>Two measures:</p> <ol style="list-style-type: none"> <li>1. Yes=2; somewhat=1; or No=0</li> <li>2. If yes or somewhat, how many people will be affected? (Population wide impacts=2; select individuals=1)</li> </ol> <p>Aggregate score: measure 1 multiplied by measure 2<sup>79</sup></p>
<b>Cost</b>	<p>Costs refer to economic costs to implement and sustain the option.</p> <p>(Potential cost savings through improved health outcomes associated with each option, while important, were not assessed as that is beyond the scope of this paper. Nor were costs associated with consequences of any of the options measured, although this is touched upon qualitatively in the analysis chapter).</p>	<p>Are there significantly greater economic costs associated with implementing and sustaining the option above and beyond what has tentatively been planned within the ORS?</p> <p>High, medium, low</p> <p>(Low= no significant costs associated with implementing/sustaining the option; medium= costs somewhat more than proposed ORS to implement/sustain; high= cost significantly higher than the proposed ORS to implement/sustain)</p>

<sup>78</sup> All measures will be determined through a literature review and key stakeholder interviews

<sup>79</sup> This aggregate scoring measure was derived from teachings provided via a policy analysis course in the Master's of Public Policy Program at Simon Fraser University.

<p><b>Political and public acceptability</b></p>	<p>This criterion asks whether or not the government will endorse the option at this time and whether stakeholders support or oppose the option.</p> <p>(Specifically I ask where does it fall on the spectrum of government acceptability, and, based on stakeholder opinions is it likely to become more acceptable over time?)</p>	<p>Primary measure:</p> <ol style="list-style-type: none"> <li>Where does it fall on the spectrum of government acceptability? Measure based on categories stipulated within the Overton Window<sup>80</sup> (Mackinac Centre for Public Policy, 2010; Wikipedia, 2011): <ul style="list-style-type: none"> <li>Unthinkable (1 of 6)</li> <li>Radical (2 of 6)</li> <li>Acceptable (3 of 6)</li> <li>Sensible (4 of 6)</li> <li>Popular (5 of 6)</li> <li>Policy (6 of 6)</li> </ul> </li> </ol> <p>Secondary measure and discussion:</p> <ol style="list-style-type: none"> <li>Based on stakeholder acceptability is it likely to become more or less politically viable in the longer-term?</li> </ol> <p>Measure: more, unknown or less viable in long term</p> <p>(Measure determined based on a qualitative analysis of perspectives of the following groups: food industry, pharmaceutical weight loss industry, medical community, eating disorder community, Fat Acceptance stakeholders, obesity researchers<sup>81</sup>).</p>
<p><b>Implementation complexity</b></p>	<p>Implementation complexity refers to the level of difficulty associated with implementing each option based upon psychological, instrumental and intellectual facilitators and barriers to implementation.</p>	<p>How difficult will the proposed option be to implement?</p> <ol style="list-style-type: none"> <li>Easy, medium, or hard (easy=simple to implement, many facilitators, few barriers; medium=somewhat easy; hard=many barriers to implementation, few facilitators)</li> </ol> <p>What are the barriers and facilitators to implementation?</p> <ol style="list-style-type: none"> <li>Qualitative factors: What are the barriers and facilitators to implementation?</li> </ol>

<sup>80</sup> The Overton window asserts that the “window” of politically acceptable policy options is defined not only by politicians/bureaucrats preferences, but also by degrees of public acceptability. If an idea is seriously unpopular by the public and various stakeholders government is unlikely to continue to endorse the option.

<sup>81</sup> The primary measure of acceptability I am looking at is the extent to which the proposed policy options are politically acceptable to politicians and government staff *right now*. For this measure I draw on literature about the Overton window, which asserts that the “window” of politically acceptable policy options is defined not only by politicians/bureaucrats preferences, but also by degrees of public acceptability. If an idea is seriously unpopular by the public and various stakeholders government is unlikely to continue to endorse the option. Thus, in addition to assessing the political feasibility of each option based upon current government preferences, I also assess the degree to which stakeholder groups are likely to influence the acceptability of each option.

## 7: Analysis of Policy Options

The following matrix summarizes the scoring of each policy option based on my analysis. Boxes highlighted in green symbolize a high scoring, yellow a medium scoring and red a poor rating.

Table 8- Overview of Analysis Findings

Criteria and measure	Option: Surveillance guidelines	Option: "Healthy weight" language	Option: Reinforce weight-centric language and implement ORS as proposed	Option: Sensitivity training with HAES focus for medical professionals	Option: HAES pilot in school(s) and in clinical setting(s)
Efficacy (measure: 0 to 4)	2 of 4	4 of 4	0 of 4	3 of 4	3 of 4
Equity (aggregate scoring)	2	4	0	2	2
Cost (high, medium, low)	High cost	Low cost	Low cost with significant efficiency losses	Medium-high cost	Medium cost
Political and public acceptability (primary and secondary measures)	Sensible (4/6)	Sensible (4/6)	Popular (5/6)	Acceptable (3/6)	Radical (2/6)
	Unknown	Unknown	Less	Unknown	More
Implementation logistics (easy, medium, hard)	Medium	Easy	Easy	Medium	Hard

In the below subsections I provide a qualitative rationale for the scoring choices made and an overview of additional analytic concerns when assessing the merits and drawbacks of each option. In the next chapter I then provide policy recommendations.

## 7.1 Efficacy Analysis

In my analysis of efficacy<sup>82</sup> framing the Strategy in “healthy weight” language emerged as the most effective option. Implementing the Strategy as proposed with an “obesity reduction” focus scored the worst, with the other options having some measure of likely efficacy.

### 7.1.1 Efficacy Analysis of Surveillance Guidelines

The holistic surveillance policy option scored two out of four for efficacy because while it is unlikely to reduce promotion of the weight-centered health paradigm or improve health in the short-term, it will build an evidence-base that will reduce uncritical reliance on the weight-centered health paradigm, possibly facilitating a future shift away from weight-centered approaches. Further, it has a broad reach likely impacting the entire population.

As Dr. Burgard, one of my interviewees stated, “[m]easuring what happens in a more comprehensive way would help down the road, though it would not prevent the harm the weight-centered approach would cause”, and “I think this is promising, because it would make the thin people with the problems associated with higher weight, and the fat people without those problems, show up.” Dr Burgard also pointed out that this option would help policy makers understand that “...BMI is a terrible proxy for health”, and that it would “...also make them face the truth that these (weight-based) programs do have unintended consequences by measuring them<sup>83</sup>.” As discussed by one interviewee

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<sup>82</sup> Considering a range of measures of efficacy, including reducing promotion of, and reliance on, the weight-centered health paradigm, improving health and having a broad scope.

<sup>83</sup> Currently the policy focus is so overwhelmingly on reducing obesity as a means to improve health that there is no attention to the fact that these very efforts may have unintended negative consequences. An evaluation policy to track

associated with the ORS, a greater understanding of the costs of weight cycling would help government shift away from weight-centric approaches in the long-term. Similarly, another interviewee, Marilyn Wann, said, “I think it would be useful to collect data on the damage of a weight-based approach and the oft-overlooked confounding variables”, which she described as class, stigma, stress and diet harms.

A caveat to the likely efficacy of this option is that in order to have maximum impact surveillance would need to be comprehensive, occurring at regular intervals across the population and evaluating all programs associated with the Strategy. Should this not be possible due to cost or other constraints, efficacy may be compromised somewhat.

### **7.1.2 Efficacy Analysis of Framing the Strategy In “Healthy Weight” Language**

This option scored the highest of all policy options in its efficacy measure – four out of four. As stated by Dr. Burgard:

[t]his is also promising because I think it would show policy makers that you don't need to frame health messages as weight-loss to get people motivated, in fact, they seem to have more sustainable practices when they are not burdened with the weight loss agenda<sup>84</sup>.

Dr Burgard also pointed out that:

[a]ssuming the frame could be changed to health, and assuming the moral freighting of health could be addressed, I think offering people lots of ways to optimize their health is a worthy thing. Sustainable health practices that make people feel more *energetic, strong, capable, effective, hopeful* [emphasis added] – all of this is obviously great for physical and mental health. Also, giving people an exit from the experience of weight cycling and failure is essential.

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for unintended outcome variables would render visible the likely negative consequences of “obesity reduction” attempts.

<sup>84</sup> Please refer to my case study findings for an explanation of why de-emphasizing weight has success in improving and sustaining health behaviours in comparison to a weight loss focus.



However, despite the high scoring the “healthy weight” option, it should be noted that given the deeply entrenched cultural beliefs about obesity (Bacon, 2010), as a stand-alone policy option this would not completely eliminate reliance on, or promotion of, the weight-centered health paradigm. Thus, while likely effective on its own, this option would be greatly augmented if implemented in conjunction with other policies to shift away from a weight-centered approach.

Also, there is the risk that this option may be implemented half-heartedly, likely reducing its efficacy, as put by Marilyn Wann, a leader in the field of Fat Studies and author of *FAT!SO?*, “[t]he risk is that people would pay lip-service but still do weight-loss goals and “obesity” talk in actual practice”.

### **7.1.3 Efficacy Analysis of Weight-Centric Language Associated with the ORS**

Implementation of the proposed Strategy using language such as “obesity reduction” scored the lowest of all the options (zero out of four) and is evaluated as likely to be ineffective and to create harm. As revealed through my literature review:

“...there is a growing body of evidence of unintended harm associated with school-based health education programs framed as ‘obesity prevention’, including eating and physical activity disorders” (Shelley, O’Hara, & Gregg, 2011, p 21).

Other critics have alleged that “...obesity prevention in and of itself promotes weight stigma: it says ‘we don’t want anyone to become fat’” (L. Bacon, personal communication, August, 2010). This has enormous implications for the health of British Columbians given that weight stigma is associated with binge eating disorders, less healthful eating habits, avoidance of exercise, body image dissatisfaction, depression and self-esteem difficulties (Puhl et al., 2010). Similarly, as put by Dr. Burgard, there is

“[n]o evidence that this is helpful [and] lots of evidence that this is harmful. [It] [d]oes nothing to change the paradigm”.

#### **7.1.4 Efficacy Analysis of Sensitivity Training with HAES Focus for Medical Professionals**

Online sensitivity training scored three out of four, rating high in its likely efficacy. This option is likely to reduce reliance on, and promotion of, the weight-centered health paradigm and improve health because it will reduce stigma and equip patients with HAES knowledge evidenced to improve health. However, efficacy will be reduced since it is not likely to reach a substantial portion of the population and is limited to the patients of participating medical professionals<sup>85</sup>.

Sensitivity training is an effective tool to mitigate weight bias amongst professionals. Research trials conducted by Mcvey et al. (2009) showed that online sensitivity training reduced weight bias amongst educators and health care professionals. Given the link between weight stigma and discrimination and health, this is therefore likely to improve health, as well as reduce consequences associated with weight-centered approaches, especially if training is infused with HAES research and information. Also, since research suggests that HAES is effective at improving health (Bacon et al., 2005; Rapoport et al., 2000), it is likely that providing physicians with HAES knowledge will better equip them to empower patients to achieve sustainable health habits.

This analysis was supported by key stakeholder data where several interviewees, including those associated with the ORS, agreed that this option would be effective and help reduce stigma, and thus improve health. Sensitivity training was also thought to have

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<sup>85</sup> As put by one interviewee involved with the ORS, the scope of this option could be enhanced by ensuring training is not only available to physicians, but also other primary health care professionals such as nurse practitioners.

the potential to alter attitudes and help BC “...segue into being more weight-neutral” (key stakeholder interviewee).

Although likely effective, but with limited scope, a potential drawback of weight bias or sensitivity training, if not implemented as intended, is that it could easily be mutated to align with current weight-centered approaches. Marilyn Wann touched on this point, “I think it would be fabulous to get HAES [oriented] training to providers!”, but at the same time urged caution, as in her view, ‘sensitivity training’ is a term that can “...so readily be co-opted to promote Fat-hate Lite, a kinder-gentler way of telling fatties they’re sick and wrong”.

#### **7.1.5 Efficacy Analysis of HAES Pilots in School and Clinical Settings**

HAES pilots in the educational and clinical sectors scored three out of four, likely to be highly effective but limited in scope. This is illustrated through the large body of evidence supporting the efficacy of HAES, as opposed to behaviour modification, both in educational (Ominchinski, 1996; Kater, 2005; Kater, Rohwer, & Londre, 2003; Liebman, 2005; Lobel, 1996 as cited in Shelley et al., 2010) and clinical settings (Ciliska, 1998, Rapoport, 2000, Bacon et al., 2005, Tanco et al., 1998, Provencher et al., 2009).

Also, another benefit of this option, despite not having a broad reach, if this option were coupled with a rigorous evaluation, results *may* provide strong evidence for a wider scale shift away from a weight-centered approach in the future.

That said, a caveat to the efficacy of this option, as indicated by Dr. Burgard, is that the intervention would be vulnerable to the attitudes of the implementers. If the

implementers view this as an innovative new way of promoting weight loss it is unlikely to have the same benefits as HAES RCTS have been evidenced to<sup>86</sup>.

## **7.2 Equity Analysis**

In my equity analysis I focused on whether the options were likely to reduce prejudicial treatment and associated stigma of overweight and obesity, and if so, to what extent. The scores were based on a mathematic product of two factors: a numerical rating of whether or not the option would reduce stigma multiplied by a numerical rating attempting to determine the reach of the impacts<sup>87</sup>. Reframing the language associated with the Strategy scored the highest (four), with the current weight-centric language of the ORS scoring the lowest (zero) and the other options receiving a score of two.

### **7.2.1 Equity Analysis of Surveillance Guidelines**

Surveillance guidelines scored two, rating as somewhat likely to reduce weight stigma in the long-term, though possibly not in the short-term and as having population wide impacts. My discourse analysis and interview findings suggest that in the long-term, via collecting evidence on other variables that influence health beyond weight, it is likely this option will, to some extent, minimize the importance of, and moralizing discourse associated with, the perceived harms associated with overweight and obesity. The reason

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<sup>86</sup> Consider for example my case studies, which superior health outcomes in the non-diet groups in the Bacon and Mensinger trials, but in the Rapoport trial the differences between groups was not significant, an important point given than unlike Bacon and Mensinger, the Rapoport study did not encourage intuitive eating or promote acceptance of self regardless of weight to the same extent.

<sup>87</sup> Factor 1: Yes=2, somewhat=1 or No=0, multiplied by factor two. Factor two asked, if yes or somewhat, how many people will be affected? (Population wide impacts=2, select individuals=1). Aggregate score was the product of factor 1 multiplied by factor 2.

for this is policy makers will learn about the conflation of weight and health and possible consequences of this conflation<sup>88</sup>.

### **7.2.2 Equity Analysis of Framing the Strategy In “Healthy Weight” Language**

This option scored the highest (four), because if implemented as intended<sup>89</sup> it is likely to decrease prejudicial policy discourse and reduce stigma about overweight and obesity across the population, a conclusion which held through my interview findings and literature review. As put by Friedman (2000), “[u]nderstanding why people have different body types and sizes helps normalize fat and break down the prejudices around it” (p 31).

Similarly, as Puhl et al. (2010) states:

[t]he recognition that there are obese individuals who are metabolically healthy and non overweight individuals who are metabolically obese challenges weight-based stereotypes (p 1022).

The enormous reach of this option is illustrated by an analysis completed by Dr. Burgard (as cited in Bacon & Aphramor, 2011), whereby the costs of targeting overweight and obese people who are metabolically healthy and not in need of treatment was examined in the United States. She found that using BMI as a proxy for health mistakenly targets 51.3 % of overweight people who have a normal cardiometabolic profile, yet are labelled as at risk for disease and encouraged to lose weight, likely creating significant harm and promoting stigma. Similarly she found that 31.7 % of obese

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<sup>88</sup> While it is likely in the long-term that policy maker knowledge about the consequences and questionable nature of the conflation of weight and health may reduce prejudicial discourse associated with overweight and obesity, this is not guaranteed and unlikely to reduce discriminatory attitudes as a stand-alone initiative. Given our deeply entrenched cultural beliefs about the importance of maintaining a slim weight and the multi-billion dollar annual pharmaceutical industry invested in maintaining a cultural preoccupation with weight and size it is likely that to completely reverse the stigmatizing discourse associated with body size we need to target weight stigma and prejudice from multiple angles (i.e. activism, legal mobilization and increased evidence from surveillance as proposed by this option).

<sup>89</sup> If implemented as intended this option would not only shift from weight-centered to weight-neutral language but would also include an awareness-raising component about the natural diversity of body sizes.

people have a normal cardiometabolic profile. Thus, misidentifying all obese people as requiring weight loss results in prejudicial treatment of individuals solely on the basis of their size.

While this option is likely to be highly equitable and reduce prejudice and stigma if implemented as intended (and genuinely cease attempts at “obesity reduction”), there is the risk if done half heartedly it might continue to promote stigma, but in a more subtle manner. :

[w]hile a name/goal change might reduce stigma, if implementation still focuses on weight-loss goals and “obesity”-blaming, then it would rebound badly... “healthy weight” could become code for “obesity”.

There is also a concern that if stigma is hidden through healthy weight language, but not actually addressed, prejudice will become invisible and be more difficult to eliminate. As Thomas (2010) says:

...I think the more subtle types of fat stigma – which I think are also far more damaging – are much more difficult to respond to (as compared to the more overt types of discrimination, like being fired from a job because you are fat) (np).

### **7.2.3 Equity Analysis of Weight-Centric Language Associated with the ORS**

This option rated poorly, with an aggregate score of zero, as it pre judges all overweight and obese people as requiring weight loss, regardless of health status and is likely to increase weight-based stigma. As put by one interviewee, a medical professional with experience in working with women with eating disorders, “the war on overweight and obesity becomes a war on overweight and obese people”. This is particularly dangerous since “generalizations made about body size and health behaviours... can

further contribute to stigma and misleading stereotypes” (Puhl et al., 2010, p 1021 & 1022).

According to Dr. Bacon, “the predominant concern from the perspective of size acceptance advocates is that the desire for obesity prevention in and of itself promotes weight stigma: it says ‘we don’t want anyone to become fat’, (L. Bacon, personal communication, August, 2010) and “...maintaining a weight-centered focus promotes the idea that fatness is bad, thinness is good, contributing to our cultural weight preoccupation, discounting the value of health [behaviours] and further stigmatizing fat people” (L. Bacon, personal communication, August, 2010)<sup>90</sup>.

#### **7.2.4 Equity Analysis of Sensitivity Training with HAES Focus for Medical Professionals**

Sensitivity training scored two, emerging as likely to reduce prejudicial attitudes amongst professionals, however as with the effectiveness measure, would only impact those receiving the training and their patients. Illustrating the potential to reduce stigma, as per the work of McVey et al. (2009), sensitivity training has been shown to be effective in changing the attitudes of medical professionals and reducing internalized weight bias in research trials. All interviewees felt this would be an effective method of reducing prejudice. As discussed by one interviewee associated with the ORS, weight stigma at the general practitioner level is an enormous concern, and it is through these medical professionals that stigmatizing beliefs about obesity are often reproduced and transmitted to clients. That said, as put by another interviewee, while this option may

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<sup>90</sup> This is also supported in the literature (e.g. see Wann, 2009). To explicate, policies that promote weight loss as feasible, beneficial and within individual control contribute to a value-laden discourse, which some have labelled as healthist (Aphramor & Gingras, 2008) and moralizing and, although largely unexplored, likely to fuel a moral panic about obesity (Boero, 2007), encouraging weight-based discrimination in other sectors (e.g. the media, education, employment).

reduce stigma, it is unlikely to be effective on its own given how all-pervasive cultural attitudes about obesity are.

### **7.2.5 Equity Analysis of HAES Pilots in School and Clinical Settings**

This option scored two, as it is likely to reduce prejudice about overweight and obesity, but will only be equitable for select individuals directly involved in pilots. As stated by Marilyn Wann, “I imagine that HAES training might reduce stigmatizing beliefs among some providers who are open to such ideas... and that would benefit the people they serve”. The success of this option in reducing stigmatizing, prejudicial attitudes amongst professionals is illustrated through an evaluation of the impacts on teachers of administering a HAES curriculum in the education system (Shelley et al., 2010). This study found that teachers had an increased understanding of difference and about the diversity of body types and were better able to respond to students with a supportive attitude.

## **7.3 Cost Analysis**

In my cost analysis, I measured cost only in terms of the degree to which the cost of implementing and sustaining each option would exceed that of the Strategy, however, in the below sections I also provide a qualitative overview of additional cost concerns. My findings illustrate that if cost measurement was limited to implementation and administrative sustainability costs, the status quo and reframing the language associated with the Strategy both have low costs, however if potential costs are considered resulting from the health consequences from a weight-centered approach, these findings do not



hold. Of all the options, only the surveillance option ranked as high cost to implement and sustain.

### **7.3.1 Cost Analysis of Surveillance Guidelines**

The surveillance policy option is estimated to result in the greatest additional implementation costs above what has currently been proposed. As identified by one ORS interviewee, surveying for health behaviours at regular intervals would cost much more than accounting for height and weight alone, although this could be ameliorated somewhat by representative sampling. As discussed by another ORS interviewee, “[f]itness levels are a pretty tough thing to evaluate. It’s expensive”, as this requires complicated measurement techniques above and beyond merely measuring weight and height. The exact cost to implement this option would depend on what kind of surveillance was involved, where it occurred, frequency of measurement, the sample size required and the methods utilized. For example, a one-time survey administered amongst a representative sample of school-aged children is estimated to cost a minimum of \$5,000 per city<sup>91</sup>. Should this occur in every city or region (based on an estimate of 52 major cities, towns and district municipalities [Brinkhoff, 2011]) this would cost \$265,000 provincially per annum. This would need to be calculated in addition to evaluation costs associated with tracking unintended outcome variables within any interventions, as well as with additional methods that would be employed as determined by the Province<sup>92</sup>.

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<sup>91</sup> This estimate is based upon the projected cost for mixed method survey administration (a combination of online and paper surveys), based upon my professional research experience with survey administration in the field of mental health.

<sup>92</sup> In considering this option the Ministry needs to determine who would be most appropriate to bear costs. For example, would the Ministry of Health Services fund all costs associated with surveillance, or would other Ministries (i.e. education) be required to allocate a portion of their budget towards surveillance?

### **7.3.2 Cost Analysis of Framing the Strategy In “Healthy Weight” Language**

This option is very inexpensive to implement. Reframing the ORS as a healthy weight strategy would not cost any additional money. However, as pointed out by one of my ORS interviewees, given that “obesity reduction” is such a politically hot phrase, shifting to a healthy weight focus may imply less dollars from across sectors will be allocated towards healthy eating and exercise as it would not be marked with the same urgency.

### **7.3.3 Cost Analysis of Weight-Centric Language Associated with the ORS**

This option also rated as low cost to implement and when measuring cost as the degree of divergence from what is currently planned, this option fares the best. However, as pointed out by Dr. Burgard, implementation and administrative costs are not the only costs to consider; we must also account for economic costs resulting from the health consequences of weight centric approaches. As Dr Burgard informed me:

Cost is an interesting and slippery issue, because we would want to compare the cost of the current proposal...with any of these. We should also look at the related costs of the failure to act in certain ways under the current proposal and the costs that will ensue from enacting the current policy. Thus: the current policy [the proposed ORS] would [cost] whatever has already been conceived and budgeted, plus the cost of not treating people whose BMI is lower who have health problems, the cost of over-treating the higher BMI people who do not need any intervention (those that are already practicing the recommended health habits, or who are not genetically vulnerable to the health problems often associated with higher BMI...), the cost of ineffective treatment for the people who do need some sort of intervention, the cost of additional treatment needed for the health problems caused by the intervention (iatrogenic illness), which may include: eating disorders in vulnerable individuals, physical and psychological sequelae of weight cycling, harms from teasing and bullying related to weight, etc.

Thus, should we implement the Strategy with weight-centric language, we must also consider that the intended policies may have economic costs associated with worsened health outcomes.

#### **7.3.4 Cost Analysis of Sensitivity Training with HAES Focus for Medical Professionals**

This option rates as medium-high cost. Online sensitivity training would imply slightly enhanced costs, insofar as implementing, and possibly developing, a curriculum, however, given it is online it should not be precluded as a possibility, as to sustain the option would be inexpensive. As one ORS interviewee said, “online is cheap”. Further, depending on whether existing weight bias training is utilized (i.e. Mcvey et al., 2009), or whether an entirely new curriculum is developed this could be more or less expensive. For example, borrowing an existing curriculum evidenced as effective would require less money be targeted at human resources and research into determining what factors would need to be included in the training for it to be a success.

#### **7.3.5 Cost Analysis of HAES Pilots in School and Clinical Settings**

This option was rated as medium cost. Given that this option implies multiple pilots, likely a minimum of one in each of the education and treatment settings, HAES pilots would cost somewhat more to implement than the ORS. The reason that this option did not rate as significantly more expensive than the status quo is two fold. First, the option is a pilot and any expenses will be one-time costs and would not require funding to sustain. Secondly, there is the possibility that the pilots could be undertaken for as low as \$10,000 (if researcher/implementer time was in kind, if an existing curriculum was borrowed and if the follow up was not lengthy). That said, if follow up was extensive, all

staff were paid and an entirely new curriculum was developed this option could cost up to \$1 million (personal communication, L. Bacon, February, 2011).

It is likely that given the possible costs associated with this option, in conjunction with the fact that it is not weight loss focused, the government may be unwilling to fund it, as obesity reduction is high on the political agenda. However as one ORS interviewee told me, the government would be interested in HAES if the health and economic consequences of weight cycling could be demonstrated, which points to the importance of this policy being implemented in conjunction with the surveillance policy option.

#### **7.4 Political and Public Acceptability**

In my analysis of political and public acceptability I considered both political feasibility and stakeholder acceptability, utilizing the Overton Window (Mackinac Centre for Public Policy, 2010; Wikipedia, 2011), a theory that suggests that the “window” of politically acceptable policy options is defined not only by bureaucrats preferences, but also by degrees of public acceptability (with options ranging from ‘unthinkable’ to ‘policy’). If an idea is seriously unpopular by the public and various stakeholders, government is unlikely to continue to endorse the option (Mackinac Centre for Public Policy, 2010; Wikipedia, 2011). Accordingly, through this window I rated each option as ‘unthinkable’ (one out of six), ‘radical’ (two out of six), ‘acceptable’ (three out of six), ‘sensible’ (four out of six), ‘popular’ (five out of six) or ‘policy’ (six of six), based on current acceptability to the primary decision makers: government. As a secondary measure of political and public acceptability, given the strong degree of influence various interest or stakeholder groups have on government decision-making, I also considered the opinions of stakeholders outside of government. In a qualitative analysis of whether or

not various stakeholder groups would be likely to support or oppose each option I ultimately determined whether or not each option was likely to become more or less politically popular in the longer-term.

Based on the primary measure, weight-centric language rated as most politically feasible (‘popular’, five out of six), with surveillance guidelines and refraining the language to “healthy weight” considered ‘sensible’ (four out of six), sensitivity training considered ‘acceptable’ (three out of six) and HAES pilots considered ‘radical’ (two out of six). Analysis of the secondary measure of stakeholder acceptability revealed the importance of stakeholder groups in influencing political feasibility and that the eating disorder prevention community in particular has the potential to shift governmental attitudes from weight-centered to weight-neutral.

#### **7.4.1 Political and Public Acceptability Analysis of Surveillance Guidelines**

##### **7.4.1.1 Primary Measure: Degree of Government Acceptability**

In the primary measure of political acceptability this option rates as ‘sensible’ because, while it is not ‘popular’ at this point, it is something that government officials consider to be prudent public policy. As stated by one ORS interviewee, “that is a reasonable and realistic policy recommendation”. Overall the resounding sentiment of ORS interviewees was that evidence-based decision-making is both important and a priority of government and it would be a smart move to enhance our surveillance policies, accounting for unintended negative outcomes and a larger range of variables impacting on health.

One interviewee discussed how this option would, in an ideal world, be endorsed, but could not guarantee this would be the case, for, as this interviewee discussed, several years ago the government attempted to evaluate the impacts of school based weigh-ins, but continually came up against stakeholder opposition and ultimately chose not to endorse such evaluation. Government endorsement may also be hindered by perception of high costs (see cost subsection)<sup>93</sup> and uncertainty about how this would look on the ground (see implementation logistics subsection).

#### **7.4.1.2 Secondary Measure: Stakeholder Influence Over Degree of Acceptability**

It is unknown whether stakeholders will ultimately succeed in shifting from weight-centered, limited measurement towards more holistic measurement. Given the stakeholder groups for and against this option are deeply divided, as discussed below, whether or not this option becomes more or less politically acceptable in the future will depend on who is able to exert the strongest influence.

At this time there is significant opposition towards this option from the pharmaceutical weight loss industry and obesity researchers. As revealed through my discourse analysis and background research, the pharmaceutical weight loss industry, which largely funds obesity research in Canada (Gingras, 2009), profits enormously from maintaining weight-centered forms of measurement. It is likely that if this option were successful, opinions about BMI and health would change and the pharmaceutical industry in particular would be economically disadvantaged in comparison to the status quo.

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<sup>93</sup> However, as pointed out by one ORS interviewee, surveillance of health behaviours could be based on a representative sample, which would likely cut costs and make it more likely to be endorsed by government.

On the opposite end of the spectrum, through my interviews it became clear that those involved in eating disorder prevention and Fat Studies are in favour of such a policy. What remains to be said, however, is whether the voices of these more marginalized groups are able to match or exceed those of the weight loss industry and the researchers they fund. As put by one of my interviewees involved in eating disorder prevention, “it’s about having enough voices... people who understand and can get together”.

#### **7.4.2 Political and Public Acceptability Analysis of Framing the Strategy In “Healthy Weight” Language**

##### **7.4.2.1 Primary Measure: Degree of Government Acceptability**

This option rated as ‘sensible’ and relatively politically feasible. All governmental interviewees supported this option, agreeing that government would prefer to market the Strategy as “healthy weights”, that in fact this may be how it would be promoted and that there were no major barriers to government endorsement of the option. This consensus was underscored through my literature review, as illustrated through the following quote: “...the public health focus must be on promoting healthy eating in balance with regular physical activity, rather than focusing on weight loss ” (PHO, 2006, p 45).

That said, while this option rated as politically feasible, it is unlikely that it would be endorsed in its truest sense through which a genuine shift away from an “obesity reduction” intention would be required. Rather, it is more likely that while the Strategy would be framed in “healthy weight” language, the underlying intention would still be “obesity reduction”<sup>94</sup>. As one ORS interview discussed, it was expected that the

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<sup>94</sup> Which would reduce effectiveness.

government may wish to market the Strategy in “healthy weight” language, but internally government would continue to prioritize obesity reduction.

One possible explanation for this partial endorsement, is that given obesity is a highly emotive issue, if the government was to seek to move away from “obesity reduction” general public opposition could prove problematic, which may hinder government willingness to adopt this option. Public perceptions about the dangers of obesity are so great and cultural beliefs about weight so deeply entrenched that should the government desire to truly shift towards promoting “healthy weights” public opposition may limit the extent to which government would be able to endorse the option.

#### **7.4.2.2 Secondary Measure: Stakeholder Influence Over Degree of Acceptability**

As with the above option, this policy alternative rates as ‘unknown’ in stakeholder ability to influence acceptability. In contrast to the supportive government opinions about this option, one interviewee involved in Fat Studies pointed out that given the strength of the economic interests (i.e. pharmaceutical industry and obesity researchers) invested in maintaining an obesity reduction focus, it was unlikely we will see a true shift away from obesity focused programming.

Conversely, given that the eating disorder and Fat Acceptance communities support this option<sup>95</sup>, corporate interests may be mitigated somewhat, however as with the above option, the extent of their influence will be determined by the strength of their

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<sup>95</sup> The support of the eating disorder and Fat Acceptance community was illustrated by my interviews. All eating disorder prevention experts and Fat Acceptance stakeholders (i.e. the two Fat Studies scholars) supported this option and desired to see it implemented. The reason for this support is that this option has the potential to reduce weight stigma, likely reducing the incidences of eating disorders and weight-based discrimination.



voices. These stakeholders may wish to consider coordinating their efforts to leverage their collective power.

### **7.4.3 Political and Public Acceptability Analysis of Weight-Centric Language Associated with the ORS**

#### **7.4.3.1 Primary Measure: Degree of Government Acceptability**

This option rated as ‘popular’ on the political feasibility scale. As put by one interviewee associated with the ORS, obesity reduction is “...really, really hot on the political agenda”, given the increasing concerns about obesity and its health consequences. Other interviewees associated with the ORS supported this conclusion.

#### **7.4.3.2 Secondary Measure: Stakeholder Influence Over Degree of Acceptability**

In contrast to the high degree of current political acceptability of this option, it is likely that over the long-term it will become much less politically acceptable to promote “obesity reduction”. Activist groups and scholars in the Fat Studies movement assert that promoting obesity reduction should actually be considered weight discrimination<sup>96</sup>. In fact, there is a rapidly growing interdisciplinary field of scholastic inquiry known as Fat Studies, dedicated in part to examining weight discrimination and to exploring the correlations between weight stigma and the promotion of weight loss as feasible and beneficial. Despite the fact that government voices are getting louder as they call for obesity reduction, so too are the voices of Fat Studies scholars and activists<sup>97</sup>, increasing

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<sup>96</sup> For example, as put by Dr. Bacon, “The predominant concern from the perspective of size acceptance advocates is that the desire for obesity prevention in and of itself promotes weight stigma: it says ‘we don’t want anyone to become fat’, sending a message to everyone that there is something wrong with fatness” (personal communication, L. Bacon, August, 2010).

<sup>97</sup> As seen through growing media coverage dedicated to discussing the unacceptability of weight-centered approaches and the desirability of a HAES approach (e.g. see a recent New York Times article on HAES [Michael, 2011]). Similarly, see Wann (2009) for an overview of the burgeoning field of Fat Studies and related efforts, or

the likelihood of influencing change, and indeed, change has begun to occur<sup>98</sup>. As put by Dr. Burgard, “[m]any people respond to the obvious unfairness of weight discrimination and hostility”.

Needless to say, select groups will exert their considerable influence to maintain an obesity reduction focus, such as the pharmaceutical industry<sup>99</sup> or obesity researchers<sup>100</sup>, both of whom profit enormously from weight-centered health policies. However, in the end, considering the ethical implications of promoting the weight-centered health paradigm government should seriously consider whether it is morally appropriate to consider the desires of industry in population health decisions.

#### **7.4.4 Political and Public Acceptability Analysis of Sensitivity Training with HAES Focus for Medical Professionals**

##### **7.4.4.1 Primary Measure: Degree of Government Acceptability**

This option rated as acceptable in its measure of political feasibility. As one interviewee – a medical professional – discussed, enhancing primary care is a political priority. Similarly, interviewees associated with the ORS did not feel this option was out of the realm of political possibility. As pointed out by one interviewee, the Fraser Health Authority recently sponsored an event dedicated in part to increasing awareness of weight

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Bacon and Aphramor (2011) for a recent article alleging that prescribing weight loss is unethical and providing an excellent overview of other scholarly efforts with the same message.

<sup>98</sup> Consider, for example that Fat Studies scholars and size acceptance activists Marilyn Wann and Sandra Solovay succeeded in implementing a weight-based discrimination law in San Francisco, with similar laws successfully implemented in other jurisdictions (e.g. Santa Cruz, California, Seattle, Washington, Washington, D.C., and the state of Michigan) (Cullum, 2000; Library Index, 2011). Similarly, examining the intersections between weight and health is emerging on the academic agenda, as illustrated through a number of universities internationally that have recently instituted Fat Studies courses. HAES groups, who form a central pillar of the Fat Studies community have also successfully influenced the policy discourse in the US, for example, the Surgeon General recently announced support of a HAES principle stating that “...people can be healthy and fit at whatever size they are” (Benjamin as quoted in Bacon, 2010b, np).

<sup>99</sup> Estimated revenue of the pharmaceutical weight loss industry is not available in Canada, however, in the US, this is estimated to be \$58.6 Billion annually (Marketdata Enterprises Inc., 2009)

<sup>100</sup> Many of whom are funded by the pharmaceutical industry (e.g. see Gingras, 2009).

bias amongst clinicians. Moreover, the Final Report of the Treatment Working Group associated with the ORS (PHSA, 2010C) mentions the need to change attitudes about overweight and obesity amongst medical professionals, suggesting that this option is already on the political agenda.

That said, historically it has been difficult for the Province to unilaterally implement province-wide initiatives and solicit physicians participation. Consider, for example, Electronic Health Records, whereby despite the Province's efforts, buy-in amongst providers has been a lengthy process (Auditor General of BC, 2010). This option requires similar buy-in from primary care providers and a willingness to participate. As elaborated upon below, given that primary care providers *may* not be immediately be willing to support an initiative of this sort (medical interviewee), it is possible that the government may choose to not endorse this idea at this time, or only endorse it on a limited, 'participation optional' scale.

#### **7.4.4.2 Secondary Measure: Stakeholder Influence Over Degree of Acceptability**

It is unknown whether stakeholders will make this option more or less politically acceptable over time. On one hand, whether it becomes more or less acceptable depends on how physicians – the primary targets of the option – would react. Unfortunately, at this time, as put by one medical professional interviewee:

I can't imagine that that is something most doctors are going to be interested in at first glance... it will be how it is positioned to make it appealing... I think in the context of eating disorders might be the way to do it... say look this is eating disorders prevention.

This illustrates that while it may not immediately be acceptable to medical professionals, if advocacy groups (i.e. eating disorder prevention, fat rights groups) are

able to stand behind this option and lobby for it forcefully and effectively, possibly framing it as eating disorder prevention, it will more likely be endorsed by the government.

#### **7.4.5 Political and Public Acceptability Analysis of HAES Pilots in School and Clinical Settings**

##### **7.4.5.1 Primary Measure: Degree of Government Acceptability**

This option rated as ‘radical’ in its measure of political feasibility, as none of my ORS or governmental interviewees saw it as particularly politically feasible. To put it simply, as one ORS interviewee discussed:

...in order for us to adopt and... stand behind a model and... financially support a model we need to be able to recognize it and promote it as a way to decrease the medical costs associated with obesity<sup>101</sup>.

##### **7.4.5.2 Secondary Measure: Stakeholder Influence Over Degree of Acceptability**

This option rated as ‘likely’ to become more politically viable in the long-term, as it is supported by most stakeholders. In fact, unlike other options, stakeholder opposition from the pharmaceutical weight loss industry should not be a problem, as the option is presented as a pilot, not a radical shift in government policy. In fact, save for perhaps the medical community, this option would highly acceptable to a range of stakeholders. For instance, it is likely that the eating disorder community would endorse and support this option, as argued by one interviewee, “...there are organizations in BC that would be really, really interested in that model”. As with other options, whether or not ultimate implementation occurs depends on the ability of stakeholder groups in favour of this option to mobilize and influence policy. Given the unlikelihood of government funding

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<sup>101</sup> Marketing HAES as a weight loss technique goes against the foundational premise on which the success of HAES is based (see case study findings).

this option as part of the Strategy, if stakeholders are interested in this model, as appeared to be the case through my eating disorder prevention interviews, such groups would have to pursue their own funding (e.g. through a Canadian Institute of Health Research grant).

## **7.5 Implementation Complexity**

In this subsection I assess the difficulties associated with implementing each policy option and include a qualitative discussion of barriers and facilitators to implementation. My analysis shows that the option of framing the Strategy in “healthy weight” language and implementing the option as intended with weight-centric language will be the simplest. The surveillance option and the sensitivity training are both assessed as of medium difficulty to implement and the HAES pilots as challenging to implement.

### **7.5.1 Implementation Complexity Analysis of Surveillance Guidelines**

This option was rated as of medium difficulty to implement. On one hand, it could be relatively easy to implement as substantial changes would not be required to overall strategic direction. As Dr. Burgard alluded to, a potential facilitator from a practicalities perspective could include a pre-existing intention to measure weight and possibly health behaviours, which could easily be expanded upon. As she said, “...it is somewhat easy to measure more things within the existing plans”.

On the other hand, an instrumental barrier that could impede implementation is the difficulty and practicalities associated with comprehensive surveillance. Indeed, there may be potential difficulties in determining what constitutes a “healthy” behaviour. As put my one ORS interviewee, how do we determine “...what’s a serving of fruits and vegetables?” Similarly, another interviewee associated with the ORS pointed out,

realistically it would be difficult to measure for things like fitness levels or disordered eating. However, given that we have many RCTs with validated scales from which to draw on in learning to measure things like fitness and diet, this should not be insurmountable, rather, it should imply a learning curve as we consider what needs to be incorporated in measurement.

Similarly, as discussed by one ORS interviewee, a psychological barrier to implementing this option would be the perception amongst some that tracking for unintended consequences may in and of itself create unintended negative consequences. As this interviewee pointed out, there is concern that if we try and evaluate things like body image dissatisfaction we may inadvertently place an increased emphasis on body image.

A facilitator worth mentioning, which may help overcome possible implementation barriers is concurrent implementation of HAES pilots. As Marilyn Wann informed me:

If the HAES test project gathers data (like the stuff you mention in [the surveillance policy option]), then that's a basis for arguing that the wider programs should gather the same data, for comparison/compatibility/continuity, etc. So there's a way you can leverage [HAES pilots] to also get [surveillance guidelines].

### **7.5.2 Implementation Complexity Analysis of Framing the Strategy In “Healthy Weight” Language**

This option rated as ‘easy’ in terms of implementation complexity, as it would require only a decision to be made by high-level officials from the Ministry of Health Services that all activities undertaken on behalf of the Strategy use the new language. That said, if this option were done so as to maximize efficacy, it would also involve

education and marketing about the natural diversity in body weights, which would be more difficult, as it would require a substantial shift on both attitudes<sup>102</sup> and norms, insofar as how policy makers think about and talk about obesity.

### **7.5.3 Implementation Complexity Analysis of Weight-Centric Language Associated with the ORS**

As with the above option, this alternative also rated as ‘easy’ in implementation complexity as the policy option would not require additional work above what is already intended. In essence, the implementation of this would be facilitated by pre-existing intention to act.

### **7.5.4 Implementation Complexity Analysis of Sensitivity Training with HAES Focus for Medical Professionals**

This option was rated as of medium difficulty in implementation complexity since it requires buy-in from doctors (ORS interviewee), as ultimately whether or not doctors participate will be at their discretion. It also requires someone to develop the curriculum and to ensure it is available online across the Province. As Dr. Burgard stated, “...to do this right will require training and time and money...It is more of an uphill climb in cost, politics, and logistics to do weight bias training”.

This option did not rate as excessively difficult, however, as there is pre-existing interest to reduce medical professional weight bias amongst individuals involved in the ORS and given that the logistics of setting this up through an online medium would be relatively simple. As an eating disorder prevention interviewee shared with me, this

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<sup>102</sup> Attitude shifts regarding obesity are likely to prove complex as changing attitudes requires changing beliefs (Steg & Rothengatter, 2008), which is difficult in this context as it would require widespread awareness of the questionable nature of the correlations between health and weight. It would also require the cultural meanings about weight to change (i.e. fatness would likely need to cease to be seen as morally and socially inferior).

option would also be facilitated by ongoing work occurring in Ontario by McVey et al. (2009), from whom BC could turn to help navigate implementation challenges. The Province may wish to consider contacting McVey and investigating whether her curriculum could be borrowed. Similarly, should the Province develop their own curriculum, McVey would be a valuable resource to contact during the development phases.

#### **7.5.5 Implementation Complexity Analysis of HAES Pilots in School and Clinical Settings**

This option is assessed as the most difficult to implement in the context of the Strategy. HAES is a significant divergence from the weight-centered health paradigm and requires a substantial attitude shift. As discussed by one ORS interviewee, a substantial barrier to implementing this would be the current lack of knowledge about HAES within government. This same interviewee also informed me that government would more likely be interested in this if it could be shown to promote weight loss, given the current governmental emphasis on obesity reduction. However, promoting weight loss is in opposition to the intent of HAES, illustrating the significant attitude shifts that would be required to successfully implement this option.

As discussed by one ORS interviewee, one possible facilitator of implementation is that if more information were available on the health and economic costs of weight cycling then implementation would be more likely. Unfortunately, at this time, such evidence is limited, especially in Canada, making it unlikely to be pursued. This does suggest, however, that this option would more likely be implemented in the long run if preceded by the surveillance policy option.



Another difficulty with recommending this option in the school system, as pointed out by an ORS interviewee, is that the education sector is already over burdened and their budget stretched thin<sup>103</sup>. Ultimately, in order to successfully implement this option, it would likely have to happen outside the government and would require a champion, likely in the eating disorders sector.

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<sup>103</sup> For example, Underleider (2004) discusses in his book how teachers have too many activities to undertake in allotted time periods, teachers are underpaid and schools under resourced.

## **8: Recommendations**

Based on the policy analysis findings, I present below three recommendations for the Ministry of Health Services and other government officials involved with the Obesity Reduction Strategy to consider. In addition, given conclusions drawn about the importance of stakeholders in influencing policy change, I also present one recommendation specifically targeted towards the eating disorder prevention community and associated stakeholders.

### **8.1 Recommendations for Government**

This subsection provides recommendations to government, prioritized in order of how highly the option ranked across all criteria in my analysis. I make three recommendations, which I detail below, including surveillance guidelines, sensitivity training and framing the Strategy in “healthy weight” language.

I do not recommend implementing the proposed Strategy with “obesity reduction” language for reasons outlined in my analysis chapter, background section and discourse analysis findings, primarily because such language is harmful to health and discriminatory. Nor do I recommend HAES pilots be pursued by government, but rather by external stakeholders in the eating disorder prevention community. The reason for this is HAES pilots did not score high enough in its measure of political feasibility.

### **8.1.1 Government Recommendation One: “Healthy Weight Language”**

Given the ease with which framing the Strategy in “healthy weight” language could be undertaken, in addition to the low cost, political acceptability and likely effectiveness, the Province’s proposed Obesity Reduction Strategy should be reframed as a “healthy weight” strategy. There are virtually no drawbacks or reasons why this option should not be implemented and from an ethical perspective it can be seen as imperative given the stigma associated with “obesity reduction”. It is important, however, in adopting this option to avoid tokenizing the notion of “healthy weights” and to attempt to genuinely shift away from healthist and moralizing obesity reduction policies.

### **8.1.2 Government Recommendation Two: Surveillance Guidelines**

Given the likely effectiveness of implementing comprehensive surveillance guidelines, this option is imperative as the Province moves forward in attempts to increase healthy living. An additional reason this option is important is that it is a precursor to further steps towards a weight-neutral agenda. For example, prior to the HAES pilot policy option becoming politically feasible, a case needs to be made for the health (and economic) consequences of weight cycling in BC<sup>104</sup>. Given evidence disputing the weight-centered health paradigm, if BC wishes to avoid iatrogenic harms resulting from our health care policies, this option is a necessity.

### **8.1.3 Government Recommendation Three: Sensitivity Training**

Given that sensitivity or weight bias training is likely to be effective at reducing reliance on, and promotion, of the weight-centered health paradigm, somewhat politically

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<sup>104</sup> Further, surveillance guidelines also will assist in implementing the policy option of framing the Strategy in “healthy weight” language. As discussed by interviewee associated with the ORS, a greater understanding of the costs of weight cycling would help government shift from weight-centered to healthy weight language.

acceptable, relatively affordable and easy to implement, proceeding with online weight bias training with HAES components for medical professionals is also recommended. The Province should begin by contacting McVey et al., to look into the feasibility of borrowing or adapting her pre-existing weight bias curriculum. If this is not possible the Province will need to contract with an appropriate professional to begin developing curriculum<sup>105</sup>, or possibly convene an intersectoral working group with a variety of expertise (i.e. HAES proponents, eating disorder professionals, diversity specialists). In developing an action plan, government should consider logistical issues such as whether it would be offered to a limited number of health professionals as a pilot, or implemented on a wider scale.

## **8.2 Recommendation for Stakeholders in the Eating Disorder Prevention Community**

This recommendation is directed towards stakeholders and professionals in the eating disorder prevention community in BC, who, it emerged through my key stakeholder interviews, are very interested in synthesizing obesity reduction and eating disorder prevention policies and shifting away from weight-centered approaches. As discussed in my analysis chapter, given the influencing power of stakeholder groups on government decisions and what is politically acceptable, this is one way to create change. Thus, I recommend those involved in eating disorder prevention come together to form a committee<sup>106</sup>, dedicated to synthesizing eating disorder prevention policies with the

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<sup>105</sup> It is recommended that the province contract Gail McVey who has done similar work for her insights and the Fraser Health Authority who recently held a one day session dedicated in part to weight bias training for mental health clinicians. It is possible that Gail may permit use of her pre-existing weight bias curriculum be used by the Province.

<sup>106</sup> Such a committee could feasibly involve those in the mental health sector, involved in eating disorder treatment (e.g. through the St. Paul's eating disorder program or the eating disorder program at BC Children and Women's Hospital) or through those involved in eating disorder prevention (i.e. Jessie's Legacy).

governments obesity reduction policies, and to advancing a socially just, weight-neutral agenda.

The committee should consider:

1. Advancing the Health at Every Size agenda through:
  - a. Locating and securing an individual or group of researchers in the province interested and able to carry out a HAES research trial. This individual or group should be encouraged and supported to apply for external funding to undertake this work (i.e. through the Canadian Institute of Health Research)<sup>107</sup>.
  - b. Allocating funds from their respective organizational budgets to bring in a dedicated and knowledgeable HAES expert (i.e. Dr. Linda Bacon, author of *Health at Every Size: The Surprising Truth About Your Weight* (Bacon, 2010) and principal investigator of a research trial comparing the efficacy of HAES to a diet intervention [Bacon et al., 2005]).
2. Promoting uptake of and awareness about weight bias or sensitivity training. This could possibly include developing a resource list of existing weight bias curricula and advocating for the government to implement weight bias training within the Strategy.
3. Preparing a discussion paper for government review, considering topics such as the economic costs of weight cycling and cost savings associated with synthesizing eating disorder prevention and obesity reduction policies.

In the following section, prior to concluding, I discuss limitations of my work, areas for future research and other policy considerations.

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<sup>107</sup> This was suggested by one of my interviewees, a Fat Studies scholar. It is likely that if the committee is able to come up with evidence about the success of HAES independently of government it would likely have significant implications towards a future shift away from weight-centered approaches.

## **9: Discussion of Limitations and Future Research**

Limitations to this Capstone included: constraints related to methodology; a lack of extant literature discussing the weight-centered paradigm in public policy; and constraints on the scope policy options and recommendations, insofar as while policy options will facilitate a shift towards a weight-neutral paradigm, they will not completely eliminate the weight-centered health paradigm and its consequences. All of these limitations point to the need for future research and are explicated upon below.

Limitations to methodology are reflected both through case studies and discourse analysis. For example, case studies were constrained by the availability of only three RCTs comparing the efficacy of diet and non-diet groups across psychological, physiological health outcomes and health behaviours. Further RCTs will need to be conducted to more broadly generalize findings about the effectiveness of HAES, especially amongst populations that remain unexplored (i.e. men, those under 18 and populations with unique needs such as diabetes or other health concerns).

Discourse analysis was similarly limited in its generalizability. Specifically, the analysis of discursive practices of BC policy texts was limited in that several studies cited indirectly through the policy documents were not located (see Appendix C) given the short time frame for this Capstone. Further, while the analysis of discursive practices effectively calls into question the evidence base of BC policies, further exploration would be required to determine to what extent these findings hold across the country and internationally.

One additional drawback of this research is the lack of literature to date examining the relationships between public policy promotion of the weight-centered health paradigm and subsequent health consequences. While much research exists examining weight-centered approaches to health at the individual level, such research does not consider in any depth how this translates into policy. This Capstone is the first in depth investigation into the relationship between the harms of the weight-centered health paradigm and public policy. Further research is required to build upon this work and to enhance understandings about the extent to which harms, especially stigma, from which other consequences may flow, result from social emphases on thinness as an aesthetic and cultural ideal, versus policy promotion of thinness as necessary for health. It is recommended that two methods be used to explore this: i) a qualitative exploration of the source and origins of weight discrimination, explicitly focused on deepening understandings about the extent to which stigma and discrimination originate from public policy; and ii) a large scale survey examining the origins and consequences of weight stigma amongst a representative sample.

Additionally, when presenting policy options, this Capstone only considered those that could be easily synthesized with the proposed Obesity Reduction Strategy. This decision was made to maximize the uptake of the proposed options, however as a result, policy options in this paper were limited in that they did not provide a comprehensive portfolio of diverse options which would effectively tackle stereotypical cultural beliefs about fatness, necessary if we are to genuinely reduce consequences of the weight-centered health paradigm. A specific gap in options presented and analyzed was a society-wide media strategy. In moving forward, the Government and other stakeholders

should consider the role of social marketing and a fulsome media strategy in mitigating possible harms resulting from obesity reduction. Such a strategy would help disentangle cultural messages about fatness from health messages and reduce weight prejudice.

In the following section I summarize my research and recommendations for the British Columbia.



## 10: Conclusions

To date British Columbia's approaches to health promotion have been largely weight-centered, resulting in a healthist and moralizing dominant obesity discourse likely to cause harm (i.e. weight cycling, eating disorders, mental health issues and social stigmatization). Fortunately, the government – and other interested stakeholders – currently have a unique window of opportunity. With the proposed Obesity Reduction Strategy there is a decision to be made: to strengthen weight-centric approaches, or to move towards socially just, weight-neutral, Health at Every Size-informed health promotion policies.

This Capstone presents options for the government – and other interested stakeholders – to shift away from weight-centered policies. As the title of this Capstone suggests, such a shift is not only medically necessary, but also morally imperative. Research has shown that weight-based discrimination is now on par with race- or gender-based discrimination (Puhl, Andreyeva, & Brownell 2008). Particularly concerning is the role of government in inadvertently promoting weight-based discrimination. For example, the concept of '*systemic*' or '*institutionalized*' discrimination can be aptly applied to health care policies concerned with reducing and preventing overweight and obesity for the following reasons:

1. Policies promoting weight loss generally do not acknowledge the health consequences associated with weight loss attempts (e.g. eating disorders and harms from weight cycling).

2. There is no known method for the achievement of long-term weight loss in a significant proportion of the population (Campos et al., 2005), yet policies continue to promote weight loss as a realistic goal.
3. Policies fail to acknowledge the corpus of research which demonstrates that those in the overweight category live longer than those in the under or normal weight categories (Flegal et al., 2005), and neglect the evidence that shows that morbidity and mortality do not increase in significant ways until one's BMI is over 35 (Campos et al., 2005).
4. Research has demonstrated that more nutritious eating habits and increased exercise can improve health independent of weight loss (Appel et al., 1997; Bacon et al., 2005; Fagard, 1999; Kraus et al., 2002) suggesting that weight may be a proxy for other variables.
5. Policies that promote weight loss as feasible, beneficial and within individual control contribute to a value-laden discourse, which some have labelled as healthist (Aphramor & Gingras, 2008) and moralizing and, although largely unexplored, likely to fuel a moral panic about obesity (Boero, 2007), encouraging weight-based discrimination in other sectors (e.g. the media, education, employment).
6. In turn, weight stigma in these sectors is associated with higher rates of depression and other mental health issues (Eisenberg et al., 2003; Friendman et al., 2005).

In light of this data, in conjunction with the evidenced efficacy of HAES as presented through my case studies, a paradigm shift is required. We must move away from weight-centered, harmful approaches of the past towards policies and programs that have been proven as successful in improving health. Thus, the Province should incorporate the following three policy options into the Strategy: online weight bias training for primary health care professionals; framing health promotion initiatives as “healthy weight” strategies rather than as “obesity reduction”; and ensuring surveillance

of health includes variables beyond weight (e.g. health behaviours and socioeconomic status) and tracks for unintended outcome variables (e.g. eating disorders).

In addition to this, stakeholder groups such as those in the eating disorder prevention community should leverage their considerable collective power to influence the government to shift away from the weight-centered health paradigm. For stakeholders interested in influencing public policy I recommend the establishment of an intersectoral committee, committed to synthesizing eating disorder prevention with the government's obesity reduction agenda.

Ultimately however, while the policy recommendations put forward in this paper may have a modicum of success, they are unlikely to facilitate a complete shift to a truly weight-neutral paradigm that is required if we are to claim to be a society committed to social justice, ending discrimination and to the wellness of all citizens. Given the current political climate around obesity I did not consider more radical policy alternatives such as a paradigm shift from a weight-centered to weight-neutral paradigm. The government, however, would be advised to keep the benefits of a more thorough shift to a weight-neutral paradigm in mind (possibly facilitated through a large-scale media campaign), particularly given increasing evidence emerging from the field of Fat Studies alleging that attempts at "obesity reduction" are stigmatizing and discriminatory (Bacon & Aphramor, 2011; L. Bacon, personal communication, August, 2011; Wann, 2009) and the trend towards legal action as a means of redressing weight discrimination (Khullar, 2009; National Association to Advance Fat Acceptance, 2011; Puhl & Heuer, 2011; The Council on Size and Weight Discrimination, 2011). While legal mobilization has yet to include 'systemic' weight discrimination, this is not out of the realm of future possibility

as evidence continues to be generated from within Fat Studies about the discriminatory aspects of policies designed to reduce obesity.

## **Appendices**

## **Appendix A- Description of Background Research and Introduction to the Weight-Centered Policy Documents in BC**

Background research was undertaken to understand the arguments for and against the weight-centered health paradigm both in Canada and internationally and to explore whether or not the weight-centered paradigm was present in BC.

I began with a scan for relevant articles from search databases including PubMed, pubget, Google Scholar, Google, the SFU ebrary Library Database, Health Source, and the Humanities and Social Sciences Index. Through these databases I performed key word searches such as: ‘obesity’, ‘culture and obesity’, ‘obesity and prevention’, ‘obesity and discrimination’, ‘fat’, ‘weight stigma’, ‘overweight and obesity BC’ and ‘obesity reduction BC’. In addition, relevant Canadian and international government websites were searched for links to government and non-governmental organization publications related to obesity to assist in providing an overview of mainstream thinking around obesity. Specifically I searched: the World Health Organization, The Public Health Agency of Canada, Dieticians Canada, the Provincial Health Services Authority, the Heart and Stroke Foundation, the Government of British Columbia website and the Health Canada website. I also relied heavily upon vetting resources off the reference lists from articles or studies that were of particular relevance to my topic area (i.e. those talking specifically about the weight-centered health paradigm and its consequences or challenging dominant assumptions about obesity).

As part of both my background research and as a precursor to my discourse analysis, I reviewed five seminal obesity-related policy documents that were located through my background literature review. Specifically, I looked at: Jayatilaka (2009), BCHLA (2010), Legislative Assembly of BC (2006), Heart and Stroke Foundation (2009) and PHSA (2010), which I used in both my literature review and subsequently in my discourse analysis.

My purpose of reviewing these documents through background research was to examine the extent to which they adhered to central tenets of the weight-centered health paradigm. My findings regarding the existence of the weight-centered health paradigm in these documents are presented below, following a brief overview of the texts.

### *About the documents*

The Jayatilaka, 2009 document was a paper prepared under contract with the ORS to help design the process and structure of the Obesity Reduction Strategy, and includes an outline of perceived health consequences of obesity and ideal ways to address obesity based on international evidence. The BCHLA (2010) document presented recommendations to the government for a whole-of-government approach to address obesity, believed to be at epidemic proportions. The Legislative Assembly of BC (2006) document was explicitly intended to provide recommendations to address childhood obesity focused around behaviour change. The Heart and Stroke Foundation (2009) document was a short position paper, discussing the “problem” of obesity and preferred

options for intersectoral action. Finally, the PHSA (2010) document is the Final Report prepared for the ORS on behalf of the Food Working Group.

*Tenets of the weight-centered health paradigm in BC*

All five documents adhered to tenet one of the weight-centered health paradigm (*that overweight and obesity are associated with excess energy intake and inadequate energy expenditure*), with the exception of the Heart and Stroke Foundation text, which did not address the causation of obesity. The remaining four documents all supported the energy balance equation, for example:

It is widely understood that obesity results from an imbalance between energy intake (food) and expenditure (Jayatilaka, p 32).

We know that people who are physically active and eat a healthy diet are much less likely to suffer from overweight or obesity (BCHLA, 2010, p 1).

...the likelihood that a child or adult will be overweight or obese occurs when caloric intake through the meals, drinks and snacks consumed exceeds the level of energy expended (Legislative Assembly of BC, 2006, p 13).

Tenet two (*that weight is reflective of health status and can predict future health outcomes*) is implicitly woven into the discussions in all five documents. For example, within the PHSA food Working Group report, we see the assumption that weight is reflective of current and future health status when reading about the three-fold goals of the Strategy (to reduce obesity; to increase physical activity and increase healthy eating). Considering this is embedded within an overarching goal of “obesity reduction” I conclude that there is the underlying assumption that overweight and obese people are eating less healthfully and exercising less often than thin people, and thus are less healthy. Also within the food Working Group report (PHSA, 2010) we see use of the term “healthy weights” which implies that there is a certain weight range a person needs to fall within to optimize their health, and fails to acknowledge the natural diversity in human body size.

Tenet two is also clear within Jayatilaka (2009), as seen through statements such as “...overweight and obesity greatly increases the risk of developing Type 2 diabetes, cardiovascular diseases [and] some types of cancers and musculoskeletal disorders” (p 10), statements which do not acknowledge the significant role of food choices and exercise habits in health outcomes. Similarly, tenet two emerges from the BCHLA (2010) report through the following statement:

...we are aware that obesity is in part the result of a more sedentary lifestyle and in part resulting from the types of foods and beverages we consume. There needs to be a shift in lifestyle and mentality to make time for physical fitness and healthy eating, and to value our health (p 3).

Through this, the assumption that obesity is unhealthy becomes clear, and we see the belief that people who are obese do not eat as well, nor exercise as often as thin people, thereby valuing their health less and increasing their risk of negative health outcomes.

To illustrate tenet three (*that excess weight causes morbidity and premature mortality*), all five reports I examined concluded that overweight and obesity are causally linked with early death and disease, with the exception of the Food Working Group report, which did not discuss the consequences of obesity. For example:

...overweight and obesity pose a major risk for serious diet-related chronic diseases (BCHLA, 2010, p 1 and 2).

[b]eing overweight and obese are major risk factors for developing chronic disease – from heart disease and stroke to diabetes, musculoskeletal disorders and some types of cancers (Jayatilaka, 2009, p 7).

Tenet four of the weight-centered paradigm (*that weight loss is both possible and sustainable, and such methods are well known to science*) is also illustrated through all five documents, though less obviously. Within British Columbia there is recognition that weight-loss is difficult to achieve, a fact that has largely been attributed to the complex aetiology of obesity, which is believed to be the result of an interplay of environmental and biological factors. Nonetheless, all documents I reviewed posited that if strategies adequately address the multiple determinants of obesity in a coordinated manner, long-term weight loss and obesity reduction will be possible, despite the fact that no country has achieved this feat to date at a population level. There was no discussion of the difficulties in sustaining intentional weight-loss in any of the five documents I reviewed.

Tenet five of the weight-centered health paradigm (*that losing weight to achieve “normal” or “healthy” weight will improve health*) appears to be so widely accepted as a given, that none of the documents explicitly discussed potential health gains from weight loss. As an example of a comment in support of this conclusion the BCHLA (2010) states that successful measures to promote behaviour change “...will prevent chronic disease and benefit everyone” (p 2).

Tenet six (*that weight is at least partially volitional*) also was strongly supported in the documents I reviewed, perhaps with the exception of Jayatilaka (2009), through which we begin to see an increasing emphasis placed on the environment as opposed to individuals. As an example of the focus on individual volition, the BCHLA (2010) states that, “[t]he causes of obesity are complex. However we are aware that obesity is in part the result of a more sedentary lifestyle and in part resulting from the types of foods and beverages we consume” (p 3). Similarly the Heart and Stroke Foundation (2009), when discussing policies to reduce obesity, promotes behaviour change as one such approach. Along the same vein, the Standing Committee (2006) stipulates that “[o]verweight and obesity in the general child population emerges as a result of the individual and physical activity decisions made by parents and children”, however goes on to say, “...obesity is also an environmental disease formed by the interaction of a multitude of factors” (p 13). Shifting more towards an increasing recognition of the obesogenic environment, as



opposed to individual choice, is the PHSA Food Working Group document (PHSA, 2010). The Working Group report cites two main factors causing obesity: individual and societal factors. Within societal factors include obesogenic environmental factors; within the individual domain are things like genetics, lifestyle and behaviour. Jayatilaka (2009) demonstrates the beginning of a genuine shift away from individual focused approaches of the past. In his report, Jayatilaka discusses how while obesity is an individual problem, the epidemic is the result of an environmental problem, and pays significant attention to environmental factors which influence individual choices.

## **Appendix B- Ethics Submission**

### **Study Details**

*Principal Investigator* – Caitlin O’Reilly

*Supervisor* – Judith Sixsmith

*Public Policy* – Director Nancy Olewiler

*Title of Study:* Weighing in on the health and ethical implications of British Columbia’s weight-centered health paradigm

#### *PURPOSE:*

The purpose of this research is threefold: 1) To understand why policies uncritically rely on the weight-centered health paradigm; 2) To understand why traditional diet and behaviour modification interventions generally fail to create lasting health benefits, while others that take the emphasis off weight have more success in improving long-term health; and 3) To examine the political acceptability, likely effectiveness and equity of proposed policy options to improve upon British Columbia’s approach to obesity. The overall goal of the research is to develop policy alternatives to alleviate the negative health consequences associated with reliance on a weight-centered health paradigm in British Columbia. Health consequences resulting from weight-centered health paradigms include eating disorders, mental health difficulties, and negative health outcomes resulting from weight cycling and social stigmatization (e.g. worsened blood pressure, cholesterol, and blood lipids).

My primary research question is *why do policies uncritically rely on the weight-centered health paradigm?* My secondary research question is *why do non-diet type interventions generally improve health outcomes and personal health habits, whereas traditional weight-centred behaviour modification approaches may fail to create lasting improvements in either health outcomes or health habits?*

Three methods will be relied upon: discourse analysis, case studies (inclusive of interviews) and key stakeholder interviews, each of which are detailed below.

#### *METHODOLOGY 1- DISCOURSE ANALYSIS*

Discourse analysis will be undertaken to: 1) Assist in understanding why the weight-centered paradigm persists and currently underpins policy discourse; 2) Gain an understanding of the extent to which the weight-centered health paradigm benefits certain groups and marginalizes others; and 3) Illuminate the implications of dominant weight-centric discourses on the health and well being of British Columbians. The documents used to complete the discourse analysis will be BC-specific policy documents that are published and available in the public domain.

#### *METHODOLOGY 2- CASE STUDY:*

Multiple explanatory case studies will be used in this research. The majority of data collection will be done through a literature review of documents as available in the public domain (e.g. published articles and books). One of the methods of data collection will be *key informant interviews* with researchers who have conducted research trials comparing the efficacy of diet or behavioural modification interventions and non-diet interventions to improve health. Interviewees will be provided with the consent form and asked to sign it. If interviews are conducted via telephone or email, participants will be required to sign the consent form and send back to me via fax, mail or through a scanned email version. Interviewees will be asked to comment on what they feel the main factors were that resulted in superior health benefits of those in the non-diet control groups, and what factors prevented similar long-term health improvements for those in the diet control group. Interviewees will also be asked to give their opinion on policy alternatives to help overcome the health consequences associated with weight-centered health paradigms.

#### *Sample- Case Study*

Key informant interviewees will be researchers and their staff who conducted research trials comparing the efficacy of diet and non-diet health interventions. Participants may be researchers themselves, assistants to researchers, or program managers who played a substantial role in research.

Participants will be recruited by email through research contact information listed on articles summarizing findings from research trials that have been published, comparing diet type, weight focused interventions to non-diet, non-weight focused interventions. Participants may also be recruited by emails obtained through searching university contact information for researcher emails or phone numbers. Researchers who conducted these studies will be recruited via email and telephone requests, with the rationale that the majority of these studies have been done in other countries. Further, participants may be recruited through personal contacts if contact information is not easily accessible. If any personal contacts know of researchers who have completed research trials of this nature they will be asked to send researchers an email with a script explaining the research and asking them to contact me if they are interested in participating. Interviewees will have the option of remaining anonymous.

#### *METHODOLOGY 3- KEY STAKEHOLDER INTERVIEWS:*

*Key stakeholder interviews* will be used to assist in analysis of policy options through providing a range of perspectives from government and non-government stakeholders and academics on the relative benefits and drawbacks of each policy option. Interviewees will be provided with the consent form and asked to sign it. If interviews are conducted via telephone or email, participants will be required to sign the consent form and send back to me via fax, mail or through a scanned email version.

#### *Sample- Key Stakeholder Interviews*

Interviewees will be government and non-government officials with active roles in the PHSA Obesity Reduction Strategy, or with leadership roles within government health care. Academics involved in the ‘size acceptance movement’, and those with nutritional knowledge will also be interviewed to provide their feedback on the policy options I will

develop. Specifically, participants will be asked questions about the likely effectiveness, feasibility/acceptability, and equity associated with each option, and will also be given the opportunity to suggest alternate criteria for analysis and alternate policy options. Government/non-government participants involved in the Obesity Reduction Strategy will be recruited by telephone or email through a snowball effect, whereby key contacts listed in the public domain as associated with the Obesity Reduction strategy will be contacted for participation and asked to recommend additional participants. Size acceptance and nutrition scholars will be contacted through email relying on a snowball effect. This will begin with an Internet search for those with regular publications and contact information available in the public domain.

#### *RISK AND BENEFIT ANALYSIS:*

##### *Risk of harm to participants:*

This is a low risk study, there are no foreseeable risks associated with participation in the case study interviews or key stakeholder interviews. Interviewees will be free to terminate participation and exit the interview at any time. Interviewees will be provided with contact information for myself, my supervisor, Dr. Judith Sixsmith, and Dr. Hal Weinberg, Director of SFU's Office of Research Ethics, all of whom will be available should any questions arise.

##### *Benefits of research:*

Participation will provide important information about how to improve current approaches to healthy weights within British Columbia. The research will also increase awareness about the potential consequences of the weight-centered health paradigm, providing valuable information for programs seeking to incorporate best practices into promoting health, and providing insight that may be of benefit to future academic research.

#### *INFORMED CONSENT:*

Participants will be informed, via the informed consent script (see appendices) about the purpose of the research, voluntary participation, tape recording of interviews, and their option of anonymity. I will provide participants with and request signatures for informed consent. If interviews are conducted via telephone or email, participants will be required to sign the consent form and send back to me via fax, mail or through a scanned email version.

#### *CONFIDENTIALITY:*

For each of my interviews participants will be given the option to be identified by name, sector/organization or to remain anonymous. All interview data (transcripts and audio recordings, and emails) when not in use will be stored on a USB device and stored in a locked drawer where I am the only key holder. Data will be stored in this drawer for 2 years and then destroyed.

#### *DATA ANALYSIS:*

Data analysis for the interviews associated with the case studies will be done through explanation building. Data analysis for the key stakeholder interviews will rely on thematic analytic techniques.

*RESULTS:*

My findings from the data will be incorporated into my final capstone. In addition, I anticipate that I may publish my findings in peer-reviewed journals or other publication sources, as well as seeking to present at conferences or government forums.

*ENCLOSED:*

- Informed Consent- Case Study Interview
- Informed Consent- Key Stakeholder Interview
- Recruitment Script- Case Study Interview
- Recruitment Script- Key Stakeholder Interview
- Email Script- Case Study Interviews
- Email Script- Key Stakeholder Interviews
- Interview Schedule- Case Study Interviews
- Interview Schedule- Key stakeholder Interviews

**Informed Consent: Case Studies**

*Title:* Weighing in on the health and ethical implications of British Columbia's weight-centered health paradigm

*Application Number:* 2010s06280

You are invited to participate in a research study being conducted by Caitlin O'Reilly, a student in Simon Fraser University's Master of Public Policy program. This research will complete a requirement to earn a Master of Public Policy degree. The supervisor for this research is Professor Judith Sixsmith, Public Policy program, Simon Fraser University.

*Purpose of the study:*

Research shows that weight-centered health paradigms may lead to health consequences such as eating disorders, mental health difficulties, and negative health outcomes resulting from weight cycling and social stigmatization (e.g. worsened direct indicators of health such as blood lipids, blood pressure, cholesterol). The overall goal of my research is to develop policy alternatives to alleviate the negative health consequences associated with reliance on a weight-centered health paradigm in British Columbia.

The objective of this interview is to understand why traditional diet and behavior modification interventions often fail to create lasting health benefits, while others that de-emphasize weight are more likely to improve long-term health. The purpose of this interview is to document your expert opinion on the factors that influenced success in the research trial you completed comparing the efficacy of non-diet interventions and diet interventions for improving health.

*Participation:*

Your participation in this research is entirely voluntary and you may choose to stop at any time or choose to respond to a particular theme for any reason. You will be asked questions about the topic described above and may be asked for your own opinions. You have the option to do this by email, phone or in person if residing in the lower mainland within British Columbia. It is expected that telephone or in person interviews will take approximately one hour. If you opt to do an email interview this will consist of multiple correspondences, likely spanning one or more weeks.

*Confidentiality:* You may be identified by name and/or organization/sector, or remain anonymous; please indicate your preference below. If you choose to complete the interview via email, please note that this is not a confidential medium, and while every caution will be taken to protect your identity from parties other than the principal investigator should you prefer confidentially, this cannot be guaranteed.

*Data:* Interviews by phone or in person will be audio recorded. Emails interview data will be pulled off the server and placed into a word document that will be stored on a USB key when not in use. Emails will immediately be deleted once the information is placed on a USB key, and care will be taken to ensure 'deleted' folders are emptied. All interview data (transcripts, audio recordings, and emails) when not in use will be stored on a USB device and stored in a locked drawer where I am the only key holder. Data will be stored in this drawer for 2 years and then destroyed.

*Risks:* There are no risks associated with this study other than those encountered by you in your everyday life. You are free to terminate your participation and exit the interview at any time without giving any reason.

*Benefits:* Participation will provide important information about how to improve current approaches to healthy weights within British Columbia. The research will also increase awareness about the potential consequences of the weight-centered health paradigm, providing valuable information for programs seeking to incorporate best practices into promoting health, and providing insight that may be of benefit to future academic research.

*Results:* Findings from the data will be incorporated into my final capstone. This may include verbatim quotations from your interview, however you will have the option to abstain from having these quotes attributed to you if you wish to remain anonymous. In addition, I anticipate that I may publish my findings in peer-reviewed journals or other publication sources, in addition to seeking to present at conferences or government forums.

*Questions:* If you have any concerns or complaints about this research, please contact Dr. Hal Weinberg, Director of SFU's Office of Research Ethics, at [hal\\_weinberg@sfu.ca](mailto:hal_weinberg@sfu.ca) or by phone at 778-782-6593.

If you have any questions about participating in this study you can contact me, Caitlin O'Reilly by email at [caitlino@sfu.ca](mailto:caitlino@sfu.ca) or my supervisor [judith\\_sixsmith@sfu.ca](mailto:judith_sixsmith@sfu.ca) or by mail

at: Simon Fraser University at Harbour Centre, 515 West Hastings Street Suite 3271, Vancouver, British Columbia, V6B 5K3. From December to March, Judith can be reached at 00-44-161-247-2545 (Manchester Metropolitan University, UK).

*Identification:* Please indicate how the principal investigator may identify you in the capstone paper or future publications or conferences.

Name: \_\_\_\_\_

Organization: \_\_\_\_\_

- Both my name and organization may be used
- I wish to be identified only by my organization *or* sector (circle one or both)
- I wish to remain anonymous

Consent:

I, \_\_\_\_\_ (signature), consent and wish to participate in this research study. I understand the nature of this project and that this is a completely voluntary activity. I (*cont'd from page 2*)

agree that I am above the age of 18. My signature above indicates my consent, that I have had a chance to ask questions and all of my questions have been answered, and that I have received a copy of this form for my personal records. If the interview takes place by telephone or in person, I understand that the interview will be audio recorded and transcribed to make sure that my responses are reported correctly. I also understand that parts of the interview will be included in the final capstone report or other publications, although my name and identifying information will only be included if I indicate so above. I understand that I can terminate or cancel my participation at any time by contacting Caitlin O'Reilly or Judith Sixsmith at the emails and numbers listed above.

### **Informed Consent: Key Stakeholder Interviews**

*Title:* Weighing in on the health and ethical implications of British Columbia's weight-centered health paradigm

*Application Number:* 2010s06280

Research shows that weight-centered health paradigms may lead to health consequences such as eating disorders, mental health difficulties, and negative health outcomes resulting from weight cycling and social stigmatization. The overall goal of my research is to develop policy alternatives to alleviate the health consequences associated with reliance on a weight-centered health paradigm in British Columbia.

The objective of this interview is to assist in analysis of policy options through providing your expert perspective on the relative benefits and drawbacks of each policy option.

*Participation:*

Your participation in this research is entirely voluntary, and you may choose to stop at any time or choose not to respond to a particular theme for any reason. You will be asked questions about the topic described above and may be asked for your own opinions. You have the option to do this by email, phone, or in person if residing in the lower mainland within British Columbia. It is expected that telephone or in person interviews will take approximately one hour. If you opt to do an email interview this will consist of multiple correspondences, likely spanning several weeks.

*Confidentiality:* You may be identified by name and/or organization/sector, or remain anonymous; please indicate your preference below. If you choose to complete the interview via email, please note that this is not a confidential medium, and while every caution will be taken to protect your identity from parties other than the principal investigator should you prefer confidentially, this cannot be guaranteed.

*Data:* Interviews by phone or in person will be audio recorded. Emails interview data will be pulled off the server and placed into a word document that will be stored on a USB key when not in use. Emails will immediately be deleted once the information is placed on a USB key, and care will be taken to ensure 'deleted' folders are emptied. All interview data (transcripts, audio recordings, and emails) when not in use will be stored on a USB device and stored in a locked drawer where I am the only key holder. Data will be stored in this drawer for 2 years and then destroyed.

*Risks:* There are no risks associated with this study other than those encountered by you in your everyday life. You are free to terminate your participation and exit the interview at any time without giving any reason.

*Benefits:* Participation will provide important information about how to improve current approaches to healthy weights within British Columbia. The research will also increase awareness about the potential consequences of the weight-centered health paradigm, providing valuable information for programs seeking to incorporate best practices into promoting health, and providing insight that may be of benefit to future academic research.

*Results:* Findings from the data will be incorporated into my final capstone. This may include verbatim quotations from your interview, however you will have the option to abstain from having these quotes attributed to you if you wish to remain anonymous. In addition, I anticipate that I may publish my findings in peer-reviewed journals or other publication sources, in addition to seeking to present at conferences or government forums.

*Questions:* If you have any concerns or complaints about this research, please contact Dr. Hal Weinberg, Director of SFU's Office of Research Ethics, at hal\_weinberg@sfu.ca or by phone at 778-782-6593.



If you have any questions about participating in this study you can contact me, Caitlin O'Reilly by email at caitlino@sfu.ca or my supervisor judith\_sixsmith@sfu.ca or by mail at: Simon Fraser University at Harbour Centre, 515 West Hastings Street Suite 3271, Vancouver, British Columbia, V6B 5K3. From December to March, Judith can be reached at 00-44-161-247-2545 (Manchester Metropolitan University, UK).

*Identification:* Please indicate how the principal investigator may identify you in the capstone paper or future publications or conferences.

Name: \_\_\_\_\_

Organization: \_\_\_\_\_

- Both my name and organization may be used
- I wish to be identified only by my organization *or* sector (circle one or both)
- I wish to remain anonymous

*Consent:*

I, \_\_\_\_\_ (signature), consent and wish to participate in this research study. I understand the nature of this project and that this is a completely voluntary activity. I agree that I am above the age of 18. My signature above indicates my consent, that I have had a chance to ask questions and all of my questions have been answered, and that I have received a copy of this form for my personal records. If the interview takes place by telephone or in person, I understand that the interview will be audio recorded and transcribed to make sure that my responses are reported correctly. I also understand that parts of the interview will be included in the final capstone report or other publications, although my name and identifying information will only be included if I indicate so above. I understand that I can terminate or cancel my participation at any time by contacting Caitlin O'Reilly or Judith Sixsmith at the emails and numbers listed above.

### **Recruitment Script: Case Study Interviews**

Dear: First name last name

My name is Caitlin O'Reilly, I am a student researcher at the Simon Fraser Master's of Public Policy Program investigating why non-diet, behaviour modification interventions have proven more effective at improving health than traditional diet interventions, and would like to send you a special invitation to participate in this interview based upon your experience in conducting research trials of this nature. The overall purpose of my research is to develop policy alternatives to alleviate the health consequences associated with reliance on a weight-centered health paradigm in British Columbia. Health consequences resulting from weight-centered health paradigms include eating disorders, mental health difficulties, and negative health outcomes resulting from weight cycling and social stigmatization.

The interview is part of a case study I am conducting examining research trials that have been undertaken with the purpose of comparing the health benefits of non-diet interventions in comparison to diet focused interventions to improve health. The interview will seek to understand your perception of the reasons why the non-diet approach was effective at improving health in the research trial you completed.

With your agreement and if you live within the Vancouver, BC areas we can meet in person. If you reside out of the lower mainland of British Columbia the interview can take place by email or telephone. Should you prefer telephone, the recorded interview will take approximately 1 hour. If you prefer email, the interview may take one week or more. I will be happy to phone or email you whenever is convenient. You will have the option to remain anonymous.

If you are willing to participate in the study, please contact myself at [Caitlino@sfu.ca](mailto:Caitlino@sfu.ca). Your participation would be greatly appreciated. I am looking forward to hearing from you and hope that we can find a mutual time to meet.

Regards,

Caitlin O'Reilly  
Master of Public Policy  
Simon Fraser University  
[caitlino@sfu.ca](mailto:caitlino@sfu.ca)

### **Recruitment Script: Key Stakeholder Interviews**

Dear: First name last name

My name is Caitlin O'Reilly, I am a student researcher at the Simon Fraser Master's of Public Policy Program developing policy alternatives to mitigate the impacts of the uncritical reliance on the weight centered health promotion paradigm within health policies in the province of British Columbia. Health consequences resulting from weight-centered health paradigms include eating disorders, mental health difficulties, and negative health outcomes resulting from weight cycling and social stigmatization.

I would like to send you a special invitation to participate in this interview based upon your experience and expert professional knowledge of the subject matter at hand. The purpose of the interview will be to get your input on the relative tradeoffs of each policy option I have developed, as well as to solicit input as to additional policy alternatives I may not have considered.

With your agreement and if you live within the Vancouver, BC area we can meet in person. If you reside out of the lower mainland of British Columbia the interview can take place by email or telephone. Should you prefer telephone, the recorded interview will take approximately 1 hour. If you prefer email, the interview may take one week or

more. I will be happy to phone or email you whenever is convenient. You will have the option to remain anonymous.

If you are willing to participate in the study, please contact myself at [Caitlino@sfu.ca](mailto:Caitlino@sfu.ca). Your participation would be greatly appreciated. I am looking forward to hearing from you and hope that we can find a mutual time to meet.

Regards,

Caitlin O'Reilly  
Master of Public Policy  
Simon Fraser University  
[caitlino@sfu.ca](mailto:caitlino@sfu.ca)

### **Email Script: Case Studies**

*Some interviewees may be recruited through personal contacts. If this occurs the contact will send the following email to the possible interviewee so that they can contact me if they are interested.*

A personal contact of mine, Caitlin O'Reilly, is conducting a study examining the health consequences of the weight-centered health paradigm, as part of her Masters of Public Policy graduate project. The purpose of her research is twofold: 1) To understand why traditional diet and behaviour modification interventions generally fail to create lasting health benefits, while others that take the emphasis off weight have more success in improving long-term health; and 2) To examine the political acceptability and likely effectiveness and equity of proposed policy options to improve upon British Columbia's approach to obesity.

The overall goal of the research is to develop policy alternatives to alleviate the negative health consequences associated with reliance on a weight-centered health paradigm in British Columbia. Health consequences resulting from weight-centered health paradigms include eating disorders, mental health difficulties, and negative health outcomes resulting from weight cycling and social stigmatization (e.g. worsened blood pressure, cholesterol, and blood lipids).

Because of your expertise in conducting a research trial(s) comparing diet focused, behaviour modification interventions to non-diet interventions, Caitlin would like to interview you. The interview will focus on the reasons why the non-diet approach was effective at improving health in the research trial you completed.

The interview can take place in person if you live in the Vancouver, BC area, or by email or telephone if you live elsewhere. In-person or telephone interviews will take approximately 1 hour. If you prefer email, the interview will involve several e-mail exchanges. Whichever form of interview you chose, you will have the option to remain anonymous.

If you are willing to participate in the study, please contact Caitlin O'Reilly at [Caitlino@sfu.ca](mailto:Caitlino@sfu.ca). Your participation would be greatly appreciated.

### **Email Script: Key Stakeholder Interviews**

*Some interviewees may be recruited through personal contacts. If this occurs the contact will send the following email to the possible interviewee so that they can contact me if they are interested.*

A personal contact of mine, Caitlin O'Reilly, is conducting a study examining the health consequences of the weight-centered health paradigm, as part of her Masters of Public Policy graduate project. The purpose of her research is twofold: 1) To understand why traditional diet and behavior modification interventions generally fail to create lasting health benefits, while others that take the emphasis off weight have more success in improving long-term health; and 2) To examine the political acceptability and likely effectiveness and equity of proposed policy options to improve upon British Columbia's approach to obesity.

The overall goal of the research is to develop policy alternatives to alleviate the negative health consequences associated with reliance on a weight-centered health paradigm in British Columbia. Health consequences resulting from weight-centered health paradigms include eating disorders, mental health difficulties, and negative health outcomes resulting from weight cycling and social stigmatization (e.g. worsened blood pressure, cholesterol, and blood lipids).

Because of your experience intimate professional knowledge of the subject matter at hand, Caitlin would like to interview you. The purpose of the interview will be to get your input on the relative tradeoffs of each policy option she has developed, as well as to solicit input as to additional policy alternatives she may not have considered.

The interview can take place in person if you live in the Vancouver, BC area, or by email or telephone if you live elsewhere. In-person or telephone interviews will take approximately 1 hour. If you prefer email, the interview will involve several e-mail exchanges.

Whichever form of interview you chose, you will have the option to remain anonymous.

If you are willing to participate in the study, please contact Caitlin O'Reilly at [Caitlino@sfu.ca](mailto:Caitlino@sfu.ca). Your participation would be greatly appreciated.

### **Interview Schedule: Case Studies**

Interviews will be semi-structured, based upon the following themes:

*Weight-centered paradigm*

- Why the weight-centered paradigm exists
- Evaluation of alternative non-weight oriented paradigms

*About the randomized control trial*

- General overview of design
- Information about sample
- Core components of the non-diet intervention
- Core components of control group(s), e.g. diet group
- Generalizability of findings

*Efficacy of the intervention in improving health*

- Health Behaviors (i.e. diet and exercise)
- Direct health outcomes (i.e. physiological)
- Essential components needed to be effective?
- Factors which may precipitate ineffectiveness of diet interventions
- Factors which may lend to enhanced success of non-diet interventions
- Discussion of sample
- External factors which may influence success (i.e. family or community supports)

*Policy options*

- Implications for policy development

**Interview Schedule: Key Stakeholder Interviews**

*Interviews will be semi-structured, based upon the following themes:*

*Effectiveness*

- Effectiveness in improving health outcomes
- Effectiveness in reducing consequences associated with weight-centered paradigm
- Effectiveness is shifting from a weight-centric focus
- Increase in critical approaches to the weight-centered health paradigm

*Feasibility*

- Political feasibility
- Administrative feasibility
- Implementation issues
- Cost

*Acceptability*

- Public acceptability
- Stakeholder acceptability

*Equity*

- Gender, socio-economic status, age, race, or culture
- Equitable for range of body sizes and health statuses?

*Discussion of alternate criteria and solicitation of suggestions for alternate policy options*

## Appendix C- Detailed Findings: Discourse Analysis and Discursive Practices

Table 9- Overview of reliability of evidence-base underpinning claims about obesity in BC policy documents

Appendix reference	Text used in analysis	Reliable? (Yes, no, unknown or somewhat)	Rationale for reliability choice	Claim example and details
1.1	Legislative Assembly (2006)	No	No evidence referenced	"...overweight children will display much higher rates of hypertension, diabetes, heart disease, renal failures, amputations, blindness, cancer and mental health problems" (p 10).
2.1	PHSA (2010) food Working Group	No	Implicit assumption re: harms of obesity	Text did not explicitly address the health concerns of obesity, however given the overall purpose of the document is to summarize recommendations for reducing obesity I conclude that this document posits overweight and obesity as harmful without directly referencing evidence.
3.1	BCHLA (2010)	No	Cited "expert" who did not reference evidence	Rather than citing scientific studies to back up the claim that "...overweight and obesity pose a major risk for serious diet-related chronic diseases" the report cited a second hand source, namely the WHO (2010) Strategy on Diet, Physical Activity and Health. When I followed the link provided I was directed to the WHO website, which discussed the consequences of obesity in length without any supporting evidence or references.
4.1	Jayatilaka (2009)	See below (4.1.1 and 4.1.2)	Referenced two second hand sources:	Two references were cited by Jayatilaka (2009), when asserting that "[b]eing overweight and

			1) "WHO" (2009); and 2) PHO (2006),	obese are major risk factors for developing chronic disease – from heart disease and stroke to diabetes, musculoskeletal disorders and some types of cancers" (p 7). The two references were WHO (2009) and PHO (2006).
<b>4.1.1</b>	1) "WHO" (2009)	No	Citation not on reference list	Not included in Jayatilaka's reference list, thus I was unable to locate. Reference considered incomplete.
<b>4.1.2</b>	2) PHO (2006)	See below (4.1.2.1, 4.1.2.2 and 4.1.2.3)		The report contained three claims about the health consequences of obesity, which are detailed next.
<b>4.1.2.1</b>	PHO (2006) cont'd	No	No evidence referenced	Regarding diabetes the following was said: "[t]ype 2 diabetes typically occurs in people over 40 who are overweight or obese" (PHO, 2006, p 31). Conclusion: no evidence was provided to back up this statement.
<b>4.1.2.2</b>	PHO (2006) cont'd	Somewhat	The Calle et al. (2003) study controlled for diet, SES and fitness, did not evaluate weight cycling. Further, the discussion section used the terms overweight and obesity synonymously, when the analysis appeared to explicitly only examine those in the upper BMI category of obese.	Regarding cancer and obesity Calle et al. (2003) was referenced in the following excerpt: in the "...largest prospective studies of more than 900,000 American adults over 16 years of age, increased body weight was associated with increased death rates from all cancers combined" (PHO, 2006, p 30).
<b>4.1.2.3</b>	Cont'd PHO (2006)	See below (4.1.2.3.1)	Referenced WHO (2003)	"Being overweight or obese...increases the risk of cardiovascular disease (PHO, 2006, p 31). Referenced WHO (2003) to warrant this quote.
<b>4.1.2.3.1</b>	WHO (2003)	See below	Referenced: 1)	1) "The most firmly established

		(4.1.2.3.1.1 - 4.1.2.3.1.3.3)	Elisaf (2001); 2) Dietz (2001); 3.a.) Davey-Smith et al. (2006); 3.b.) Wannamethee et al.; 3.c.) Jousilahti, et al.	<p>associations between cardiovascular disease or diabetes and factors in the lifespan are the ones between those diseases and the major known “adult” risk factors, such as tobacco use, obesity, physical inactivity, cholesterol, high blood pressure and alcohol consumption” (WHO, 2003, p 38). Referenced Elisaf (2001) to warrant this quote.</p> <p>2) “More than 60% of overweight children have at least one additional risk factor for cardiovascular disease, such as raised blood pressure, hyperlipidaemia or hyperinsulinaemia, and more than 20% have two or more risk factors” (WHO, 2003, p 37). Source: Dietz (2001)</p> <p>3) “...obesity and physical activity [are related to]...CHD, diabetes and stroke” (WHO, 2003, p 38). Sources: Davey-Smith et al. (2006); Wannamethee et al.; Jousilhati et al.</p>
<b>4.1.2.3.1.1</b>	1) Elisaf (2001)	No	Studies referenced did not control for diet, fitness or SES.	<p>Elisaf (2001) cited eight sources to warrant claims about the health consequences of obesity: i) Jousilahti et al.1996; ii) Laasko, 1996; iii) Levy et al., 1998; iv) Reaven, 1998; v) Rimm et al. 1995; vi) Shaper, Wannamethee, &amp; Walker, 1997; vii) Sparato et al.,1996; and viii) Wood et al. 1998.</p> <p>Of these, of six I was able to locate – Reaven (1998) and Laasko (1996) were not located – five were original scientific studies and Wood et al. (1998) was a literature review with no supporting references. Of the five original scientific studies none controlled for all of diet, fitness and SES.</p>
<b>4.1.2.3.1.2</b>	2) Dietz (2001)	See below	Direct reference to	Not an original study, claims about obesity were warranted by



			another study: Freedman et al. (1999)	citing Freedman et al. (1999).
<b>4.1.2.3.1.2.1</b>	Freedman et al.	No	It does not control doe SES or exercise	Freedman, D.S., Dietz, W.H., Shrinivasan, S.R, Berenson, G.S. (1999). The relation of overweight to cardiovascular risk factors among children and adolescents: the Bogalusa Heart Study. <i>Pediatrics</i> , 103(6), 1175-1182. It does not control doe SES or exercise, although it does look at race and age.
<b>4.1.2.3.1.3.1</b>	3.a.) Davey Smith et al. (2006)	Unknown/ no	Only able to locate abstract but appears to control for smoking and employment grade, however abstract does not mention diet.	Unable to locate: Davey-Smith, G., Shipley, M.J., Batty, G.D., Morris, J.N., Marmot, M. (2006). Physical activity and cause specific mortality in the Whitehall Study. <i>Public Health</i> , 114(5), 308-15.
<b>4.1.2.3.1.3.2</b>	3.b.) Wannamethee et al.	No	Did not control for diet.	Analysis considered fitness, social class, smoking, health, but did not mention analyzing diet. Thus conclusions about weight and health cannot be guaranteed to be causally related.
<b>4.1.2.3.1.3.3</b>	3.c.) Jousilhati et al.	No	Did not control for diet or fitness.	Controlled for smoking, analysis excluded those with previous cardiovascular illness. Survey asked questions about medical history and health behaviour, however report did not discuss whether or not they controlled for diet or fitness.
<b>5.1</b>	HSF (2009)	See below (5.1.1-5.1.2)	Cited 1) Flynn et al. (2006); and 2) McLaren et al. (2004)	Two studies were referenced to warrant claims about health consequences of obesity: Flynn et al. (2006) and McLaren et al. (2004)
<b>5.1.1</b>	1) Flynn et al. (2006)	See below (5.1.1.1 and 5.1.1.1)	Cited: A) Csabi et al. (2000); B) Ebbeling & Ludwig (2001)	Cited original study by Csabi et al. (2000) to justify claims about health consequences of obesity which did not control for diet, exercise or socioeconomic status.

				Also cited Ebbeling and Ludwig when saying: "A significant aspect of the epidemic of childhood obesity is the increased prevalence of Type 2 diabetes in pediatric populations and the prospect of the associated macro- and micro-vascular complications"
<b>5.1.1.1</b>	A) Csabi et al. (2000)	No	Did not control for diet, exercise or SES	The Csabi et al. (2000) study did not control for diet, exercise or socioeconomic status, thus cannot be considered methodologically reliable.
<b>5.1.1.2</b>	B) Ebbeling and Ludwig	Unknown	Unable to access article	Unable to access: Ebbeling, C.B., & Ludwig, D.S. (2001). Treating obesity in youth: should dietary glycemic load be a consideration? <i>Advanced Pediatrics</i> , 48, 179-212.
<b>5.1.2</b>	2) McLaren et al. (2004)	Somewhat	One claim did not reference; another referenced Bray (2003)	Document discusses the health consequences of obesity on two occasions. One time without referencing an external source. Another time authors say, "[o]ne risk factor common to these health problems is excess body weight, or obesity" (p 16), and cite Bray (2003).
<b>5.1.2.1</b>	Bray (2003)	Unknown	Unable to access article	Unable to access: Bray, G.A. (2003) Risks of obesity. <i>Endocrinology and Metabolism Clinics</i> , 32, 787-804.

## Appendix D- Case Study Additional Information

Within Appendix D additional information is provided about my case studies. Specifically you can find an overview of the case selection criteria used to select my cases. You will also find a summary of the three main factors used to compare cases: outcome measures and findings, methodology and core components of interventions. Finally you can find an overview of my explanation building process, including the initial propositions and finalized theoretical explanations.

### Case Selection Criteria

The following table provides an overview of my case selection process.

Table 10- Case Selection

Randomized Control Trial	Group type (e.g. HAES, non-diet, etc)  (HAES or non-diet type intervention marked by *)	Meets Case Boundaries?	Included in Case Study?	Rationale:
<b>Provencher et al.</b>	<u>Compares:</u> HAES*, and social support and control	NO	NO	Physiological changes in health were not measured.
<b>Bacon et al.</b>	<u>Compares:</u> HAES* and diet	YES	YES	Essential for inclusion as the most recent fully completed RCT demonstrating HAES success.
<b>Rapoport et al.</b>	<u>Compares:</u> Modified cognitive-behavioural treatment* and cognitive behavioural treatment	YES	YES	In this study both interventions were successful in improving health, with no statistically significant difference between the two groups. This was included to understand why both interventions were successful.
<b>Ciliska</b>	<u>Compares:</u> Psychoeducational*, education only and waitlist control (no intervention)	NO	NO	Compares two different non-dieting approaches and only measured limited physiological outcome variables.
<b>Goodrick</b>	<u>Compares:</u> Non-diet* and waitlist control	NO	NO	Physiological changes in health status were not measured.

<b>Mensingher et al.</b>	<u>Compares:</u> HAES "(HUGS" program)*, and behaviour based weight loss ("LEARN" program)	YES	YES	<i>Study is scheduled to be completed in Spring 2011, however was included because preliminary findings are publically available.</i>
<b>Tanco</b>	<u>Compares:</u> Cognitive treatment group*, weight loss, and waitlist control	NO	NO	Physiological changes in health status were not measured.

In the following subsections within this appendix I provide an overview of the three case factors used to compare the RCTS, beginning with outcome measures and findings, then discussing methodology and finally discussing core components of the diet and non-diet group within each RCT.

## **Case Study Factor- Outcome Measures and Findings**

One of the factors I looked for as I compared cases was their reported outcomes measures and findings. In summary, all three interventions were effective at improving health as seen through improvements in outcome variables in the following three categories: physiological health, eating and exercise behaviours and psychological health. Within the Bacon et al. trial only the HAES group sustained improvements across all outcome variables at the two year testing, despite the diet group showing initial improvements in many variables. In the Rapoport et al. trial, both groups improved health in all three categories, however there was no statistical difference between the groups. In the Mensinger case, interim results show that while both groups have shown some health improvements in each category, the HUGS non-diet group improved eating behaviours and physiological variables to a greater degree.

The below table provides a detailed breakdown of outcome measures and findings, disaggregated by trial.

Table 11- RCT Outcome Measures and Findings

	Bacon et al.	Rapoport et al.	Mensinger et al.
<b>Outcome measures</b>	<ol style="list-style-type: none"> <li><b>Physical/physiologic al:</b> weight and height (BMI), blood pressure, blood lipids (total cholesterol, low-density lipoprotein (LDL) cholesterol and high density lipoprotein (HDL) cholesterol)</li> <li><b>Eating/Exercise Behaviours:</b> restraint, disinhibition and hunger, eating disordered behaviour and energy expenditure</li> <li><b>Psychological:</b> self-esteem, depression and body image</li> </ol>	<ol style="list-style-type: none"> <li><b>Physical/physiological :</b> Weight and height (BMI), blood pressure, waist and hip circumference, blood lipids and glucose (total serum cholesterol, high density lipoprotein cholesterol, triglycerides and glucose) and aerobic fitness</li> <li><b>Eating/Exercise Behaviours:</b> binge eating, eating style, nutrient intake and activity</li> <li><b>Psychological:</b> depression, self esteem, stress and body image</li> </ol>	<ol style="list-style-type: none"> <li><b>Physical/physiologic al:</b> weight, blood pressure, blood lipids (HDL cholesterol, LDL cholesterol) and fasting blood glucose</li> <li><b>Eating/Exercise Behaviours:</b> Physical activity and eating behaviour (emotional eating, uncontrolled eating, cognitive restraint, intuitive eating and dietary habits)</li> <li><b>Psychological:</b> Self-esteem, depressed mood, anxiety, stress, weight and body shape attitudes, and the “power of food” (extend to which food controls life)</li> </ol>
<b>Findings: physical/physiological</b>	<p><b>HAES</b></p> <ul style="list-style-type: none"> <li><b>Weight:</b> maintained weight</li> <li><b>Blood pressure:</b> statistically significant improvement maintained</li> <li><b>Blood lipids:</b> significant decrease at follow up in total cholesterol and LDL and HDL cholesterol</li> </ul> <p><b>DIET</b></p> <ul style="list-style-type: none"> <li><b>Weight:</b> initial weight loss regained, not statistically different than baseline</li> <li><b>Blood pressure:</b> statistically significant improvement until final testing when blood pressure not statistically different than baseline</li> <li><b>Blood lipids:</b> no change in total cholesterol, did not sustain changes in LDL cholesterol. Decreased HDL cholesterol.</li> </ul>	<p><b>M-CBT and S-CBT</b></p> <ul style="list-style-type: none"> <li>Total cholesterol, LDL cholesterol, systolic and diastolic blood pressure, waist and hip circumference, improved in both groups, however there was no statistically significant difference between groups.</li> <li>The only difference between the groups physiologically was in patterns of weight loss and gain. Both groups lost weight as per mean weight loss at the one-year test. At end of treatment the S-CBT mean weight loss 3.9 kg and the M-CBT loss was 1.3 kg. There was also a greater loss in the S-CBT group at the six month test, but by the one year mark, differences between the mean weight loss disappeared. Further, at one year, in the S-CBT group 47% of people gained weight from base; in M-CBT 40% gained weight from</li> </ul>	<p><i>(information based on testing at 6-month mark as per findings shared during interview with Mensinger)</i></p> <p><b>HUGS and LEARN (as per 6 month testing)</b></p> <ul style="list-style-type: none"> <li>Significant decrease in triglycerides for HAES, not for LEARN</li> <li>Significant decrease in LDL cholesterol for HAES, not for LEARN</li> <li>HAES marginally decreased total cholesterol, no changes in LEARN</li> <li>Neither changed in systolic/diastolic blood pressure or fasting glucose</li> <li>Both showed significant decrease in HDL (considered “good cholesterol”, which interviewee said was unfortunate but not unusual)</li> <li>Weight loss in LEARN, not in HUGS, however this effect disappeared once they controlled for “weight suppression” (which is the extent a</li> </ul>

		base. Results should be interpreted with caution given short-term nature of follow up testing.	<p>person deviates from their highest weight, measured by current weight subtracted from their highest weigh. The theory is that if a person is weight suppressed they are generally not going to do able to lose weight).</p> <ul style="list-style-type: none"> <li>• Waist circumference, down in HAES, not LEARN; hip circumference, down in both</li> </ul>
<b>Findings: eating/ exercise behaviours</b>	<p><b>HAES</b></p> <ul style="list-style-type: none"> <li>• <b>Restraint:</b> decreased restraint, intuitive eating increased</li> <li>• <b>Eating disordered behaviour:</b> improvements in measures of susceptibility to hunger and control sustained at follow up</li> <li>• <b>Energy expenditure:</b> significant increase in daily energy expenditure at follow up, increase in moderate activity at follow up four times the baseline measure</li> </ul> <p><b>DIET</b></p> <ul style="list-style-type: none"> <li>• <b>Restraint:</b> increased initially then returned to baseline scores</li> <li>• <b>Eating disordered behaviour:</b> initial improvements in measures of susceptibility to hunger and control sustained at follow up</li> <li>• <b>Energy expenditure:</b> initial improvements seen immediately after the trial were not sustained at follow up</li> </ul>	<p><b>M-CBT and S-CBT</b></p> <ul style="list-style-type: none"> <li>• Both groups were successful in improving dietary quality and increasing activity levels and aerobic fitness. Both groups were also successful in reducing binge eating. Differences between the group were not statistically significant.</li> <li>• See Rapoport et al., 2000, for a detailed breakdown of statistical findings.</li> </ul>	<p><b>HUGS and LEARN (as per 6 month testing)</b></p> <ul style="list-style-type: none"> <li>• <b>Physical activity:</b> kai square test showed HUGS increased physical activity slightly more than LEARN, but the difference was not statistically significant</li> <li>• <b>Eating behaviour:</b> intuitive eating increased in both groups, but in the HUGS group to a greater extent. Restraint increased in LEARN, at six months no change in restraint for HUGS. Both decreased binge eating, percentage binging at 6 months: HUGS= 38.5%, LEARN=36.4%. HUGS improved global disordered eating scores significantly more than LEARN. HUGS drastically improved eating behaviours and attitudes, LEARN was almost the same as at baseline. Regarding uncontrolled eating and emotional eating, both improved nearly identical amounts. Both groups improved emotional eating, uncontrolled eating, binge eating and increased fruit and vegetable</li> </ul>

			consumption.
<b>Findings: psychological</b>	<b>HAES and DIET</b> <ol style="list-style-type: none"> <li>1. Initial improvements in depression were seen in both groups, but only HAES sustained this improvement at the last testing</li> <li>2. At follow up, HAES improved in self-esteem, whereas the diet group showed significantly worsened self-esteem</li> <li>3. Both groups improved body image, however, this change was not statistically significant in the diet group</li> <li>4. Note- In addition to the standardized tests participant evaluations were completed. HAES evaluation more favourable (participants felt better about themselves, felt like they succeeded at the program, and felt the program had a positive lifelong impact on them, in comparison to the diet group).</li> </ol>	<b>M-CBT and S-CBT</b> <ol style="list-style-type: none"> <li>1. Self esteem, depression, perceived stress and body image avoidance all improved, but there were no group by time interactions</li> <li>2. Note- in addition to the standardized tests participant evaluations were completed. Both groups received equally favourable reviews, however some women in S-CBT group requested topics covered in M-CBT group</li> </ol>	<b>HUGS and LEARN (as per 6 month testing)</b> <ul style="list-style-type: none"> <li>• Neither changed depression, anxiety or stress</li> <li>• In HUGS eating concern and shape concern went down to a greater extent than in LEARN</li> <li>• Both groups equally improved quality of life and self esteem, the only area where HAES did better in was with respect to their improvement in weight bias internalization (both improved, but HAES more)</li> </ul>

### Case Study Factor- Methodology

One of the factors I looked for as I compared cases was the extent to which they could be considered methodologically reliable. The following discussion and table provides an overview of methodological reliability of each case.

Overall the Bacon case was rated as high in reliability while the other two scored as medium-high. In general, when comparing sub-factors such as sample information, reliability of data collection and analysis I found all three cases comparable. Where the Rapoport et al. and Mensinger et al. cases differed from the Bacon et al. case, however, was with respect to length of study follow up. Within obesity research a minimum of two-year follow up is considered necessary for reliable evidence-based results (WHO, 2000). While the Bacon case conducted testing until the two-year mark, the Rapoport case concluded testing after one year. Similarly, with the Mensinger case, while testing is scheduled to occur to the two-year mark, currently only the six-month testing results are available.



Table 12- RCT Methodology

Subfactor	Bacon et al.	Rapoport et al.	Mensinger et al.
<b>Sample size and information</b>	<ul style="list-style-type: none"> <li>• HAES (non-diet) group: n=39, attrition=8%</li> <li>• Diet group: n=39, attrition=42%</li> <li>• Sample information: Age 30-45, obese (BMI 30+), female, chronic dieters (measured via Restraint Scale) in the Davis California area. Participants were all Caucasian. Some people in the HAES group had "some college", but more people in the diet group were college graduates. Both had high employment rates, with similar job categories, although more in the diet group were "professional". A higher percentage of the HAES group was in a long term relationship.</li> </ul>	<ul style="list-style-type: none"> <li>• Modified-Cognitive Behavioral Therapy (M-CBT) (non-diet) group: n=37, attrition=16% or n=6</li> <li>• Standard-Cognitive Behavioral Therapy (S-CBT) (diet) group: n= 38, attrition=16% or n=6</li> <li>• Sample information: Age 18-65 (mean age 47.5), overweight and obese (BMI &gt; 28; mean BMI 34.5). Included females who were identified by their general practitioners as suitable for treatment for obesity. Participants predominantly Caucasian and married, with non manual jobs. More people in S-CBT were employed full time; a greater number in the M-CBT had undertaken higher education, more in M-CBT were "manual social class" and more in the S-CBT were "non-manual social class").</li> </ul>	<ul style="list-style-type: none"> <li>• HAES/HUGS (non-diet) group, n=40, attrition= ~50%</li> <li>• Behaviour-based weight loss "LEARN" (diet) group, n=40, attrition= ~50%</li> <li>• Sample information: Age 30-45 (mean age 39.6), obese (BMI 30-45); mean BMI 38) females in semi-rural Pennsylvania area</li> <li>• Sample information: 70% married, 74% had children; 96% white; 65% at least some college; 61% employed FT; mean household income \$70.873, BMI ranged from 30.2-44.8</li> </ul>
<b>Length of study and follow up</b>	<ul style="list-style-type: none"> <li>• Six months of weekly treatment sessions 90 minutes each</li> <li>• Six months post treatment optional follow up with no new material</li> <li>• Total duration: One year for intervention, two years inclusive of testing</li> </ul>	<ul style="list-style-type: none"> <li>• Two and a half months of weekly treatment sessions 120 minutes per week</li> <li>• No post treatment support</li> <li>• Total duration: Two and a half months for intervention, one year inclusive of testing</li> </ul>	<ul style="list-style-type: none"> <li>• Twenty-four weekly group treatment sessions for 90 minutes per week</li> <li>• Total duration: Six months for intervention, two years inclusive of testing, to be completed Spring 2011 (testing only to occur three time: baseline, six months, at two years)</li> </ul>
<b>Reliability of data</b>	<b>High</b>	<b>Medium-high</b>	<b>Medium-high</b>

<p><b>collection/analysis</b></p>	<p>1. <i>Rationale:</i> Used a two-year follow up; measurement via standardized, tested scales; statistical analysis considered reliable</p> <ul style="list-style-type: none"> <li>• Standardized, tested scales used that should be considered reliable measures of outcome variables (e.g. Energy expenditure (Stanford Seven-Day Physical Activity Recall); Eating Behaviour (Eating Inventory with three subscales for restraint, disinhibition and hunger; Eating Disorder Inventory); Psychological Health (Beck Depression Inventory); Rosenberg Self Esteem Measure, and the Body Image Avoidance Questionnaire) <ul style="list-style-type: none"> <li>• Statistics: See Bacon et al. 2005 for methods</li> </ul> </li> <li>• Division of groups based on BMI quartiles, no statistical difference between groups at baseline and groups had similar socio-demographic profiles</li> <li>• Eligibility requirements ensured data was not skewed by other variables (e.g. requirement for non-smokers, nor pregnant or lactating, no recent myocardial infarctions, no active neoplasms, no type one diabetes or insulin dependant type two, no history of cerebrovascular or renal disease, and not on medication known to affect weight with the exceptions of anti-</li> </ul>	<p>1. <i>Rationale:</i> Did not use a two-year follow up; measurement via standardized, tested scales; statistical analysis considered reliable</p> <ul style="list-style-type: none"> <li>• Standardized, tested scales (with one exception) used that should be considered reliable measures of outcome variables (e.g. Psychological well being (28 item version of General Health Questionnaire); depression (Beck Depression Inventory); self esteem (Rosenberg's Self-Esteem Scale); stress (Perceived Stress Scale); binge eating (binge eating scale); eating style (Three Factor Eating Questionnaire); body satisfaction (Body Satisfaction Scale- <i>developed by the investigators for this study</i>); body image (Body Image Avoidance Questionnaire); nutrient intake (EPIC food frequency questionnaire); physical activity (a Tecumseh Step Test and a physical activity questionnaire) <ul style="list-style-type: none"> <li>• Statistics: see Rapoport et al. 2000 for methods</li> <li>• Eligibility requirements reduced the likelihood of skewing the data. Exclusion criteria: serious medical or psychological conditions,</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <i>Rationale:</i> measurement via standardized, tested scales; statistical analysis considered reliable; incomplete testing data prevented the case from scoring high</li> <li>• Standardized, tested scales used that should be considered reliable measures of outcome variables (e.g. Rosenberg Self-Esteem Scale; Three Factor Eating Questionnaire; Depression, Anxiety and Stress Scale; Eating Disorder Examination Questionnaire; Red Lotus Health and Well Being Questionnaire; Stanford Brief Activity Survey) . <ul style="list-style-type: none"> <li>• Statistics (from interview): mixed models (random and fixed effects); T tests and independent T tests to determine statistical significance</li> <li>• Allocation between groups unknown</li> <li>• Eligibility requirements reduced the likelihood of skewing the data. Participants were required to be between 30-45 years, with a BMI of 30-45, physically inactive, English speaking. Exclusion criteria: current smokers, medications that affect weight/energy expenditure, pregnant women, lactating women, or those intending to have a child within two years, no recent myocardial</li> </ul> </li> </ul>
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	depressants).	including eating disorders, insulin dependant diabetes, pregnancy or lactation. <ul style="list-style-type: none"> <li>Findings about patients feelings on intervention robust due to use of a semi-quantitative self report and a qualitative 15 minute semi structured interview with an independent evaluator.</li> </ul>	infracton, congestive heart failure, type one and insulin dependant type two diabetes, cerebrovascular disease, renal disease, cirrhosis, bulimia, alcohol or substance abuse, major psychiatric disorders, about to have bariatric surgery or intending to in next two and a half years.
<b>Overall limitations</b>	<ul style="list-style-type: none"> <li>High attrition in the diet group, which may have skewed results favourably for diet group</li> <li>Findings cannot be generalized beyond female obese, chronic dieters</li> </ul>	<ul style="list-style-type: none"> <li>Did not adhere to the minimum two-year follow up best practice standard (after this point weight regain is more common)</li> <li>Treatment length substantially shorter than Bacon et al. or Mensinger et al.</li> <li>Therapists same for both groups, and researchers acknowledge that the therapists were more committed to M-CBT and promoted self-acceptance equally across groups</li> </ul>	<ul style="list-style-type: none"> <li>Findings limited and should be interpreted with caution as study will not be completed until May 2011</li> </ul>

### Case Study Factor- Core Components of Intervention

In my comparison and analysis of the three cases I found this factor, core components of each group, to be the most important source of explanatory variables that providing rationale for the efficacy of non-diet interventions in improving health.

As I discuss in my findings section, sub-factors of particular note include: approach to weight, approach to eating and approach to exercise, which are summarized in more detail and disaggregated by trial and control group in the charts below.

Table 13- Case Study: Core Components of Each Group

Sub-factor	Bacon HAES group	Bacon diet group	Rapoport M-CBT group	Rapoport S-CBT group	Mensinger HUGS group	Mensinger LEARN group
<b>Approach to weight</b>	<ul style="list-style-type: none"> <li>• Acceptance of current size and self primary emphasized</li> <li>• Focused on disentangling worth from weight</li> <li>* Theory that weight will settle at a healthy place if eating intuitively</li> </ul>	<ul style="list-style-type: none"> <li>* Weight loss encouraged as primary goal via diet and exercise</li> </ul>	<ul style="list-style-type: none"> <li>* Goal to prevent future weight gain</li> <li>* Acceptance of current weight with simultaneous recognition of possible health consequences of obesity</li> </ul>	<ul style="list-style-type: none"> <li>* Goal to lose weight as fast as considered safe</li> </ul>	<ul style="list-style-type: none"> <li>* Promoted healthy eating and an active lifestyle regardless of weight or shape</li> <li>* A healthy lifestyle is not about weight control, but rather about physical, mental and spiritual wellness; promotes enjoyable movement and physical activity (Omichinski, 2011)</li> </ul>	<ul style="list-style-type: none"> <li>* Maintained focus on weight loss, but unlike most diet treatments, also include physiological strategies to encourage lifestyle change</li> </ul>
<b>Approach to exercise</b>	<ul style="list-style-type: none"> <li>* Exploration of barriers to activity</li> <li>* Focused on pleasurable movement and active living</li> </ul>	<ul style="list-style-type: none"> <li>* Exercise at recommended duration, intensity and frequency as per best practices in weight loss and health literature at time</li> </ul>	<ul style="list-style-type: none"> <li>* Encouraged to set realistic exercise goals and educated on motivational techniques</li> </ul>	<ul style="list-style-type: none"> <li>* Increased exercise recommended with a focus on motivational techniques and developing self control</li> </ul>	<ul style="list-style-type: none"> <li>* Promoted enjoyable movement and physical activity (Omichinski, 2011)</li> </ul>	<ul style="list-style-type: none"> <li>* Education about role of exercise in health and weight, instructions about motivational techniques and making time for physical activity most days of the week</li> </ul>
<b>Approach to eating</b>	<ul style="list-style-type: none"> <li>* Decreased dietary restraint, increase intuitive eating</li> <li>* Nutrition education</li> </ul>	<ul style="list-style-type: none"> <li>* Increased restraint</li> <li>* Nutrition education</li> </ul>	<ul style="list-style-type: none"> <li>* Elimination of restrictive eating and dieting and education about healthy eating</li> </ul>	<ul style="list-style-type: none"> <li>* Energy deficit (1200 calories per day) and education about healthy eating</li> </ul>	<ul style="list-style-type: none"> <li>* Taught intuitive eating methods to identify and respond to physiological cues of hunger and satiety</li> </ul>	<ul style="list-style-type: none"> <li>* Focused on energy deficit and enhancing nutritional practices</li> </ul>

Table 14- Core Components of Rapoport RCT

M-CBT (non-diet)	S-CBT (diet)
<ul style="list-style-type: none"> <li>• Three groups of approximately 10 people.</li> <li>• Combines a “non-dieting approach” with CBT</li> </ul>	<ul style="list-style-type: none"> <li>• Three groups of approximately 10 people.</li> <li>• Primary goal: weight loss through energy</li> </ul>

<p>behavioral and cognitive principles to facilitate lifestyle change (regular physical activity and healthy eating) in recognition of the perceived health consequences of obesity.</p> <ul style="list-style-type: none"> <li>• The non-dieting approach in this study is focused on helping participant eliminate restrictive eating, reject dieting, adopt healthy eating and exercise habits, improve psychological well being and prevent against future weight gain.</li> <li>• Primary goal: weight management through permanent lifestyle change.</li> <li>• Secondary goal: reduction of psychosocial and physical health consequences of obesity.</li> <li>• In this study, the non-dieting approach drew from size acceptance in that acceptance of self at current weight was promoted, however, they rejected the part of size acceptance that challenges the concept that fat is bad, unattractive and unhealthy.</li> <li>• Participants were encouraged to fill in food diaries (regarding both eating patterns and thoughts/emotions) and use a pedometer.</li> <li>• Strategies for control over food was the same as in the S-CBT group: stimulus control, modifying negative cognitions, exposure and response prevention, social support, positive reinforcement and problem solving.</li> <li>• Strategies to improve body image included: cognitive strategies such as learning to disaggregate a "...non-ideal appearance with personal acceptability" (Rapoport et al., 2000, p 1730) and behavioural techniques such as exposure to avoided activities. Also discussed stigma and how to deal effectively with this.</li> <li>• Led by a State Registered Dietician and health Psychologist with training in CBT. A clinical psychologist and exercise scientist conducted specialist sessions.</li> </ul>	<p>deficit (1200 calories per day); weight loss goal .5-1 kg per week (maximum safe weight loss as fast as possible encouraged).</p> <ul style="list-style-type: none"> <li>• Maintained focus on weight loss, but unlike most diet treatments, also included physiological strategies to encourage lifestyle change.</li> <li>• CBT aspects included: weekly weigh ins; monitoring of food, self control strategies, education regarding health eating and exercise, motivational techniques to increase physical activity and learning to maintain weight loss through self monitoring with a built in plan to increase intensity of monitoring as weight regain begins to occur.</li> <li>• Led by the same State Registered Dietician and health Psychologist with training in CBT. A clinical psychologist and exercise scientist conducted specialist sessions.</li> </ul>
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Table 15- Core Components of Mensinger RCT

<b>HAES/HUGS (non-diet)</b>	<b>LEARN Program for Weight Management (diet)</b>
<ul style="list-style-type: none"> <li>• Primary goal: prevent cardiovascular disease risk factors.</li> <li>• Two groups of 20 people each.</li> <li>• Wellness-centered, based on a HAES intervention known as "HUGS" (Health focused, Understanding lifestyle, Group Supported, and Self-esteem building), based on the work of Linda Omichinski.</li> <li>• Promotes healthy eating and an active lifestyle regardless of weight or shape.</li> <li>• Teaches intuitive eating methods to identify and respond to physiological cues of hunger and satiety.</li> <li>• Delivered by Kelly Bliss, an experienced psychotherapist and fitness expert with previous health-centered work.</li> <li>• Participants provided with two books to support the curriculum ("Tailoring Your Tastes" and "Staying off the Diet Rollercoaster").</li> </ul>	<ul style="list-style-type: none"> <li>• Primary goal: prevent cardiovascular disease risk factors.</li> <li>• Two groups of 20 people each.</li> <li>• Weight-centered behavioural weight loss program based on work of Dr. Kelly Brownell (Brownell, 1997)</li> <li>• Weight loss goal, focus on food intake and activity and energy deficit.</li> <li>• "LEARN" (Lifestyle, Exercise, Attitudes, Relationships and Nutrition).</li> <li>• LEARN comes with a manualized curriculum, which they adapted to fit the length of the their trial.</li> <li>• Facilitated by Ann Wellock, a Registered Dietician.</li> <li>• Similar to the HUGS/HAES intervention there was a focus on the importance of</li> </ul>

	healthy lifestyles and slow, sustainable change.
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Table 16- Core Components of Bacon RCT

HAES (non-diet)	Diet
<ul style="list-style-type: none"> <li>• Participants encouraged to decrease their dietary restraint and rely on intuitive, internal regulation.</li> <li>• Participants supported to accept their size.</li> <li>• Focus on health related behaviour change, as opposed to weight loss.</li> <li>• Conducted by a counsellor well versed in psychotherapeutic workshops and groups</li> <li>• Five main aspects to intervention:               <ol style="list-style-type: none"> <li>1) <i>Body acceptance</i>: Participants learn to lead a full life and stop tying up their worth with their weight.</li> <li>2) <i>Eating behaviour</i>: participants supported and encouraged to let go of restrictive eating habits and relearn internally regulated eating. Participants provided with techniques to help them become more sensitive to internal cues and decrease reliance on and vulnerability to external cues.</li> <li>3) <i>Activity</i>: Participants investigated barriers to being active and explored ways to incorporate pleasurable movement into every day lives.</li> <li>4) <i>Nutrition</i>: Participants educated on standard nutrition and informed about the effects of diet on well being. Participants supported in balancing health and taste preferences. Focused less on basic nutrition than on internal regulation and learning to regulate quality and quantity of food through internal cues.</li> <li>5) <i>Social Support</i>: Focus was on the cultural context and a critical examination of society's devaluation of women based upon body size.</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>• Participants encouraged to increase their dietary restraint.</li> <li>• Participants encouraged to reduce their size.</li> <li>• Focus on weight loss as a primary means to improve health.</li> <li>• Sessions conducted by a Registered Dietician, with content considered to be the cutting edge in behavioural weight loss research (i.e. informed by the work of Brownell and Kramer).</li> <li>• Grounded in core aspects of behavioural treatment: self-monitoring, stimulus control, reinforcement and cognitive change</li> <li>• Intervention reinforced via the LEARN Program for Weight Control Manual (Brownell, 1997), a gold standard in weight loss techniques.</li> <li>• Four main areas of focus:               <ol style="list-style-type: none"> <li>1) Eating behaviour: Participants encouraged to restrict fat and calories, to conduct weekly self weigh-ins, keep food diaries.</li> <li>2) Nutrition: Education on how to count calories and fat, reading labels and how to shop. Participants encouraged to self-monitor and keep food diaries.</li> <li>3) Exercise: Participants educated in the benefits of exercise and informed to exercise to meet target heart rates for maximum weight loss.</li> <li>4) Social Support: educational components and discussion of questions or concerns of participants as needed.</li> </ol> </li> </ul>

### Case Study Explanation Building: From Propositions to Theoretical Explanations

For my purposes explanation building was broken into the following steps, as per Yin (2003):

1. *Created theoretical explanations/propositions*: Made preliminary propositions and rival explanations to explain why non-diet interventions are generally more effective at improving health than diet type interventions. This was done based upon a literature review prior to beginning data collection.
2. *Compared theories to data from one case study*: Read available literature on initial case; conducted interview and compared data from initial case to preliminary propositions and rival explanations.
3. *Revised theories*: Revised theoretical explanations and ensured they matched case data from first case.

4. *Compare revised theory to additional cases:* Compared revisions to data collected from additional cases, one by one, in an iterative process (repeated step 2 and 3 after data collection of each additional case).
5. *Finalized theoretical explanation(s):* Analysis was considered complete once theoretical explanation(s) matched selected cases and findings were written.

The below table summarizes my initial theoretical propositions/rival explanations, and the evolution to, and evidence in support of, the finalized theoretical explanations.

Table 17- Explanation Building and Theoretical Explanations

<b>Preliminary propositions and rival explanations</b> <i>(pre-data collection)</i>	<b>Revised/additional hypotheses</b> <i>(following data collection from Bacon et al. case)</i>	<b>Revised/additional hypotheses</b> <i>(following data collection from Rapoport et al.)</i>	<b>Revised/additional hypotheses</b> <i>(following data collection from Mensinger case)</i>	<b>Finalized explanation</b> <i>(Following all data collection)<sup>108</sup></i>
<p><b>Revised proposition:</b> Dietary restraint creates a physiological and psychological starvation response. Decreasing dietary restraint and increasing reliance on intuitive eating helps maximize health and stabilize weight, especially when combined with retraining taste buds to enjoy healthier, more natural foods.</p> <p><b>Evidence:</b></p> <ul style="list-style-type: none"> <li>• The reason it is important to minimize dietary restraint, as discussed by Bacon in our interview</li> </ul>	<p><b>Revised proposition:</b> Dietary restraint creates a starvation response increasing likelihood of weight cycling</p> <p><b>Evidence:</b></p> <ul style="list-style-type: none"> <li>• Evidence less substantial in the Rapoport trial supporting original proposition, as restraint was not correlated with increased binge eating. However, dietary restraint, which increased more in the S-CBT group coincided with a greater proportion of participants gaining weight from base.</li> <li>• For example,</li> </ul>	<p><b>Revised proposition:</b> Dietary restraint creates a physiological and psychological starvation response that worsens the likelihood of negative health outcomes, including those resulting from weight cycling and the starve/binge cycle</p> <p><b>Evidence:</b></p> <ul style="list-style-type: none"> <li>• Dietary restraint increased in LEARN group; the HUGS groups showed a greater improvement in health outcomes</li> <li>• Paraphrased from interview: “dieting increases the likelihood of bingeing” (Mensinger)</li> </ul>	<p><b>Finalized, combined proposition:</b></p> <p>Encouraging dietary restraint may create a physiological and psychological starvation response that increases the likelihood of weight cycling and bingeing. Conversely, decreasing dietary restraint and increasing reliance on intuitive eating helps improve health outcomes and health habits, especially in the long-term.</p> <p>* Considered a primary theoretical explanation as interviews and my literature review both highlighted the importance of</p>	<p><b>Revised proposition:</b> Dietary restraint creates a physiological and psychological starvation response. Decreasing dietary restraint and increasing reliance on intuitive eating helps maximize health and stabilize weight, especially when combined with retraining taste buds to enjoy healthier, more natural foods.</p> <p><b>Evidence:</b></p> <ul style="list-style-type: none"> <li>• The reason it is important to minimize dietary restraint, as discussed by Bacon in our interview and supported through my literature</li> </ul>

<sup>108</sup> Primary theoretical explanations were more readily evident from data collection related to each individual case and had greater support in the literature at large than the secondary explanations.

<p>and supported through my literature review, is that the human body has homeostatic mechanisms that will compel a person to consume a wider range of, and greater quantities of food when faced with energy deficits.</p> <ul style="list-style-type: none"> <li>• "...there are so many mechanisms your body works on to try to push your cravings so that you are going to break your restriction, and you know we tend to just think it's psychological, that, you know I crave that because I said I can't have it. But physiologically we can see that there are shifts, that different foods will become appealing, a wider range of foods will become appealing just to force you to eat." (quote from Bacon</li> </ul>	<p>dietary restraint which was encouraged in S-CBT group as seen through the recommended 1200 calorie diet. Interestingly, at 1 year, in the S-CBT group 47% of people gained weight from base; in M-CBT only 40% gained from base</p> <ul style="list-style-type: none"> <li>• As put by Rapoport et al. (2000) "Weight loss in the S-CBT group, where active dietary restriction was promoted, was, as predicted, greater immediately after treatment, but this short-term advantage was not maintained in the longer-term" (p 1735)</li> <li>• Specifics about restraint scores: dietary restraint higher in M-CBT at baseline than S-CBT; Dietary restraint increased more in S-CBT</li> <li>• As put by Rapoport et al. (2000) "...dieting has been implicated in increasing eating</li> </ul>	<p>interviewee)</p> <ul style="list-style-type: none"> <li>• Paraphrased from interview: "HAES focused on deleterious effects of dieting and educated people about this" (Mensinger interviewee)</li> </ul>	<p>this.</p>	<p>review, is that the human body has homeostatic mechanisms that will compel a person to consume a wider range of, and greater quantities of food when faced with energy deficits.</p> <ul style="list-style-type: none"> <li>• "...there are so many mechanisms your body works on to try to push your cravings so that you are going to break your restriction, and you know we tend to just think it's psychological, that, you know I crave that because I said I can't have it. But physiologically we can see that there are shifts, that different foods will become appealing, a wider range of foods will become appealing just to force you to eat." (quote from Bacon interviewee)</li> <li>• "Restrained eating has the potential to intensify the diet/overeating cycle" (Bacon et al. 2002, p 864)</li> <li>• HAES group increased intuitive eating, decreased</li> </ul>
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<p>interviewee)</p> <ul style="list-style-type: none"> <li>• “Restrained eating has the potential to intensify the diet/overeating cycle” (Bacon et al. 2002, p 864)</li> <li>• HAES group increased intuitive eating, decreased dietary restraint, maintained weight and improved all outcome variables, whereas the diet group did not sustain improvements</li> <li>• Retraining taste buds is key to enjoy a more vegetable dense diet (Bacon, 2010)</li> </ul>	<p>problems (e.g. binge eating) and preoccupation with weight and shape” (p 1726)</p> <ul style="list-style-type: none"> <li>• Likelihood that given prevention of further weight gain was a focus even in M-CBT group this could explain why restraint did not have an much influence on outcomes as in other two groups</li> </ul>			<p>dietary restraint, maintained weight and improved all outcome variables, whereas the diet group did not sustain improvements</p> <ul style="list-style-type: none"> <li>• Retraining taste buds is key to enjoy a more vegetable dense diet (Bacon, 2010)</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Proposition-Re: weight:</b> When weight is the primary success indicator of improved eating habits and thus health, people who fail to lose/maintain weight loss may get discouraged and return to unhealthy eating/exercise habits. The weight focus in diet</li> </ul>	<p><b>Revised proposition:</b> When weight is the primary success indicator of improved eating habits and thus health, people who fail to lose/maintain weight loss may get discouraged and return to unhealthy eating/exercise habits and worsened psychological health outcomes. The weight focus in diet type interventions is one factor which may precipitate no</p>	<p><b>Revised proposition:</b> When weight is a primary indicator of improved eating habits, people who lose weight will show improvements in health outcomes (physiological and psychological) in the short term, however, given that after two years most weight is regained it is likely that in the long-term the weight focus in diet interventions is a crucial factor precipitating no improvement in</p>	<p><b>Revised proposition:</b> In the short term, when weight is a primary indicator of improved health we may see improvements in psychological and physiological variables. However, in the long-term, using weight loss as a measure of success is likely to lead to discouragement and a possible return to unhealthy eating/exercise</p>	<p><b>Finalized, combined proposition</b></p> <p>In the short term, when weight is used as an indicator of improved health we may see improvements in psychological and physiological variables. However, in the long-term, using weight loss as a measure of success is likely to lead to discouragement and a possible return to unhealthy eating/exercise habits and</p>

<p>type interventions is a crucial factor precipitating failure to improve health outcomes.</p>	<p>improvement in health outcomes in the long-term.</p> <p><b>Evidence:</b></p> <ul style="list-style-type: none"> <li>“...weight loss failure may be damaging to chronic dieters’ overall self image, particularly in light of the inordinate amount of importance that they place on their weight and shape when evaluating themselves as a person” (Bacon et al., 2002, p 864)</li> <li>“If the weight loss cannot be accomplished or sustained, the benefits of diet programs may be limited and risk factors may become worse if individuals give up on health habit improvements when they are unsuccessful at achieving or sustaining weight loss” (Bacon et al., 2002, p 864)</li> </ul>	<p>long-term health outcomes as people who fail to lose/maintain weight may get discouraged and return to unhealthier eating/exercise habits and worsened psychological health outcomes. This may be ameliorated by a focus on self-acceptance independent of weight</p> <p><b>Evidence:</b></p> <ol style="list-style-type: none"> <li>Both groups were equally provided with a self acceptance ethos</li> <li>Both groups equally improved health outcomes, however both groups had success in losing weight</li> </ol>	<p>habits and worsened psychological health outcomes if and when weight loss is not maintained.</p> <p><b>Evidence:</b></p> <ul style="list-style-type: none"> <li>Internalized weight bias improved more in HUGS group</li> <li>Both groups showed improvements in many variables at 6 month testing</li> </ul>	<p>worsened psychological health outcomes if and when weight loss is not maintained.</p> <p>*Considered a primary theoretical explanation as de-emphasizing weight emerged as a primary factor underlying the non-diet groups and was cited by interviewees and in literature review as integral.</p>
<ul style="list-style-type: none"> <li><b>Proposition-Re: deconstructing internalized social and cultural norms:</b> When people learn that their weight and</li> </ul>	<p><b>Revised Proposition:</b></p> <p>Participants were able to view success external to weight loss once they were able to disentangle their worth from their weight. This disentanglement was aided through</p>	<p><b>Revised Proposition:</b></p> <p>Improved self esteem, self image, and self acceptance are precursors to sustainable health habits, are can be realized through promoting self acceptance regardless of</p>	<p><b>Revised Proposition:</b></p> <p>Improved self esteem and self image, which can be seen as precursors to sustainable health habits, are aided through helping participants enhance their</p>	<p><b>Finalized, combined proposition:</b></p> <p>Minimizing internalized weight bias helps to improve self esteem and self image, which can be seen as precursors to sustainable health habits. Destabilizing</p>

<p>health may not be as intricately linked as they previously believed, they are able to reject the moralizing, healthist dominant obesity discourse, improve self-esteem, and develop sustainable health practices.</p>	<p>the HAES curriculum through which participants learned about cultural weight myths and through the support group where they were able to understand that their bodies weren't the problem, but rather dieting was.</p> <p><b>Evidence:</b></p> <p><b>Quote:</b> "The idea that dieters don't have will power was really clearly not true when you looked at all the crazy things people had done...Having that you know, being able to talk about that in a group really made it clear to them that they gave it a good shot, that the problem wasn't with them. And then they could be much more open to they educational material that I presented...that showed them that diets don't work. You know, physiologically they are a set up for failure in addition to psychologically. So they support group element had just kind of...seeing everyone's shared experience I think helped to bring the educational stuff- it helped to make it much more real for them, and it was- every group seemed to be a really emotional experience for people..." (Bacon interviewee)</p>	<p>weight.</p> <p><b>Evidence:</b></p> <p>Cited intervention strategy: "Self-acceptance to enhance emotional well-being and as foundation for long-term lifestyle change." (Rapoport et al., 2000, p 1729).</p> <p>"...overweight people should accept themselves at their current weight, and views self-acceptance as a foundation for a healthy lifestyle" (Rapoport et al., 2000, p 1727)</p>	<p>sense of self worth independent of weight. Disentangling worth from weight necessitates that participants understand social constructions around body size.</p> <p><b>Evidence:</b> The HUGS intervention counters cultural ideal of thinness and allows us to see how this is culturally constructed (Omichinski, 2011)</p>	<p>internalized weight bas was aided through helping participants enhance their sense of self worth independent of weight. Disentangling worth from weight necessitates that participants understand social constructions around body size.</p> <p>*Considered a secondary explanation as this was not explicitly discussed as causal in the literature of by interviewees, but rather was alluded to and considered a common factor across cases.</p>
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	<p>When asked what facilitated the shift in their mindset the interviewee responded: "...And you know, I think when they dropped a lot of the criticism and self blame that comes along with the idea that they have to lose weight in order to be a better person and be successful." (Bacon interviewee)</p>			
<ul style="list-style-type: none"> <li>• <b>Proposition-Re:</b> Self-esteem education is a key component of success.</li> </ul>	<p><b>Revised proposition:</b> A focus on self acceptance was a key component of success. Self acceptance can be encouraged through social support and understanding cultural constructs about thinness.</p> <p><b>Evidence:</b></p> <p>Self-esteem education was not a critical component of the education, but rather an outcome. Improved self esteem was an inadvertent result of increasing self acceptance and social support. Self acceptance does not come about through education but rather from participants learning the problem is not with them, it is with the culture)</p>	<p><b>Revised proposition:</b> A focus on self acceptance was a key component of success.</p> <p><b>Evidence:</b></p> <p>Self acceptance also was a likely key factor precipitating success of both groups</p> <p>A self acceptance ethos was promoted equally across both groups (Rapoport et al., 2000)</p>	<p><b>Revised proposition:</b> A focus on self acceptance was a key component of success. Some ways to encourage self acceptance are through social support and helping participants understand cultural constructs about thinness.</p> <p><b>Evidence:</b></p> <p>"HAES addresses underlying issues of self esteem and self acceptance " (quote Mensinger interviewee) The first focus of HUGS is a positive attitude and self esteem- these form the basis for creating a more loving relationship with your body and taking care of it (Omichinski, 2011)</p>	<p><b>Finalized, combined proposition:</b></p> <p>A focus on self acceptance was a key component of success. Some ways to encourage self acceptance are through social support and helping participants understand cultural constructs about thinness.</p> <p>*Considered a secondary explanation, as while important, this was almost an inevitable result of de-emphasizing weight, rather than as an explanatory variable in and of itself.</p>
<ul style="list-style-type: none"> <li>• <b>Proposition-Re: exercise:</b></li> </ul>	<p><b>Revised proposition:</b> Enjoyable exercise</p>	<p>No evidence in support of or against as data on</p>	<p><b>Revised proposition:</b> Enjoyable</p>	<p><b>Finalized, combined</b></p>

<p>Encouraging pleasure in exercise is a key component of HAES success and sustaining improved personal health habits.</p>	<p>is more likely to be sustained in the long-term than exercise that is to meet weight loss goals. Enjoyable exercise is done with the purpose of feeling good rather than losing weight.</p> <p><b>Evidence:</b></p> <p>“...I think in the past they always looked at exercise as punishment...Something they were supposed to do because they weighed too much... But not something that was fun. And when they, when it started more from a sense of appreciating their bodies, celebrating their bodies, it became a lot easier and it wasn't effort anymore” (Bacon interviewee quote)</p>	<p>exercise was limited</p>	<p>exercise is more likely to be sustained in the long-term than exercise that is to meet weight loss goals. Enjoyable exercise is gradual, incorporated into everyday life and not with the purpose of feeling good as opposed to weight loss.</p> <p><b>Evidence:</b></p> <ul style="list-style-type: none"> <li>HUGS takes a gradual approach on exercise in comparison to diet interventions and is based on encouraging an intrinsic desire to do things that make you feel good (Omichinski, 2011)</li> </ul>	<p><b>proposition:</b></p> <p>Enjoyable exercise is more likely to be sustained in the long-term than exercise that is to meet weight loss goals. Enjoyable exercise is gradual, incorporated into everyday life and with the purpose of feeling good as opposed to weight loss.</p> <p>*Considered a primary theoretical explanation as this was strongly supported through my interview findings.</p>
<ul style="list-style-type: none"> <li><b>Proposition-Re: eating:</b> Encouraging relearning of internal hunger cues enhances ability to eat healthfully and stops the diet/binge cycle.</li> </ul>	<p>Reject proposition</p> <p>Combined into proposition 1</p>	<p>Combined into proposition 1</p>	<p>Combined into proposition 1</p>	<p>-</p>
<ul style="list-style-type: none"> <li><b>Rival explanation - Re: sample:</b> Participants in studies may be considered “chronic dieters”, thus the results are unique to</li> </ul>	<p><b>Revised rival explanation:</b> HAES is particularly beneficial for chronic dieters or other groups who find themselves discouraged about their eating, body, food or health, though it is likely to</p>	<p><b>Revised rival explanation:</b> A non-diet approach is particularly beneficial for chronic dieters or other groups who find themselves discouraged about their eating, body, food or health, though it is likely to</p>	<p><b>Revised rival explanation:</b> A non-diet approach is particularly beneficial for women who have a history of dieting or poor body image, though it has proven effective with participants with</p>	<p><b>Finalized, combined proposition based on rival explanation:</b></p> <p>A non-diet approach is particularly beneficial for women who have a history of dieting or poor body image,</p>

<p>this subgroup of the population who may be more motivated to create change for themselves.</p>	<p>be effective beyond this population. <b>Evidence:</b> “I think that we can use this model to work with other groups, certainly” (Bacon interviewee quote)  While results of this study suggest this hold for dieters, it is likely also effective for those with diabetes (Bacon &amp; Matz, 2010) and youth (Cool, 2007), as determined through a literature review.</p>	<p>be effective beyond this population. <b>Evidence:</b> “...it would seem likely that the M-CBT approach may be particularly relevant for those who have a history of unsuccessful dieting or eating disorders” (Rapoport et al., 2000, p 1735)</p>	<p>varying degrees of dietary restraint and body image concerns. It is likely that to be a useful model for other populations, such as youth or those with diabetes. <b>Evidence:</b> Unlike in the Bacon et al. trial where chronic dieting was an eligibility requirement, not all people in this RCT were considered chronic dieters, thus demonstrating its likely efficacy across the broader population.</p>	<p>though it has proven effective with participants with varying degrees of dietary restraint and body image concerns. It is likely that to be a useful model for other populations, such as youth or those with diabetes.  *Considered a secondary explanation as evidence suggests non-diet approaches will also be successful with other groups.</p>
<p>• <b>Rival explanation - Re: sample:</b> HAES has success with individuals who have the resources and time to “relearn” eating and exercise (i.e. persons of high socio-economic status, persons with high levels of health literacy).</p>	<p>Reject rival explanation <b>Evidence:</b> Participants had a range of education levels and job statuses.</p>	<p>Reject rival explanation <b>Evidence:</b> Participants were from a range of ethnic backgrounds, socioeconomic statuses and educational histories (Rapoport et al., 2000)</p>	<p>Reject rival explanation <b>Evidence:</b> Participants were from a range of economic and educational backgrounds, with varying degrees of life commitments (i.e. family, school, work).  Rival explanation inconclusive with data. Mesinger did a “predictors of completion” statistical analysis and found that those less likely to complete were: students, those with children. Greater completion more likely amongst those with full time employment, higher quality of life and better environments, and</p>	<p>-</p>

			those who were “weight suppressed” (further from their highest all time weight). Education was ambiguous: those with at least one degree were more likely to complete than those with some college; but those with high school only were more likely to complete than those with some college (information from unpublished powerpoint provided by interviewee following interview)	
<ul style="list-style-type: none"> <li> <b>Rival explanation - Re: Intervention components:</b>  Participants in the non-diet or HAES groups received a greater degree of emotional support. </li> </ul>	<p><b>Inconclusive</b></p> <p>It is unknown the degree to which the diet group may have had less emotional support as the interview was conducted with researcher who was diet group facilitator and details of support group component for the non-diet group were not published and kept confidential.</p> <p>Social support was a component of both, however it was clear through the interview that the emotional support in the HAES group was a key factor in success.</p>	<p><b>Inconclusive</b></p> <p>Limited evidence in support of or against as data on degree of emotional support was limited, however considering both groups were led by the same instructor it is likely emotional support was consistent across the groups.</p>	<p><b>Inconclusive</b></p> <p>Unknown, interview conducted with researcher who did not participate in either group and data not further available.</p>	<p><b>Inconclusive</b></p> <p>Further evidence is required to determine the extent to which emotional support is a central component of success in health interventions.</p>

## Appendix E- Rationale for Including Criteria

The below table presents my rationale for inclusion of each criterion used to assess my policy options in my analysis chapter.

Table 18- Rationale of Criteria Utilized in Policy Analysis

Criteria	Rationale for selection
Efficacy	Serious concern has been raised about the health consequence of the weight-centered health paradigm, and that other alternatives, such as HAES, may be more effective at improving health. This criterion considers to what extent the option will reduce the policy problem and associated consequences as discussed in this paper.
Equity	Stigma about obesity has been labelled as a social justice concern, as well as a health concern, and is inequitable in that it ignores “normal weight” people who may be unhealthy and attempts to treat those who are overweight or obese, despite a significant percentage of these groups being metabolically healthy.
Cost	Implementation cost was assessed as a means of further examining the likelihood of government acceptance of the option. Potential cost savings through improved health outcomes, while important, were not assessed as that is beyond the scope of this paper.
Political and public acceptability	The primary measure of acceptability I am looking at is the extent to which the proposed policy options are politically acceptable to politicians and government staff <i>right now</i> . For this measure I drew on literature about the Overton window, which asserts that the “window” of politically acceptable policy options is defined not only by politicians/bureaucrats preferences, but also by degrees of public acceptability. If an idea is seriously unpopular by the public and various stakeholders government is unlikely to continue to endorse the option. Thus, in addition to assessing the political feasibility of each option based upon current government preferences, I also assessed the degree to which stakeholder groups were likely to influence the acceptability of each option.
Implementation complexity	Implementation complexity sought to determine how likely the option is to be implemented based on what is required before the policy is enacted. This is important to understand how to get from “here” to “there”. If it is simpler to implement, the option becomes more desirable.

## Appendix F- Glossary of Terms

Table 19- Glossary

“Overweight”	“Overweight” – determined by a Body Mass Index (BMI) of 25-29.9 – is a
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	<p>medical term used to imply an excess of adiposity and is often associated with increased rates of disease in the dominant obesity discourse.</p> <p>Amongst groups advocating for 'Fat Acceptance', preference has been expressed to cease use of the word "overweight" (Wann, 2009), as the term neglects the natural bell curve distribution of human weights, and implies that difference is inherently problematic. Within this paradigm "overweight" is viewed as anti-fat and discriminatory. Given the widespread use of the word "overweight" in public policy I will be using this term for the purposes of this paper.</p>
"Obesity"	<p>"Obesity" refers to a BMI of 30+ and is often broken down by classes (i.e. BMI 30-34.0, grade I; BMI 35-39.9, grade II or "extreme" obesity; BMI 40+, grade III or "morbid" obesity) (Saguy &amp; Almeling, 2005).</p> <p>Amongst groups advocating for 'Fat Acceptance', preference has also been expressed to cease the term "obesity" as it is seen to medicalize natural human diversity, fuel weight-based discrimination and imply all "obese" people are unhealthy (Wann, 2009). For the purposes of this paper, "obesity" will be used as familiar policy jargon. However I remain cognizant of the fact that this term has been declared offensive, something that should be considered in future discussions of appropriate language.</p>
Body Mass Index	<p>BMI is the standard measurement tool to determine whether an individual can be classified as underweight (BMI less than 18.5), normal or healthy (BMI 18.5-24.9), overweight (BMI 25-29.9), or obese (BMI 30+). BMI has been in common use as a measure of weight and health, since the late 1990's when the World Health Organization stipulated cut off criteria associated with presumed health risks with the range of weight categories (Flynn, 2003).</p> <p>Despite its widespread use, BMI has been recognized as far from ideal in that it doesn't accurately capture differences between muscle and fat content and does not account for body structure variations across the population, especially amongst different ethnic groups.</p>
Diet	<p>This Capstone considers a "diet" to be an adjective referring to intentional energy deficits created through calorie restriction – though often supplemented through exercise – with the objective of weight loss. Generally a diet consists of calories below the recommended target amount – as per the Canada food guide – for a person of a given body size and may also involve restriction of certain food groups seen to be more conducive to weight gain (i.e. carbohydrates and fats) to a level below the recommended daily intake. In this Capstone the term diet is seen to be synonymous with a "lifestyle change" undertaken in the name of weight loss. It is however, distinct from the noun "diet", which is often used to refer to the food and drink a person or other animal typically consumes.</p>
"Obesogenic Environment"	<p>Theories examining the "obesogenic environment" assert that certain surroundings, or conditions – such as the built or food environment – promote weight gain and that weight gain cannot be attributed solely to individual choice (McLaren, Shiell, &amp; Ghali, 2004).</p>
	<p>The weight-centered health paradigm is based upon six core principles: 1)</p>

Weight-centered health paradigm	That overweight and obesity are associated with excess energy and inadequate energy expenditure; 2) That weight is reflective of health status and can predict future health outcomes; 3) That excess weight causes morbidity and premature mortality; 4) That weight loss is both possible and sustainable and such methods are well known to science; 5) That losing weight to achieve “normal” or “healthy” weight status will invariably improve health; and 6) That while weight may be the result of many factors outside an individual’s control, weight is at least partially volitional <sup>109</sup> (O’Hara & Gregg, 2010).
Health at Every Size (SM)	HAES(SM), a pending service mark of the Association for Size Diversity and Health, is based upon the premise that the best way to improve health is through honouring your body, learning to listen to internal hunger cues, and incorporating pleasurable exercise. HAES(SM) advocates for the adoption of healthy behaviours regardless of size and has been proven effective at improving health outcomes in a number of Randomized Control Trials and other studies. For simplicity, within this Capstone “HAES” will be used in place of “HAES(SM)”.
Energy balance equation	The energy balance equation is based upon the hypothesis that weight loss is possible and sustainable if energy consumed is less than energy expended. There is limited evidence to support this hypothesis.
Weight cycling	Weight cycling is the loss and regain of weight through repeated weight-loss attempts, and is thought to be more closely associated with disease and mortality than obesity.
Size/Fat Acceptance community	The Size or Fat Acceptance community is a broad term to describe a range of people (i.e. individuals, medical professionals and organizations, academics, and activists) who align themselves with principles of anti-oppression and seek to dismantle weight stigma and bias, and promote healthy relationships with one’s body regardless of size. The size acceptance community is a social justice (as opposed to a solely health based movement), though it is closely aligned with Health at Every Size.

<sup>109</sup> O’Hara and Gregg (2010) assert that a central tenet of the weight centered paradigm is “*Weight is mostly volitional and within the control of the individual*” (p 433), however given the current recognition of “obesogenic” factors, or “obesity causing” factors largely outside an individuals control (such as the built environment and food climate) that impact weight, it’s the opinion of the author that this tenet should be adapted to reflect policy recognition of the obesogenic environment.

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