‘FAT’ OR FICTION: EXAMINING THE ROLE POLITICAL AND ECONOMIC FORCES PLAY IN DRIVING THE CONCERN OVER OBESITY

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Abstract

This paper attempts to examine the present focus on obesity by government officials, the private sector, and the general public. More specifically, this paper argues that there is a hyper-concern with obesity that stems more from well-established power dynamics and societal structures than a result of medical concern over public health. The role of political and economic forces is argued as being the reason for this hyper-concern. A critical analysis of the literature is presented to identify the underlying relevant factors that drive this hyper-concern with obesity. Finally, this paper considers the implications this hyper-concern with obesity can potentially have on the distribution of wealth, power, and influence within the public and private sector. This paper will also attempt to critically assess the clinical practice guidelines created to address obesity by the Registered Nurses' Association of Ontario, the Canadian Medical Association, the American Medical Association, and the Australian government. The argument that these clinical practice guidelines lack the breadth and depth to adequately and effectively address obesity will be put forth and highlighted in the context of six specific concerns.

Keywords: obesity, public health, Canada, resource allocation, neoliberalism

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Introduction

On a daily basis, concerns regarding obesity and one's weight are the constant focus of academic discourse, political debate, and extensive media attention (Cheek, 2008). This level of attention given to obesity is especially apparent within popular media which one can argue are obsessed with the rise in obesity within society (Guthman & DuPuis, 2006). There appears to be valid evidence to indicate that obesity may indeed be a major health concern. The World Health Organization (WHO) has deemed it an epidemic on a global scale, identifying being overweight as a disease entity as oppose to a mere statistical observation (Patterson & Johnston, 2012). Extensive research has highlighted alarming health complications that can arise from being obese including several chronic diseases such as type II diabetes, osteoarthritis, and sleep apnea (Yancey, Leslie, & Abel, 2006). In fact, it has been suggested that being obese increases a given individual's chances of premature death by two fold as compared to an individual within a healthy weight range (Yancey et al., 2006). Obesity has also been seen as a clear and present danger to the political, economic, and social structures within our society. Several key actors within academia, the government, and the private sector have voiced concerns over the financial burden the obesity epidemic has within our society (McKinnon et al., 2009). In particular, concerns over the current pressure placed on the healthcare system and sustainability for the near future are a priority among experts and the general public (McKinnon et al., 2009). Irrespective of this, there appears to be undue focus on this issue such that it has been suggested that there are broader factors driving this concern such as the proliferation of neoliberal values and the rise of globalization as an economic

force. This is supported by academics in the critical biomedical perspective that highlight how the average life expectancy has increased despite life-threatening conditions associated with obesity (Lenton, 2012).

In the context of obesity, neoliberalism can be seen as working in two pathways. First it creates obesity through its effects upon food production, consumerism, work related stress, and the economic insecurity that neoliberal values help foster. This is best analogous to what Karl Marx colloquially referred to as 'consumer fetishisms'. At the same time, its emphasis on the individual and belief that individuals shape their own behavior leads obesity to be seen as an individual problem. The latter pathway is a complicated argument and outside the scope of this current paper. While it is unclear whether the effects upon health are solely due to obesity or are the direct effects of insecurity, what is clear is that these pathways are significant and lead to adverse health outcomes through the impact of the social determinants of health (SDOH).

Main Purpose

The common narrative of obesity discourse labels obesity a significant health problem and offers solutions that focus on either individual-level interventions or behavioural modifications with little to no thought to the broader factors that may drive its incidence. This is commonly followed up with recommendations that are presented as definitive solutions rather than as necessary components of a cascade of required reforms. The purpose of this paper is not to merely conform to this simplified and perhaps irresponsible approach to obesity. Rather, the purpose of this paper is to identify obesity

as a significant health issue but also recognize that the same forces that are creating obesity are leading us to neglect other issues. More specifically, the argument will be put forth that obesity is a significant issue but the common approaches that flood the discourse on obesity are too narrow. While obesity appears to have effects on health, these effects are mediated by the SDOH. We have to recognize the role of the SDOH and aspects of the political economy of Canada in both the presence of obesity and the health effects of obesity. While there are a variety of issues that affect a given individual's health such as poverty, income insecurity, working conditions, and any number of SDOH that are arguably as important as obesity, the level of focus given to obesity is prominent.

The current level of focus on obesity at the various levels of government, in the private sector, and amongst the general public can be argued to be stemming from established power dynamics and societal structures rather than merely the result of medical concerns over public health. This paper will examine the role political and economic forces play in driving the concern over obesity within Canada. It will argue that these forces collectively not only help to shape the discourse on obesity but also reinforce an emphasis on the concern over obesity through the initiatives, policies, and strategies that stem from the priorities they set within Canada. In hopes of garnering more insight into the matter, I will first discuss the evidence on obesity and assess the various ways in which obesity is framed within our society. To help contextualize the discussion, I will highlight present initiatives, policies, and legislation within Canada that seek to address obesity. I will then provide a critical analysis of the literature on obesity. In doing so, I hope to identify the key factors that attempt to justify the fostering and maintaining of the

current level of focus on obesity. I will then provide a critique of these factors and those assessing what I term hyper-concern with obesity. Lastly, I will discuss the implications these political and economic forces pose for the public and policymakers in regards to these issues.

In relation to the broader goals of this paper, I will attempt to critically assess the clinical practice guidelines created to address obesity by: the Registered Nurses' Association of Ontario (RNAO), the Canadian Medical Association (CMA), American Medical Association (AMA), and the guideline created by the Australian government. I will argue that these clinical practice guidelines lack the breadth and depth to adequately and effectively address obesity. To highlight that the multifaceted nature of obesity is outside the purview of the objectives set by these clinical practice guidelines, six specific concerns will be discussed in relation to these guidelines: (1) Do these clinical guidelines have a significant impact on obesity rates?; (2) Are there unintended effects that arise from their adoption?; (3) Are these clinical guidelines logistically feasible?; (4) To what extent do relevant stakeholders influence these clinical guidelines?; (5) Do these clinical guidelines have different effects on different groups?, and (6) Are there financial concerns these clinical guidelines pose?

Added Value of this Paper

This paper will outline several factors that provide plausible explanations for the current hyper-concern with obesity. The level of attention, number of policies, and level of funding allocated to obesity initiatives cannot simply be the by-product of medical

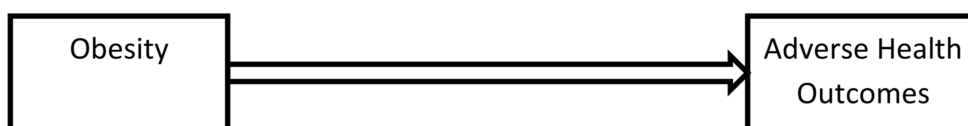
concern. This paper will acknowledge the medical evidence on obesity that highlights the health complications and subsequent poor health associated with obesity. The discussion on the implications stemming from this hyper-concern however, is where the value of this paper lies. The distribution of wealth, power, and influence within society is arguably created and reinforced by political and economic forces. These same forces can be seen as helping to perpetuate the hyper-concern with obesity. The subsequent impact and influence of these forces on policy makers and government officials not only highlights the dangers this hyper-concern poses but it urges this reality to be considered if meaningful reforms are to one day be ushered in. The paper will conclude by suggesting that how we spend our money on healthcare is just as important as how much we spend. Essentially, health inequality and inequity will neither be adequately nor effectively addressed until the overarching presence of political and economic forces are acknowledged and their influence is no longer reflected in the policies and initiatives created. Under this perspective, this paper frames obesity as part of a complex set of factors whose components cannot be seen and [as something that] does not influence an individual's health in a vacuum. Similarly, the observed hyper-concern with obesity cannot be explained by overlooking or minimizing the numerous political and economic factors involved.

The analysis presented in this paper diverges from the existing pool of literature in that it focuses solely on clinical practice guidelines tailored to address obesity from three specific liberal welfare states: Australia, the United States, and Canada. In addition, this paper's use of the social determinants of health (SDOH) and the political economy

approach to both contextualize and critique these clinical guidelines and obesity overall, is another distinguishing factor. Furthermore, this paper’s focus on health equity with regards to both nutrition and obesity further distinguishes this paper. Special emphasis is placed on the different levels of analysis throughout this paper. In both devising the inclusion and exclusion criteria, the micro-, meso-, and macro-level impact of the various factors being examined were consciously taken into account. Each component the clinical guidelines hoped to address was examined in isolation and then with the SDOH and political economy frameworks in the backdrop. Questions about social locations such as race, income, and class are highlighted in the critique of the clinical guidelines, the possible implications on public health arising from it, and in the suggested recommendations I provide. Lastly, throughout the analysis, fundamental questions about power, including its distribution by virtue of influence, wealth, and resource allocation are explicitly addressed.

Conceptual Frameworks

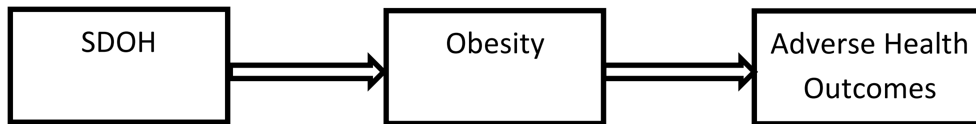
To inform the analysis that follows, consider the following four different ways of thinking about obesity and health. As will be shown, the analysis I present points towards acceptance of the third model.



Model 1: Obesity is the cause of adverse health outcomes

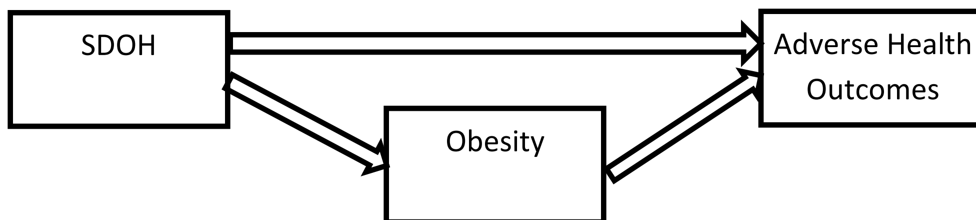
The first model sees a direct and causal link between obesity and the various adverse health outcomes (See Model 1). This model reflects the traditional schema of health and arguably fails to take into account the various extraneous factors that have a significant impact on an individual's health, especially the various SDOH. At its very core, medicine is intrinsically unpredictable (Schneiderman, 2011). Regardless of the extensive research and countless technological advances currently available, treatment options cannot guarantee desired health outcomes with absolute certainty. This lack of certainty places a great responsibility on healthcare professionals to reduce this uncertainty as much as possible through correct diagnosis, prognosis, and appropriate selection of the most effective treatment options. Under this model, success is solely dependent on the physician's medical expertise, ability to convey the information, and the level of rapport they have with their patient.

According to this model, obesity is a problem and the literature sees it as independent of everything else and that in itself is a problem. To illustrate that, I am going to examine the practice guidelines mentioned earlier to provide an example of how in practice despite what governments have to say about the broader issues, it is simply seen as an individual problem. Under this model, it must be acknowledged that some people say the focus on obesity is over stated while others say it is merely constructed and has not garnered a significant amount of attention.



Model 2: Obesity, shaped by the SDOH, is the cause of adverse health outcomes

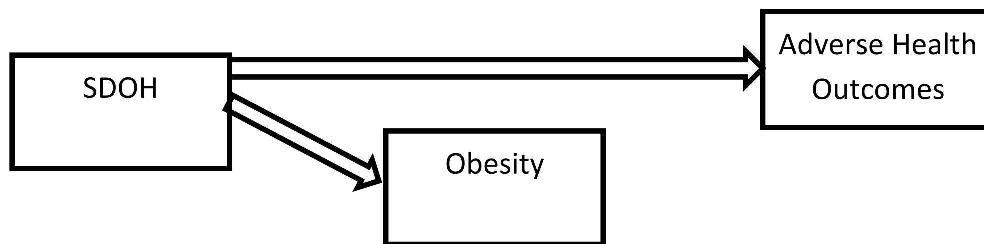
The second model still assumes a direct and causal link between obesity and adverse health outcomes, but sees the SDOH as the cause of obesity itself (See Model 2). This approach offers numerous research opportunities but overlooks the adverse health outcomes for which the SDOH has direct effects. Under this model, obesity is seen as a problem and we need to recognize that there are broader issues that shape obesity. Obesity may be over stated, over referenced, and it may be seen as reflective of cultural values but it is a significant issue.



Model 3: Obesity, shaped by the SDOH, contributes to adverse health outcomes

The third model acknowledges the impact the SDOH have on obesity but also considers the role the determinants have on adverse health outcomes directly by themselves (See Model 3). Attempting to address obesity in such a manner has far reaching and potentially more important implications than what is seen at face value. This model's emphasis on the SDOH helps to bridge the gap between the theoretical and the actual, while also helping to further nudge away from the traditional medical model

towards a patient-centred approach to health. There's no doubt that obesity contributes to some variance but it is really the big broader issues that are having the biggest impact. As such, I will be illustrating how in the practice guidelines they ignore the broader issues.



Model 4: Obesity, shaped by the SDOH, does not contribute to adverse health outcomes

The fourth model postulates that the SDOH cause obesity but being obese does not cause adverse health outcomes (See Model 4). This model places emphasis on the social, political, and economic factors alluded to by academics but negates the clinical evidence on obesity. Under this model, the argument can be made that we would all be better off if we believed in this model since by stopping the obesity discourse, we would start to talk about poverty, inequality, and other SDOH. This stems from the perspective that in the world of neoliberalism and traditional health sciences, when you put the word obesity in, doing so arguably directs everyone's attention to it and away from other health issues. It also suggests that the effects of obesity are negligible.

As the above models illustrate, obesity is certainty related to a wide range of health outcomes, although the reasons for this are disputed. Model 2 would suggest that there are direct effects of SDOH while Model 3 would argue that these effects may occur

independently of the presence of obesity. Interestingly, all of the studies that will be discussed in this paper, even when they acknowledge there might be SDOH influencing the presence of obesity, say nothing about the direct effects of the SDOH. Indeed there are health effects from obesity but these effects, it has been argued, pale in magnitude as compared to the direct effects of the SDOH. Nevertheless, we must acknowledge that obesity is a concern of society, and perhaps by illustrating some of its antecedents, we can draw attention to the determinants of both obesity and health.

Evidence on the Health Effects of Obesity

Academics, policymakers, and think tanks in both the public and private sector have studied obesity for many decades. With the WHO designating current obesity rates as an 'epidemic', countless research studies, policies, and initiatives have attempted to make sense of the impact it has had on society, arguably even more so than in the past (Monaghan, Colls, & Evans, 2013). This has led some to boldly frame current trends as an 'obesity time-bomb' (Monaghan et al., 2013). From the available data however, sifting through to distinguish between which are facts and which is merely rhetoric is not easy. The rhetoric of an 'obesity epidemic' itself is relatively new, emerging within the academic literature and general public in the early 1990s (Barry, Brescoll, Brownnell, & Schlesinger, 2009). Since its rise to prominence, however, a great deal of time and effort has been spent arguing over its legitimacy and accuracy. Some argue that the term is inappropriate and exaggerates the scope and impact of obesity (Barry et al., 2009).

Putting rhetoric to the side though, we can see that ample evidence exists on the impact of obesity on a given individual's health.

Identifying a singular direct causal explanation for current obesity rates is too complex a task (Malterud & Ulriksen, 2011). Research has shown that the causes and facilitators of obesity are multidimensional (Organisation for Economic Co-operation and Development [OECD], 2014). Individual autonomy, by virtue of eating habits and level of physical activity, has been shown to be associated with an individual's risk for being obese (Organisation for Economic Co-operation and Development, 2014). Similarly, both environmental and social determinants have been linked to the risk of being obese as they are prominent factors with regards to the healthy lifestyle options available to the individual (Organisation for Economic Co-operation and Development, 2014).

Research has shown that obesity is associated with an increased risk of frailty and several chronic diseases including type II diabetes, and arteriosclerosis (Marcellini et al., 2009). This research however, only controls for income and not education (Marcellini et al., 2009). In fact, obesity itself has been labelled a chronic disease with regards to its impact on an individual's quality of life (Dierk et al., 2006). Using the disability-adjusted life year (DALY), a tool used to measure the impact a given disease has on an individual's life span, the WHO has produced data on obesity (Anderson, 2008). According to the DALY, one year is calculated to be "a year of premature death, or ill health, adjusted for the severity of the ill health" (Anderson, 2008, p. i10). Essentially, it measures the difference between one's current health status and their potential health level (Anderson, 2008). The WHO showed evidence using the DALY that in Europe

being obese was found to be attributable to a total difference of more than 7%, making obesity the "fourth most important risk factor for ill health and premature death after tobacco, blood pressure and alcohol, and followed by a raised cholesterol level and inadequate physical activity" (Anderson, 2008, p. i10).

The impact of obesity has been examined at all stages of one's life. Studies have shown that adults who gain between 11 to 18 pounds increase their chances of type II diabetes by two fold, and gaining 44 pounds will increase their risk four fold (Yancey, Leslie, & Abel, 2006). Similarly, obesity in a child's formative years has been linked with a higher incidence of chronic diseases in adulthood (Yancey, Leslie, & Abel, 2006). An obese child has a higher risk for hypertension, fatty liver disease, and psycho-social distress (De Onis & Lobstein, 2010). In addition, research has shown that obesity in childhood is more difficult to reverse than obesity in adulthood (Yancey, Leslie, & Abel, 2006). Among the elderly, obesity has been found to reduce the risk of osteoporosis but increase the risk of falls (Yancey, Leslie, & Abel, 2006). Furthermore, notable differences have been documented among men and women. There is a 25% higher incidence of obesity among women than men and this, in turn, is reflected in the disparity among chronic diseases between the sexes (Yancey, Leslie, & Abel, 2006). For instance, among women ages 50 to 69 that are non-smokers, being obese has been associated with a 20% increase in the incidence of cancers linked to obesity (Yancey, Leslie, & Abel, 2006). Among women, significant differences have been found between races with women of colour having a higher incidence of obesity than white women (Yancey,

Leslie, & Abel, 2006). This research took into account both income and education (Yancey, Leslie, & Abel, 2006).

Social and psychological factors that negatively impact an individual's health have been associated with obesity. An obese individual faces self-confidence and self-esteem issues, bullying, and social isolation (Thatcher, 2004). In addition, some clinical disorders including depression have been found to correlate with obesity (Thatcher, 2004). Societally, obesity is seen as a threat to the healthcare system because of the financial burden the health complications associated with obesity produce (Thatcher, 2004). This in turn impacts the health outcomes a given individual can hope to receive and threatens continuity of care as a result because negative attitudes towards obese individuals discourage them from seeking access to healthcare services in fear of being discriminated against (Thatcher, 2004).

The high rate of obesity and subsequent poor health highlighted by academics can be explained in part by examining the role income inequality plays as a determinant of health. Subramanian and Kawachi (2004) formulated three pathways to show the connection between one's health and income inequality (Subramanian & Kawachi, 2004). The first pathway is the *structural pathway* which states that income inequality causes residential segregation which creates spatial concentrations of poverty in the form of underprivileged communities (Subramanian & Kawachi, 2004). Living in an underprivileged community increases an individual's risk for obesity because dangerous streets prevent outdoor physical activity, less nutritious food is readily available, and fewer recreation facilities are available (Subramanian & Kawachi, 2004). The second

pathway is the *social cohesion and collective social pathway* which is concerned with how increased income inequality is associated with increased disinvestment in the social capital of an underprivileged community (Subramanian & Kawachi, 2004). With regards to obesity, this disinvestment is seen as then manifesting poor health outcomes such as cancer and heart disease (Subramanian & Kawachi, 2004). Lastly, the third pathway is the *policy pathway* which pertains to the negative impact income inequality fosters by virtue of the difficulty involved in devising and implementing policies in a fragmented and segregated population (Subramanian & Kawachi, 2004). Obesity and the negative health outcomes associated with it can be argued to perpetuate these pathways and create a vicious cycle. Overall, based on these pathways, obesity can be seen as manifesting from the SDOH such as inadequate housing, lack of food security, and lack of access to quality healthcare that income inequality fosters. From a political economy perspective, these pathways can be seen as being maintained by virtue of the value and priority those in power place on market forces and neoliberal values that create income inequality (Coburn, 2010).

Globally, the impact of obesity on one's health has been argued to be a public health priority (Su, Esqueda, Li, & Pagan, 2012). Among member nations in the Organisation for Economic Co-operation and Development (OECD), obesity is quite pervasive with 18% of adults obese (See Appendix A, Organisation for Economic Co-operation and Development, 2014). Although the obesity rate varies among the different OECD countries, the overall growth in obesity in the near future is not expected to slow

down (See Appendix B, Organisation for Economic Co-operation and Development, 2014).

Obesity within Canada

In Canada, the Canadian Institute for Health Information (CIHI) and the Public Health Agency of Canada (PHAC) voiced their concern over the impact and pervasive presence of obesity within Canada in their report *Obesity in Canada* (PHAC & CIHI, 2011). Their report highlighted that 8.6 % of children and young adolescents ages 6 to 17 are obese and how this trend only increases with age, finding that 1 in 4 adults are obese (PHAC & CIHI, 2011). Furthermore, they reiterate findings within the academic literature on obesity that the causes of obesity vary and are complex (PHAC & CIHI, 2011). In particular, they mention that the causes of obesity are a combination of social and environmental factors in addition to the individual factors such as diet and exercise (PHAC & CIHI, 2011). The report also stresses the presence of the social determinants of health as a clear obstacle for many Canadians in their pursuit of living healthier lives (PHAC & CIHI, 2011). The report also discusses the extent to which obesity has had and continues to have a clear economic strain on Canada. According to their findings, obesity costs Canadians approximately $4.6 billion in 2008 alone and is expected to nearly double to $7.1 billion if the analysis takes into account the top 18 most prevalent chronic diseases within Canada (PHAC & CIHI, 2011). To effectively and appropriately address obesity within Canada, the report emphasizes that policies and initiatives aimed as

potential interventions to curtail obesity rates must be multifaceted in nature and employ health teams (PHAC & CIHI, 2011).

The prevalence and ever-expanding presence of obesity within Canada has prompted the government to take action to address the issue and to curtail the current obesity rate. Various strategies, legislation, and policies have been implemented both at the federal and provincial level that hope to usher in meaningful reform. Provincially, Ontario has enacted the *Ontario Agency for Health Protection and Promotion Act* which established Public Health Ontario (Public Health Ontario, 2013). The agency’s mission is to help foster and maintain optimal health for Ontarians. In a 2013 report, to adequately and appropriately address obesity, the agency reaffirmed the need to see obesity as a multidimensional issue (Public Health Ontario, p.1). They stress the need to take into account the financial, environmental, and social factors involved in obesity (Public Health Ontario, 2013). In particular, the report reiterated the province's goal of reaching a 20% reduction in the incidence of childhood obesity by 2017 (Public Health Ontario, 2013). The report further stressed the need for approaches that included relevant actors, take into consideration diversity, and use a child's environment effectively (Public Health Ontario, 2013). A prime example of the government trying to address obesity in such a manner is the *School Food and Beverage Policy* established within Ontario.

The *School Food and Beverage Policy*

The impact nutrition can have on a child's overall health and the advantages of using the school system as a form of public health intervention as highlighted within the

literature, led Ontario to pass the *Healthy Food for Healthy Schools Act, 2008* ("An Act to Amend," 2008). This act was made possible through the amending of the previously established *Education Act,* which explicitly banned the presence of junk food in school vending machines and placed stern oversight on trans fats in both primary and secondary schools (An Act to Amend, 2008; Callaghan, Mandich, & He, 2010). The *Healthy Food for Healthy Schools Act* sought to create and reinforce “mandatory nutrition standards for food and beverages in schools” ("Healthy Schools," 2011). As a means of increasing the potential impact of this act, the *School Food and Beverage Policy*, was established across all schools in Ontario ("Policy/program Memorandum No. 150," 2010). The objective of this policy was to ensure students come into contact with healthy food options and that the nutritional demands growing children have are being explicitly met while they are at school ("Policy/program Memorandum No. 150," 2010).

This policy saw the emergence of the Student Nutrition Program that supplied students with breakfast, lunch, and snacks province wide (Ontario Ministry of Children and Youth Services, 2011a). The nutritional guidelines reflecting the objectives of the policy were created by the Ministry of Children and Youth Services with several other agencies including: Ministry of Education; Ministry of Health Promotion; Ontario Ministry of Agriculture, Food and Rural Affairs; Dietitians of Canada; Ontario Society of Nutrition Professionals in Public Health; Public Health Units; and the Department of Family Relations and Applied Nutrition at the University of Guelph (Ontario Ministry of Children and Youth Services, 2011a). The program is led by 14 agencies across the province and requires parents to pay out of pocket (Ontario Ministry of Children and

Youth Services, 2011b). The cost varies based on ability to pay but employs a universal approach which ensures no child is denied access due to financial barriers (The Ontario Student Nutrition Program, 2014). Government funding covers up to 15% of total cost and varies amongst different communities (The Ontario Student Nutrition Program, 2014). The remaining cost is covered through fundraising and sponsorships by corporate businesses (Pike, Mayo, & Jaffray, 2010; The Ontario Student Nutrition Program, 2014).

In 2014, the Ontario government pledged to expand the Student Nutrition Program with a $32 million endowment over the next three years (Ontario Ministry of Children and Youth Services, 2011b). This is meant to not only strengthen the current program but also create 340 new breakfast programs (Government of Ontario, 2014; Ontario Ministry of Children and Youth Services, 2011b). In addition, stemming from the Healthy Kids Strategy, the Ontario government invested $3 million into the program in 2013 which was intended to create more than 200 new breakfast programs in the next two years (Healthy Kids Panel, 2013; Ontario Ministry of Children and Youth Services, 2011b). With over 695,000 children using the program in 2012 alone, the government feels there are both a public demand and a public health responsibility to continue to support such an initiative (Ontario Ministry of Children and Youth Services, 2011b). Overall, the government's perspective on this initiative is best understood if one examines the health impact of childhood obesity, the role of nutrition on one's health, and the impact of nutrition on scholastic ability (See Appendix C).

Food Production and Obesity

The relationship between obesity and neoliberalism is evident when one examines the role food production plays in society. The rise in the incidence of childhood obesity has been argued by some as being the result of the overproduction of food (Guthman & DuPuis, 2006). In particular, agricultural subsidies brokered by powerful actors in both the public and private sector are seen as fostering the ideal environment within which the observed obesity epidemic can exist (Guthman & DuPuis, 2006). Subsidies favour foods with high caloric content over low caloric food, although extensive research has shown the health ramifications the widespread availability of such foods has on a given population (Guthman & DuPuis, 2006). Furthermore, research has shown the common practice within the food industry, especially in the fast food industry, to increase meal sizes has significantly contributed to childhood obesity rates (Guthman & DuPuis, 2006).

Mind the Gap: The Disconnect Between Research and Practice

As highlighted by the extensive pool of literature in the previous sections, the impact of obesity is not limited to physiologically-based medical concerns. Prominent stakeholders in both the private and public sector have echoed the fears many academics have regarding the financial, social, and political ramifications the current observed obesity rates can potentially have (McKinnon et al., 2009). A primary concern is the burden obesity will arguably have on both the maintenance and improvement of Canada's healthcare system (Drummond, 2012). While there is no singular cause for the observed rise in obesity rates among Canadians, several initiatives, policies, and legislation have

emerged with the hopes of circumventing the long list of problems obesity poses (Ells et al., 2005). At the macro-level, academics have pointed to the changing physical and social landscape including the increase in urbanization, the shift in migration patterns, and the ubiquitous presence of technology as potential causes for current obesity rates (Lob-Corzilius, 2007). At the individual level, strategies targeting behavioural modification have gained prominence in recent years as viable options to what some consider a losing battle to 'fat' (Lob-Corzilius, 2007). These concerns, though valid, cannot justify the hyper-concern with obesity.

Although various factors ranging from income inequality to the role nutrition plays have been shown to shape a given individual's health, including obesity, obesity has gained prominence far in excess of the evidence of its relative effects upon health. For instance, poverty is arguably a much more important determinant of health than obesity yet the attention paid to it pales in significance to that afforded obesity. Similarly, the emphasis placed on breast feeding is arguably misplaced since evidence supporting its effect on health also pales in comparison to issues such as poverty and other social determinants of health. It is from this disconnect between the mounting evidence available and the observed focus with obesity, that fundamental questions about power including its distribution by virtue of influence, wealth, and resource allocation is explicitly explored in this paper.

Methodology

To explore this disconnect between the mounting research available and the observed focus with obesity, a critical examination of the academic literature on various

approaches to obesity and interventions will be presented using two theoretical frameworks: political economy and the SDOH. To highlight that the focus on obesity is driven by political and economic forces rather than medical merit, the recommendations presented within clinical practice guidelines from three liberal states will be assessed. In particular, the SDOH and a political economy framework will be used to explain how these clinical practice guidelines lack adequate foresight and the appropriate scope to address obesity. In addition, these frameworks will be used to argue that the objectives and focus of these guidelines overlook several overarching social, political, and economic factors that act on these issues.

Social Determinants of Health Approach

The SDOH are the "societal factors that shape the health of individuals and populations" (Bryant, Raphael, Schrecker, & Labonte, 2011, p. 45). This approach to examining health and health inequalities at both the micro and macro-level, stresses that a given individual's health is not the by-product of any singular cause (Bryant et al., 2011). It was conceptualized at a time when academics grappled with understanding "the specific mechanisms by which members of different socio-economic groups come to experience varying degrees of health and illness" (Bryant, Raphael, & Rioux, 2010, p. 146). In contrast to the traditional biomedical model, the SDOH approaches health disparities with the assumption that they are socially-derived and thus, through a concerted systematic effort, these observed disparities can be changed (Bryant et al., 2010). In particular, the current health landscape is seen as well within the scope of

effective and appropriate health policies to address it (Bryant et al., 2010). The academics advocating for this approach typically view political rhetoric and social movements as being useful tools to usher in meaningful health reforms (Bryant et al., 2010).

This approach is being adopted in the analysis of these clinical guidelines because obesity can be argued to fall within the purview of the SDOH. A given individual's level of nutrition and any subsequent incidence of obesity can be argued to be the result of various SDOH (Commission on Social Determinants of Health, 2008). One's socioeconomic status, level of education, race, and level of job security also influence the quality of one's nutrition by virtue of the social and monetary capital they allow an individual to access (Commission on Social Determinants of Health, 2008). This analysis will heavily rely on the academic work of Bryant, Raphael, and Rioux for broad application of the SDOH on these clinical guidelines.

Political Economy Approach

The political economy approach to health takes into account the political, social, and economic factors that affect an individual's health (Bambra, Fox, & Scott-Samuel, 2005). Under this framework, health is seen as being heavily politicized. Health is viewed as being political because under neoliberalism an individual's health is framed as a commodity which results in groups having differing degrees of privilege with respect to this commodity (Bambra et al., 2005). Health can also be seen as political in nature because it has been deemed by the United Nations as a right based on human rights and citizenship (Bambra et al., 2005). Furthermore, health is political since the SDOH are

addressed and health disparities changed through the policies, initiatives, and legislation that political actors devise (Bambra et al., 2005; Gostin, 2007). Lastly, health is political in nature since "power is exercised over it as part of a wider economic, social and political system" (Bambra et al., 2005, p. 187). The major assumption within a political economy approach is that different groups within society have differing interests and at times these interests are at odds (Coburn, 2010).

A political economy approach is being used in this analysis because the observed obesity rates and its perceived importance in Canada can be argued to stem from the overarching influence of neoliberalism. In particular, it is argued that the priorities and objectives set by those in power are the underlying causes of the rise in obesity among children and adults. Needless to say, obesity is a problem that must be addressed but it is just one problem amongst a pool of issues created and sustained by political and economic factors. As such, this paper will highlight how government subsidies and the overproduction of food, in the context of the assumptions of the political economy approach, are two examples of factors that exacerbate the situation. With regards to my analysis of the clinical practice guidelines, the political economy framework will be used to highlight how certain aspects are given greater attention because they are better aligned with neoliberal priorities. Lastly, this paper will use the work of Subramanian and Kawachi (2004) to bridge the gap between income inequality and obesity within society.

The Various Ways in which Obesity is Framed

Aside from the evidence gathered on the impact obesity has on creating and sustaining the poor health of an individual, how obesity is framed is also important. Many academics have attempted to frame obesity under various academic disciplines (Patterson & Johnston, 2012). The discourse on obesity has generally fit into two perspectives: a traditional epidemiological approach and a critical realist approach. The traditional epidemiological approach frames obesity under the traditional biomedical model in which obesity is perceived to pose a danger to society at both the micro- and macro-level (Patterson & Johnston, 2012). Under this approach, the emphasis is on health promotion to raise awareness within society about the health complications that accompany obesity (Patterson & Johnston, 2012). Advocates of this approach come from epidemiology, public health, and the various specialities within medicine (Patterson & Johnston, 2012). The critical realist approach – buttressed by social constructivist concepts – perceives obesity as a by-product of socially constructed, maintained, and perpetuated issues (Patterson & Johnston, 2012). Under a constructionist lens, concepts such as stereotyping and stigmatizing individuals regarding fatness are at the heart of discussion, research, and recommendations (Patterson & Johnston, 2012). This approach frequently involves research aimed to "deconstruct and destabilize the ‘obesity epidemic’ by connecting it to powerful interests and cultural values about fatness that are historically rooted and socially constructed" (Patterson & Johnston, 2012, p. 266).

The traditional epidemiological approach to obesity can be further distinguished into two streams. The first stream stems from a strictly medical, epidemiological, and

public health outlook (Patterson & Johnston, 2012, p. 271). Under this approach, the scientific model is given prominence and is seen as the primary sources of knowledge (Patterson & Johnston, 2012). The recommendations, initiatives, and policies coming from this approach place an emphasis on physical activity and diet as the underlying culprits for the current observed obesity rates (Patterson & Johnston, 2012). This approach to obesity indeed provides us with a wealth of knowledge but ignores or minimizes several key points that many argue contribute to the hyper-concern with obesity fostered by both political and economic forces. In particular, this stream fails to take into account the social ramifications that manifest within society by its categorization of obesity as "a pathology, disease or social problem, and to reduce the causes of obesity to individual choice" (Patterson & Johnston, 2012, p. 271). This classification of obesity as a disease is further solidified by the notion that several chronic diseases have a causal relationship with obesity (Patterson & Johnston, 2012).

The critical realist approach is rooted in a broader political and economic literature and examines obesity in light of the backdrop of such factors as power and influence, societal structures, and resource distribution within society (Patterson & Johnston, 2012). There is a focus on how historical and current power structures within society play a role in the creating and sustaining of obesogenic environments (Patterson & Johnston, 2012). The impact of globalization on food production best captures this stream. Current established infrastructures impact the distribution of resources and, in turn, result in the overproduction of unhealthy food (Patterson & Johnston, 2012). It can be argued that key stakeholders in both the financial and political spheres cleverly

employ campaigns and use their influences to create and sustain this overproduction. As such, obesity is a result of market forces that push towards the accrual of capital and the established class structures that regulate the allocation of resources within society (Patterson & Johnston, 2012).

The critical realist approach can also question the very validity of obesity discourse. It argues that the very focus on obesity as a health issue is driven by non-medical non-health factors associated with issues of power and influence of the medical and public health sectors and the limitation of health discourses fostered by neo-liberalism and related discourses. Of the two approaches to obesity, the critical realist approach best frames obesity and appropriately acknowledges that political and economic forces are not only shaping the discourse on obesity but perpetuating a concern with it to the exclusion of different health factors. It fosters an exclusive focus on obesity to the exclusion of far more important health issues. In particular, this approach frames obesity as "a product of discourse and power" (Patterson & Johnston, 2012, p. 275). Under this approach the cause of increasing obesity rates and concern with such rates is acknowledged but the focus is to "problematize the obesity epidemic as a social construct, and identify the power interests, hegemonic beauty norms and feminine ideologies underlying obesity epidemic discourse" (Patterson & Johnston, 2012, p. 275). Most importantly, one can argue that this approach attempts to address obesity in a manner that does justice to the multifaceted nature of the issue.

Method

To critically and thoroughly analyze the various clinical practice guidelines tailored towards obesity and to show that obesity does not deserve the level attention it receives, a content analysis was conducted on the academic literature pertaining to obesity, the SDOH, and health equity. This analysis examined both qualitative and quantitative research data. In addition, secondary sources including governmental strategies on obesity, relevant legislation, and reports by third party groups such as international agencies and think tanks are used in this paper. These methods were used in this study to both highlight that the hyper-concern with obesity stems from political and economic forces and to show that clinical practice guidelines meant to address obesity are heavily influenced by these same forces.

Study Inclusion Criteria

A literature search of peer-reviewed studies on obesity, the impact of clinical guidelines on health, and interventions to address obesity was conducted. Studies on obesity were considered if they: (i) reviewed the available literature; (ii) examined consumption patterns; (iii) examined challenges for public health, and (iv) discussed prevention strategies. Studies on the potential interventions to address obesity were considered if they examined the physiological, social, and economic impact of nutrition. Lastly, studies on clinical guidelines were considered if they examined: (i) policy effectiveness, (ii) development process of such policies, and (iii) challenges faced by such policies.

Several study designs were considered including both randomized and non-randomized, cross-sectional studies focusing on pre- and post-intervention, and both controlled and natural experiments. Studies that met these considerations were included, especially studies that included a Canadian context. Studies were excluded if clinical guidelines being focused on did not involve obesity, focused on individuals with medical conditions, or focused solely on behavioural modification or education. Also, studies on obesity were excluded if the focus was on a specific gender or elderly individuals.

Search Plan

In searching for relevant studies, several journal databases were used including PsycINFO, Sociological Abstracts, Medline (Ovid), Medline (PubMed), Google Scholar, and the Global Health Library (WHO). Search results were limited to peer-reviewed journals when such an option was available in a given database. The search plan used in this paper targeted specific aspects to sift through each respective database. In terms of searching for relevant studies on obesity, search parameters were restricted to children, minors, and young adults since many older individuals have complex and often interconnected health ailments. For clinical guideline policies, the search parameters included policy evaluation, government health promotion, legislation, public health, and health education. In addition, the reference lists of selected articles were examined for other potential articles that may meet the inclusion criteria. Lastly, Google's search engine was used to search for secondary data sources pertaining to obesity, clinical guidelines on obesity, and any reports compiled by branches of the government or third party agencies.

Findings and Analysis

Clear and Present Danger or All Hype? Critical Analysis of the Literature on Obesity

The academic discourse on obesity research is quite extensive. Obesity has been examined through a biomedical approach, a political economy approach, and from a public health approach, just to name a few. In the vast pool of literature there is no clear consensus as to why there is such a hyper-concern, and arguably, obsession with obesity. Several academics have stressed the ‘obesity epidemic’ narrative and rhetoric but have no adequate support to justify the arguably exaggerated level of hyper-concern that has been presented (Gard & Wright, 2005).

What have emerged from the literature are three common themes that attempt to justify and explain the observed hyper-concern with obesity by politicians, academics, and the lay public. The first theme sees the hyper-concern with obesity as a result of attempts to address the biological predisposition to overeat. The second theme is viewing this hyper-concern as a by-product of societal structures. The third theme faces concerns over the availability, ease of access, and commercialization of unhealthy food within society.

The first theme attempts to justify the hyper-concern with obesity as merely the result of the struggle with biological predispositions. Under this premise, obesity is such a hot topic not because of medical concerns but rather concerns over curtailing innate biological demands (Guthman & DuPuis, 2006). Proponents of this argument see the focus on obesity as an unavoidable by-product created by modern amenities. They argue

that eating is not only pleasurable but it is a necessity for one's health and survival (Guthman & DuPuis, 2006). As such, we are predisposed to overeat to survive and the abundance of food does not simply erase evolutionary advantages with respect to overeating (Guthman & DuPuis, 2006). Furthermore, modern comforts and changes to work environments help to perpetuate the problem because people now live less physically demanding lives (Guthman & DuPuis, 2006). The obesity rates observed then reflect an inability to "adapt so quickly to these new conditions and as a result people are getting fat very fast" (Guthman & DuPuis, 2006, p. 432). Lastly, some argue that the hyper-concern with obesity is an attempt to help those in the population that are biologically 'weak' because they are "less able, if at all, to regulate signals of hunger and/or metabolize food at a weight-maintaining pace" (Guthman & DuPuis, 2006, p. 432).

The second theme sees the observed hyper-concern with obesity as pertaining to the societal structures that dominate socially constructed ideologies. One area of research is on the medicalization of the body within society. In their research, Wray and Deery (2008) attempt to explore the underlying meanings behind what is considered 'fat' for women in the Western hemisphere. They highlight the current prominence of the gendered biomedical discourse on our views on body shapes and sizes (Wray & Deery, 2008). They discuss how under current perceptions of what is healthy, overweight, or obese is seen as being analogous to "self-indulgence and moral failure" (Wray & Deery, 2008, p. 227). They argue that under this backdrop, women are implicitly and explicitly pushed towards perceiving their self-worth and right to access healthcare differently if

they are obese or overweight (Wray & Deery, 2008). Wray and Deery attempt to question the well-established biomedical view on 'fatness' and the power dynamics that this view creates and maintains in an inequitable manner (Wray & Deery, 2008). They also analyze the societal processes within Western society that such views stem from and are given legitimacy (Wray & Deery, 2008). Lastly, they explore the role pathological medicalised definitions of what constitutes obesity plays in influencing how women perceive their bodies and their perception of how the healthcare system treats them (Wray & Deery, 2008).

Our obsession with obesity can also be seen as being anchored to the moral principles we hold dear. As Jutel (2005) points out, there are clear historical sources for the current hyper-concern that is quite pervasive in our society. Jutel highlights how our perception of thinness has not always been the clear ideal strived for throughout history as reflected in past social norms (Jutel, 2005). Nevertheless, well-established cultural beliefs regarding appearance shed light on the current obsession over exercise, diets, and calorie-counting (Jutel, 2005). Jutel mentions how food can be perceived to contain and convey "moral value to the person who eats it, a value that may be witnessed in physical appearance" (Jutel, 2005, p. 113). As such, Jutel explores the impact these beliefs have had in shaping an emphasis on weight as the benchmark to assess health within our society (Jutel, 2005). Similarly, research by Saguy and Riley highlights how "notions of morality play a central role in the controversy over obesity, as in many medical disputes, and illustrate how medical arguments about body weight can be used to stymie rights claims and justify morality-based fears" (Saguy & Riley, 2005, p. 869).

The third theme stems from a political economy approach to explain the hyper-concern with obesity. Under this theme, our focus is the result of the overproduction of food within society and not merely the medical research data on obesity. The argument is that obesity is such an 'issue' because of agricultural policies and initiatives that produce an oversupply (Guthman & DuPuis, 2006). This oversupply is the real issue with some arguing agricultural subsidies further perpetuate the matter and thus causing us to focus on obesity (Guthman & DuPuis, 2006). In particular, high calorie foods that are unhealthy and contribute to obesity are subsidized more than healthy, low calorie food (Guthman & DuPuis, 2006). Some argue this subsidizing is rooted in political and financial interest and meant to ward off foreign producers more than help local farmers (Guthman & DuPuis, 2006). As such, political and financial incentives to control food surplus appear to be the driving forces for our hyper-concern with obesity (Guthman & DuPuis, 2006). Essentially there appears to be a cloaking mechanism where subsidies are fuelling the hyper-concern because they are creating the obesity epidemic and the way to manage it is to divert attention away from these subsidies and blame the individual. Under this premise, there's an indirect route in that subsidizing is driving the obesity epidemic yet, as the average person looks around, rather than see the problem as being this subsidizing, they then go on to blame the individual. Therefore, in blaming the individual, this subsidizing contributes to the concern with obesity.

Under this theme, attempts by the food industry to increase profit by providing larger food portions is a key factor. The observed hyper-concern with obesity is thus seen as a proxy to regulate market forces implicitly. This is implicit since neoliberal agendas

and priorities are not directly being challenged from a purely economic basis. This becomes evident if one examines the fast food industry and its usage of 'supersizing' and 'value meals' (Guthman & DuPuis, 2006). This has led various researchers to examine the impact the rise of neoliberalism has had on the 'obesity epidemic'. Guthman and DuPuis have attempted to examine the relationship between culture, the economy, and the political undertones present in the issue of obesity (Guthman & DuPuis, 2006). In their research, focusing on the United States, they demonstrate how obesity discourse that is dependent upon a unidimensional structural, political, and biological origins is "not only simplistic but also [does] not adequately historicize the present so-called epidemic of US obesity" (Guthman & DuPuis, 2006, p. 427). To them obesity cannot simply be framed as an issue pertaining to "either supply-side explanations that focus on our food-production system or demand-side explanations that focus on the US culture of consumption" (Guthman & DuPuis, 2006, p. 427). They claim the issue of obesity can thus be seen as a partial solution to core contradictions of neoliberalism (Guthman & DuPuis, 2006). They argue neoliberalism moves an individual from being a citizen to being a consumer, thus promoting overeating (Guthman & DuPuis, 2006).

Neoliberalism has also been examined from its impact on public health. One study by LeBesco (2011) examines the interplay between public health and obesity in the context of neoliberalism. She discusses the state's strategy to encourage the public to actively address obesity and weight issues at the individual level by using personal measurement tools such as obesity report cards and body mass index (LeBesco, 2011). LeBesco points out that these attempts only place blame at the individual level and

discusses recent research that proposes the need for public outcry to reform the obesogenic environments that arguably perpetuate obesity rates (LeBesco, 2011). She proposes alternatives to the current neoliberal doctrine that governments have adopted, as well as ways to address the obesogenic environments so pervasive within our society (LeBesco, 2011). Overall, she stresses the need to focus more on initiatives and strategies that attempt to neither tackle the issue of obesity using some sort of quid pro quo nor require blaming individuals for an obviously complicated issue (LeBesco, 2011).

Review of the Critiques Regarding the Discourse on Obesity

The three emerging themes give different perspectives to explain the observed hyper-concern with obesity although none of them provide a comprehensive explanation. The scope of the issue warrants a multifaceted and flexible interpretation of the situation. The first theme makes a reasonable attempt, grounding the focus on obesity under a biological framework. This line of thinking can be argued to be over simplistic and naïve, however, as obese people are not robots that eat mindlessly and without regard to the consequences of overeating. The hyper-concern with obesity is not out of a sense of shock that people overeat. It can be argued that several other facets of modern society can be seen as having evolutionary or biological underpinnings but have not garnered such research, discussion, or exploitation. For instance, the ability to reproduce and ensure one's genetic material is passed on to viable offspring has evolutionary merit. Nevertheless, a parallel hyper-concern with polygamy for instance, to rival that of

obesity, is not. Problematizing an issue under biological or evolutionary frameworks does not inherently give an issue merit.

The second theme proposes several points that appear be plausible. Societal structures help to contextualize an individual's life. Throughout your life span, how you live, work, and relax is greatly influenced by socially constructed norms. It can be argued that no decision can ever be made in a vacuum, and as such the hyper-concern with obesity stemming from societal influence is seen as reasonable. This explanation is neither perfect nor definitive as several shortcomings should be noted under this premise. First, social stigma alone cannot justify the commercialization and extreme rhetoric present in discussions surrounding obesity let alone the hyper-concern. One can argue several other societal concerns and stigmas that have been ignored or minimized such as albinism. Secondly, several moral imperatives such as protecting vulnerable populations from violence, have not garnered so much attention and subsequent commercialization. For instance, domestic abuse is arguably an important issue but extensive debate in the media and subsequent implementation of entire industries has not emerged to rival that of obesity. Last, societal preferences, values, and priorities are not carbon copies between different cultures. Subtle differences stemming from cultural, political, geographical, and religious differences negate any notion of universality. It may be that much of this is tied to Western notions of individuality which demonstrates cultural hegemony, such that the issue may not be a priority for the indigenous people of other nations, if left to their own devices. Under this premise, it is cultural hegemony that poses importance to the issue. As such, the argument that societal structure and power dynamics can explain the hyper-

concern with obesity assumes the collective narrative of humanity supersedes any role diversity places in contextualizing the lives we live.

The third theme considers the impact of globalization, neoliberal doctrine, and financial factors for the hyper-concern with obesity. Indeed, economic factors dictate the priorities and constraints on which several significant decisions are based. Globalization has arguably made the global community more interconnected than ever before and the rise and fall of governments in one corner has noticeable effect on the decisions of other governments around the world. Even the general public is now more aware of global events and movements by virtue of advances in technology. This reality alone, however, does not fully explain the hyper-concern with obesity. The level of research, discourse, and funding allocated to obesity is too complicated and extensive to boil down. One can argue economic constructs do not fully capture the psychological and cultural nuances that the hyper-concern with obesity harbours. Lastly, it is important to acknowledge how neo-liberalism celebrates or even reifies the individual and his or her motivation. When applied to health issues it places the sources of problems – and their solution – in individual motivations and actions. This focus on individuals becomes evident if one explores the various interventions that attempt to address obesity.

Sizing Up the Competition: Emerging Themes in the Fight Against Obesity

From the selected pool of peer-reviewed articles, three major categories of themes became evident: (1) corporate-level interventions; (2) school-level interventions; and (3)

government-level interventions. Issues that resonated less within the literature included barriers to policy reforms and public health disparities stemming from obesity.

Corporate-Level Interventions

Interventions targeting the private sector appear to be a frequently used option for addressing childhood obesity and the obesity epidemic as a whole. The legal sphere inherently houses several unique advantages that allow potential policies and initiatives devised to have a more meaningful impact (Dietz, Benken, & Hunter, 2009; Eisenberg, Atallah, Grandi, Windle, & Berry, 2011). Arguments around better accountability for instance are one agreed upon benefit emerging from legal pursuits to curb the obesity epidemic (Dietz, Benken, & Hunter, 2009). Forcing corporations in the food industry, especially fast food chains, to pay punitive damages predicated on obesity-related harm has shown to be successful (Robinson, Bloom, & Lurie, 2005; Mello, Studdert, & Brennan, 2006). This level of success is best highlighted in the landmark case *Pelman v. McDonald's Corp* (2003) which attempted to hold a fast food conglomerate accountable using the same legal strategies similar to those undertaken against the tobacco industry (Chopra & Darnton-Hill, 2004; Robinson, Bloom, & Lurie, 2005; Mello, Studdert, & Brennan, 2006).

Interventions targeting the physical presence of the fast food industry have also been employed to circumvent obesity rates observed among children. Through exploiting the physical landscape through policy changes that alter city zoning laws, the obesity rates amongst children can be effectively addressed (Zick et al., 2009). Reducing the

proximity of fast food chains to a child's school can help reduce access and exposure to unhealthy food options (Davis & Carpenter, 2009; Zick et al., 2009). Children in areas with higher levels of fast food chains consume more junk food, eat less healthy food, and are generally obese (Davis & Carpenter, 2009). Environmental cues, convenient access, and the observed high density clustering of fast food chains pose a significant barrier to the effectiveness of policies, initiatives, and legislation tailored to help combat childhood obesity (Davis & Carpenter, 2009; Robinson, Bloom, & Lurie, 2005).

Interventions geared towards corporate actors also include policies and initiatives targeting aggressive advertising methods of unhealthy foods, attempts to reduce portion size of food options, and the anchoring of food to toys to increase appeal of fast food (Harris, Bargh, & Brownell, 2009; Patel, 2005). The type, duration, and frequency of advertising of fast food to children have been linked to a rise in obesity rates amongst children (Kopelman, Roberts, & Adab, 2007; Harris, Bargh, & Brownell, 2009). Commercials and print advertising explicitly associated with key childhood media, movies, and toys have been particularly scrutinized (Borzekowski, Robinson, & Peregin, 2001; Kopelman, Roberts, & Adab, 2007). Interventions targeting restaurant portion sizes for children tailored menus have showcased the lack of clear portion sizes for children across the various age groups and the health complications portion size plays into the fight against childhood obesity.

School-Level Interventions

Nutrition programs within schools provide a unique avenue to address childhood obesity. The significance of breakfast in particular is highlighted within the literature. Specifically, a clear association between a lack of access to adequate food, especially during breakfast, has been demonstrated to negatively affect a child's scholastic ability and increase school absences (Basch, 2011; Hammerschmidt, Tackett, Golzynski, & Golzynski, 2011). School nutrition programs attempt to target the shortcomings in a child's diet to curb dietary deficiencies and promote healthy food options as a means of addressing childhood obesity (Hauser et al., 2010; Basch, 2011b). The effectiveness of nutrition programs is anchored to the clarity of the nutrition policy, the level of involvement of key actors such as parents and teachers, and lastly the availability of a sufficient variety of healthy food options (Ramanathan et al., 2008; MacLellan et al., 2009; Basch, 2011).

The presence of interventions tailored to physical activity within schools has gained not only attention in recent years but has produced a significant reduction in childhood obesity (Harris et al., 1997; Drummond & Drummond, 2010). Physical activity within schools has been demonstrated to be an easy and effective method of addressing the sedentary lifestyle of many children (Mâsse, Naiman, & Naylor, 2013). The health benefits of physical activity for children included but are not limited to, better focus, better scholastic performance, better endurance, and a reduced risk for diabetes (Baranowski et al., 2000; Jehn, Gittelsohn, Treuth, & Caballero, 2006). Interventions geared towards physical activity must be consistent, simple, and help foster an

environment that makes an active and a healthy lifestyle appealing if such interventions are to usher in meaningful reforms in a child’s life (Procter et al., 2008).

Banning of junk food within schools and school-related activities has been frequently employed as part of various interventions targeting school children (Callaghan, Mandich, & He, 2010). A child's exposure to junk food within the educational system has been demonstrated to foster poor eating habits, undermine established school nutrition programs, and reinforce environmental cues created by the fast food industry (Sharma, 2006). Interventions banning junk food in vending machines and cafeterias produced better reduction in childhood obesity rates than interventions that solely focused on physical activity (Gonzalez-Suarez, Worley, Grimmer-Somers, & Dones, 2009). Lastly, interventions frequently establishing such clear prohibitions on junk food, in addition to the primary objective of the intervention, were found to have better compliance rates amongst children and better observed reductions in obesity rates amongst children (Wechsler, Devereaux, Davis, & Collins, 2000; Nanney et al., 2010).

Government-Level Interventions

Various interventions stemming from governmental branches have primarily focused on price interventions and agricultural subsidies (Ebbeling, Pawlak, & Ludwig, 2002; Guthman & DuPuis, 2006). Financial sanctions to address the obesity epidemic have also been employed which are predicated on the notion that obesity is a public health concern and that governmental interventions through financial sanctions are not only practical but the responsible option (McKinnon et al., 2009). Governmentally led

interventions thus are argued to be necessary oversight into the commercial market (Hill, 1998; Gostin, 2007). In particular, the financial burden childhood obesity places on the healthcare system currently and for the foreseeable future has been demonstrated to justify governmentally developed and established interventions.

Interventions involving agricultural subsidies have resulted in the overproduction of high calorie foods that have been extensively demonstrated to perpetuate the observed rise in childhood obesity within Canada (LeBesco, 2011). This overproduction is not the result of supply and demand factors but rather the result of clear financial and political incentives for having food surplus (Lob-Corzilius, 2007). This in turn has led governmental interventions to focus efforts at the individual level instead of devising policies and initiatives that target the structural underpinnings that have been demonstrated to contribute to obesity amongst children (Yancey, Leslie, & Abel, 2006). This focus on the individual-level is reflected by the lack of governmental interventions that target changes in the obesogenic environments that create and maintain the observed obesity rates (Dietz, Benken, & Hunter, 2009; Ells et al., 2005; Wang & Bronwell, 2005). Other governmental interventions that attempted to address childhood obesity have also included the prohibiting of specific obesogenic foods and ingredients, the establishing of clear guidelines for nutritional labelling, and the taxing of junk food (Canadian Medical Association, 2008; Davis & Carpenter, 2009; Sauder, 2009).

Fat Chance: Significant Gaps in Existing Knowledge

Although numerous approaches to appropriately and effectively address obesity have been undertaken by various researchers, an examination of literature highlights clear gaps in the existing pool of literature on obesity. Interventions at the corporate-level highlight the lack of a clear consensus on appropriate safeguards that need to be established to effectively curb childhood obesity rates. Governmental- level interventions place priority on behavioural modification and short-term goals, and minimize the role structural processes play in fostering the environments that create the observed obesity rates (Government of Ontario Ministry, 2013). School-level interventions approach childhood obesity with an arguably naïve and simplistic view of the threat childhood obesity poses. Interventions devised for schools assume that a child's external environment outside of school does not impact their health (Government of Ontario Ministry, 2013). The available research examined in this paper demonstrated fragmented and at times conflicted efforts by key actors in academia, in the government, and in the private sector. Obesity does not occur in a vacuum. There are social, political, and economic factors that act in the backdrop that cannot and should not be overlooked (Barnes, 2012; Nestle & Jacobson, 2000). The research examined appeared to see the issue of obesity as solely within the purview of the intervention and study aims the researchers were employing. This approach can be argued to be counterintuitive and impedes the emergence of meaningful reforms (Barnes, 2012).

In the pursuit of promoting healthier lifestyles, the objectives and priorities set by health promotion frameworks and declarations need to be better addressed and

incorporated. The issue of obesity offers a unique opportunity for the various key actors to bridge the gap between the theoretical merits of such frameworks and declarations with the concerns voiced by healthcare professionals. Amongst the available health promotion frameworks and declarations, a useful place to begin is found in the WHO's report entitled Achieving Health for All and the subsequent framework for health promotion devised by Jake Epp in 1986. Epp's framework views health promotion as having three distinct goals: (1) as an individual-level goal to develop better coping mechanisms; (2) as a social goal to aid in minimizing societal disparities; and (3) as a health service goal to enhance prevention (Epp, 1986). This framework further outlines mechanisms to tailor interventions but does not explicitly state how these various goals are interconnected (Epp, 1986). As Figure 8 highlights, to reach optimal health within Canada, relevant health challenges for a target population must be paired with the appropriate health promotion mechanism and implemented through the most effective approach (See Appendix D). The level of complexity inherently present in public health issues negates traditional approaches that depend on paper for record keeping. In an increasingly technologically advanced world, the old adage 'an ounce of prevention is worth a pound of cure’, still rings true and the complex nature of the obesity epidemic arguably offers the best reason to find ways to better connect the various goals alluded to by Epp.

Plan of Attack: Use of Clinical Practice Guidelines in Healthcare

As a guide to the material on CPGs that follows, I present a critical examination of the literature on CPGs. As will be shown, the analysis I present points towards acceptance of the third model and highlights how inadequate CPGs currently are for addressing obesity.

Clinical practice guidelines (CPG) have arguably been a staple in medicine for decades and continue to aid healthcare professionals with the necessary foresight needed in chaotic situations (Conroy & Shannon, 2004; Grimshaw & Russell, 2004). Research on both the conception and implementation of CPGs has rightfully garnered a great deal of attention. The potential of CPGs is best recognized and appreciated if one examines the woes of any given modern healthcare system (Grimshaw & Russell, 2004; Parker, 1995). A cocktail of over prescription, under-development of new policies, and a lack of clear safeguards for monitoring many aspects across the care spectrum has culminated into a culture of uncertainty and confusion both within the healthcare field and amongst the lay public (Kane, 1995). For instance, medication errors including abuse and misuse of antibiotics have led to 1.4 million patients being directly harmed annually, of which 400,000 can be classified as preventable (Agrawal, 2009). This, in conjunction with the steadily increasing rise in the use of pharmaceuticals, paints a bleak future for Canada's healthcare system and the health of Canadians. One potential solution to alleviate the burden off the shoulders of healthcare professionals and help ensure continuity of care for patients is the use of effective CPGs (Halpern, 1995; Pauly, 1995). With the support of a growing pool of literature, the utilization of CPGs has been argued to be a viable and

effective strategy for circumventing many of the concerns faced within the healthcare system (Grimshaw & Russell, 2004).

Within the academic literature on CPGs, research has focused on three areas: effective development, proper utilization of its potential, and limitations to be mindful of. Research on developing effective, appropriate, and comprehensive CPGs has advocated for evidence-based decisions that reflect both relevant practice patterns currently established and the fruits of cutting edge research (Davis & Taylor-Vaisey, 1997, See Table 1).

Table 1: Steps in devising and implementing CPGs
Select clinical problem • Rank in order of priority • Define and refine the problem • Frame the clinical problem
Synthesize data • Search the literature • Develop consensus
Develop guidelines • Iterate and reiterate • Distribute to a sample of clinicians
Endorse guidelines (sponsoring body)
Disseminate guidelines
Encourage implementation of guidelines
Monitor and evaluate impact

Source: Davis & Taylor-Vaisey, 1997

As many academics have alluded to, however, research is merely one component if the potential of CPGs is to be reached. The other, and arguably more important component, is the level of scrutiny and distilling of the vast research inherently involved in medicine (Davis & Taylor-Vaisey, 1997). Aside from the plethora of research required

to devise effective CPGs, adequate adoption by healthcare professionals is another hurdle that must be overcome. Many political, social, and economic factors arguably act in the backdrop during both the development and implementation of any given CPG. Within the academic literature issues stemming from regulation, level of complexity, and the diverse needs of a given area of medicine have been identified as factors that influence both the adoption and adherence to any given CPG (See Table 2 & Table 3; Davis & Taylor-Vaisey, 1997).

Table 2: Noneducational variables affecting adoption of CPGs
Qualities of guidelines or practice change
Characteristics of healthcare professionals
Characteristics of practice setting
Incentives • **Legal** • **Financial** • **Other**
Regulation
Patient factors

Source: Davis & Taylor-Vaisey, 1997

Table 3: Attributes of guidelines that affect adoption	
Relative advantage	**Is the new practice demonstrably superior to the old one?**
Compatibility	**Does the CPG represent existing beliefs or values? Is it basically similar to prior experience or practice?**
Complexity	**How difficult is the CPG to understand and incorporate into current practice?**
“Trialability”	**Can the provider “try on” parts of or all of the new CPG with comparative ease?**
“Observability”	**Can the provider observe practices or other providers that have incorporated the new CPG?**

Source: Davis & Taylor-Vaisey, 1997

Stemming from the need to develop comprehensive yet effective CPGs, many researchers have been led to examine the issue of relevance. More specifically, they researched whether there is a need to ensure CPGs always reflect the most accurate and up-to-date evidence available (Lenzer, 2013; Shekelle, Eccles, Grimshaw, & Woolf, 2001). Modern medicine strives to bridge the gap between human ingenuity and innovation while protecting continuity of care across the care spectrum. This arguably lofty goal is theoretically sound but logistical and financial restraints often prevent this from becoming a reality (Lenzer, 2013; Shekelle, Eccles, Grimshaw, & Woolf, 2001). Mounting evidence has shown that CPGs need to be updated to reflect reforms in healthcare policies and medical research including, but not limited to: reforms to acceptable clinical outcomes of a given intervention; expansion of available interventions and techniques; expansion of a body of research on advantages and shortcomings of a given intervention; and changes in logistical and available resources (Shekelle, Eccles, Grimshaw, & Woolf, 2001).

Constantly keeping CPGs up-to-date is no small feat, however. As research by Shekelle, Eccles, Grimshaw, and Woolf (2001) highlights, deciding on how much information is sufficient to warrant updating a given CPG and how strongly other factors, such as societal norms, influence the extent to which change is pursued, is quite difficult. They stress that the subjective values-based judgements present in decisions regarding outcomes should not be overlooked or underestimated (Shekelle, Eccles, Grimshaw, & Woolf, 2001). In particular, they highlight that "policy makers in disparate healthcare systems consider different factors in deciding whether services remain affordable"

(Shekelle, Eccles, Grimshaw, & Woolf, 2001, p. 155). With this in mind, they have devised a model for assessing the validity of CPGs that takes into account the presence of new evidence and simultaneously considers the relevance of said evidence (Shekelle, Eccles, Grimshaw, & Woolf, 2001). Their model reflects the various struggles academics, healthcare professionals, and policymakers face in devising and adhering to CPGs (See Appendix E; Shekelle, Eccles, Grimshaw, & Woolf, 2001).

The level of complexity, sense of urgency, and the presence of healthcare teams which lend modern medicine an interconnected nature, requires the advantages CPGs are potentially able to provide. Some of the incentives for using CPGs alluded to within the academic literature include: access to evidence-based interventions, improved continuity of care, and better clinical decisions at the institutional-level (Woolf, Grol, Hutchinson, Eccles, & Grimshaw, 1999). CPGs also have the advantage of potentially influencing both the devising and funding of public policies by highlighting overlooked "health problems, clinical services, and preventive interventions and to neglected patient populations and high risk groups" (Woolf, Grol, Hutchinson, Eccles, & Grimshaw, 1999, p. 527). Lastly, CPGs have the potential for facilitating improvement in quality control contingencies at both the practitioner-level and institution-level through reminder systems, audits, and critical care pathways (Woolf, Grol, Hutchinson, Eccles, & Grimshaw, 1999).

There are numerous social, political, and economic forces highlighted within the academic literature that pose significant challenges to bridging the gap between the theoretical merits of CPGs with the actual struggles of healthcare professionals and their

patients. More alarming, and arguably most overlooked according to academics, is the fact that these challenges do not occur in a vacuum. Each social, political, and economic factor emerges with the backdrop of a plethora of previously failed strategies, constantly shifting priorities, and growing frustrations from those in power and in the lay public. The severity of the limitations and challenges that must be overcome is best understood and appreciated by exploring the key junctures at which these various driving forces intersect.

The challenges and glaring limitations to utilizing CPGs can be best examined by looking at the various levels of analysis: micro-, meso-, and the macro-level. At the macro-level, some pressing concerns that impede the potential of CPGs stem from the presence of inadequate policies, fiscal constraints, and lack of global coordination and consensus (Woolf, Grol, Hutchinson, Eccles, & Grimshaw, 1999). At the meso-level, some challenges to CPGs include logistical concerns over workflow amongst healthcare professionals, fears about the implementation of new interventions without adequate research, and the need for support from the various healthcare institutions within a given system (Woolf, Grol, Hutchinson, Eccles, & Grimshaw, 1999). Lastly, at the individual or micro-level, deeply rooted societal norms about the physician-patient relationship, concerns over patient expectations and demands, and the issue of compliance with a given treatment regime pose challenges to the success of a given CPGs (Halpern, 1995; Woolf, Grol, Hutchinson, Eccles, & Grimshaw, 1999). The subtleties involved at and across the various levels of analysis are best conceptualized by Davis and Taylor-

Vaisey’s framework that traces the devising and implementing of CPGs (See Appendix F; Davis & Taylor-Vaisey, 1997).

Clinical Practice Guidelines Across Selected Liberal Welfare States

Australia. The Australian government's National Health and Medical Research Council has proposed a comprehensive CPG entitled *Clinical Practice Guidelines for the Management of overweight and obesity in adults, adolescents and children in Australia* to combat the obesity epidemic. Divided into four main sections, this CPG approaches obesity from multiple avenues. The first component gives a thorough analysis of observable trends related to overweight and obese individuals (Australian Government Department of Health and Ageing, 2013). Data on adults, children and adolescents, and at-risk groups are explored to help establish correlations within diverse groups (Australian Government Department of Health and Ageing, 2013). In particular, special attention is given to Aboriginal communities, individuals in particular geographical locations, and underprivileged communities that have clear socioeconomic disadvantages (Australian Government Department of Health and Ageing, 2013). This component also explores factors contributing to overweight and obesity rates and highlights available approaches to weight management in primary healthcare (Australian Government Department of Health and Ageing, 2013). The second component centres around the various methods of assessing weight in adults and highlights lifestyle interventions such as reducing caloric intake and intensive interventions such as bariatric surgery as appropriate treatment options. The third component of the CPG focuses on children and

explores the assessment, monitoring, and tailored post-pubertal interventions that obese and overweight children require (Australian Government Department of Health and Ageing, 2013). The last component discusses areas that future research should focus on and that reflect the recommendations put forth by the National Health and Medical Research Council. These areas can include research on at-risk segments of the population, implications of re-operation rates for bariatric surgery, and the development of treatment options for individuals with learning or physical disabilities (Australian Government Department of Health and Ageing, 2013).

Canada. At the national-level, the Canadian Medical Association's *Canadian clinical practice guidelines on the management and prevention of obesity in adults and children* aims to address obesity effectively and appropriately. This CPG is essentially comprised of two sections: a clinical component and a nonclinical component. The clinical component explores and focuses on the epidemiology of obesity (Lau et al., 2007). In particular, the CPG highlights the various critical facets that influence a given individual's life such as lifestyle interventions, physical activity, and dietary interventions (Lau et al., 2007). These areas of focus reflect the traditional biomedical approach to health and emphasize individual behavioural modification as crucial to address obesity (Lau et al., 2007). An algorithm for assessing and managing obesity by physicians is proposed (See Appendix G, Lau et al., 2007). The second component of the CPG highlights and recommends changes in research, policy, and education (Lau et al., 2007). More specifically, the importance of establishing benchmarks in the areas alluded to in the clinical portion of the CPG and the need for adequate monitoring contingencies is

advocated for (Lau et al., 2007). Lastly, the second component of the CPG also discusses the need to set future research endeavours by academics and other key stakeholders to reflect the priorities housed within the CPG (Lau et al., 2007).

At the provincial-level, the Registered Nurses' Association of Ontario (RNAO) has developed an extensive and quite detailed CPG that focuses on children entitled *Primary Prevention of Childhood Obesity*. This CPG houses a plethora of recommendations at the individual, institutional, and national level (Registered Nurses’ Association of Ontario, 2014). In particular, the CPG proposes recommendations tailored for clinical situations, educational priorities in medicine, and recommendations that target systematic reforms (Registered Nurses’ Association of Ontario, 2014). According to the RNAO, systematic reforms can and should be accomplished through a concerted effort amongst all key stakeholders and organizations based on sound policies and initiatives (Registered Nurses’ Association of Ontario, 2014). The CPG is fundamentally driven by the *Population Health Model* proposed by Hamilton and Bhatti (See Appendix H; Registered Nurses’ Association of Ontario, 2014). The model is comprised of three sides representing three distinct facets: the front side represents the social determinants of health, the right side represents comprehensive action strategies, and the top side represents levels of action (Registered Nurses’ Association of Ontario, 2014).

United States of America. The American Medical Association's CPG entitled *Assessment and Management of Adult Obesity: A Primer for Physicians*, attempts to tackle the obesity epidemic in a drastically different approach from the previous CPGs. This CPG's objective is to educate primary care physicians on how to best care for

individuals that are either overweight or obese (American Medical Association, 2003) and it is framed as being an "educational and teaching tool" for primary care physicians (American Medical Association, 2003). It provides case studies, general principles in counselling patients, and offers recommendations on how to best approach patients (American Medical Association, 2003). It also proposes skills that primary care physicians should cultivate in patients to succeed and makes suggestions on how to address non-adherence to these recommendations by patients (American Medical Association, 2003). This CPG does not provide clinically relevant recommendations but rather places an emphasis on effective communication as the underlying objective. For instance, in their interaction with patients, physicians are explicitly told to understand that "obesity is a chronic medical condition, not a product of laziness or low willpower" (American Medical Association, 2003, p. 6). A summary of the important recommendations housed within this CPG is presented in Figure 7 (See Appendix I).

Weighing Our Options: The Shortcomings of the Selected Clinical Practice Guidelines

The Canadian healthcare system has all the values, commitments, and priorities that Canadians hold dear, but it is not the most appropriate way to tackle the obesity epidemic that threatens the health of our nation. There are several sobering reasons why this is true. First and foremost, healthcare professionals cannot constantly monitor what their patients eat or the lifestyle choices they make, especially throughout their formative years. They are not with them outside of the healthcare setting during crucial times like

weekends, and most importantly, during holidays. How can these CPGs hope to appropriately and effectively address obesity if the necessary purview they need contradicts the very political ideologies that gave rise to the societies they were created to help? In the current system we have, liberal welfare states prioritize the autonomy of citizens highly and makes this level of scrutiny infeasible.

A second obstacle that needs to be considered is that no accurate or consistent system is in place to monitor whether patients have the necessary resources to meet any established guidelines (Capron, 1995; Lohr, 1995; Office of the Auditor, 2013). If the recommendations of these CPGs are not being adequately met, then any data gathered on observed health trends in the general population fails to show the true extent to which a given policy created as a result of the recommendations have influenced these observed health trends (Leo, 2007; Office of the Auditor, 2013). Necessary benchmarks and contingencies to improve the effectiveness of a given policy are currently impossible to accurately develop.

Whether these CPGs have a significant impact on obesity cannot easily be proven, although some will argue they do. In addition, with the exception of the CPG created by the RNAO, the SDOH are not explicitly or implicitly considered within these CPGs and, as such, their effect on a patient's health is temporary and analogous to a Band-Aid approach to obesity. The social, political, and economic factors that impact an individual, whether directly or indirectly through their parents during childhood, can be argued as being completely ignored by these CPGs. These various forces play a large role in the lives of patients. The lofty goals these CPGs hope to accomplish almost appear to have

been devised by the authors of these CPGs with the assumption that they will manifest in a vacuum. There are unintended effects that arise from the adoption of these CPGs. The most obvious is the extent to which corporate sponsorship will arguably commodify and politicize the health of obese patients by virtue of the policies, initiatives, and legislation that these CPGs influence. This, in turn, will reinforce neoliberalism which will then threaten health equity. The health of an obese individual will be at the mercy of market driven forces that value profit over everything. The fact that the CPG by the AMA is not completely funded by the government and has reviewers that publicly acknowledge ties to pharmaceutical companies and other conglomerates also highlights the susceptibility of these CPGs to capitalistic agendas. The other CPGs did not have clear indicators of any potential conflict of interest amongst their pool of contributors. This in itself does not negate any concerns however, as many companies usually hide their affiliations.

Furthermore, the lack of financial freedom can create incentives for those in power, especially those in the food industry, to gain an advantage at the cost of many individuals' health. Finally, since external actors can influence the effectiveness of these CPGs through funding arrangements, these policies thus arguably have different effects on different groups of people. Patients from more affluent communities can afford to make the necessary changes at the micro-level but also the political capital required to advocate for the public policies and legislation these CPGs recommend. In contrast, patients from lower socioeconomic status may experience the implementation of recommendations stemming from these CPGs at varying degrees.

Discussion

Trimming the Fat: Alternative Approaches to Address Obesity

The obesity epidemic can be best addressed using a different approach that focuses on targeting several of the key junctures, concerns, and priorities alluded to by both academics within the literature and within the field by healthcare professionals. Past policies, initiatives, and even legislation have been structured and implemented with a top-down approach. This perspective is grossly inadequate and misleading because it assumes many of the factors involved in creating and sustaining the environment that facilitates higher obesity rates occur in a vacuum. Focusing on CPGs and more funding will not miraculously help circumvent many of the shortcomings of Canada's healthcare system. To think more funding will make a real difference is naïve, short-sighted, and helps to perpetuate the level of mediocrity and stagnation that is so pervasive within Canada's healthcare system. Contrary to political rhetoric, maintaining continuity of care, facilitating the best health outcomes for patients, and strengthening Canada's healthcare system are not mutually exclusive goals.

Establishing a new paradigm is not only critical to curbing obesity rates but also will help to foster a culture that is sensitive to the political, social, and economic factors that have overarching impacts on the health of Canadians. In particular, approaching obesity from a perspective that makes the SDOH a central pillar can help to better integrate the various recommendations put forth by key actors within the discourse on obesity. In order for a new paradigm to guide the fight against obesity, the various models that guide decisions need to be critically assessed. After exploring the academic

literature and grey literature on obesity, the four models presented earlier appear to best conceptualize obesity and the adverse health outcomes associated with it.

The current healthcare landscape can be described as full of daily research discoveries through the use of newer technologies that are available, medical schools stressing science over the subtle nuances involved in patient care, hospitals that are cold and void of compassion, and physicians constantly playing catch up to the newest medical breakthroughs (Cole & Carlin, 2009). Indeed, physicians have attempted to bridge this gap by fostering better rapport with their patients by using collaborative decision making schemes and consciously attempting to be aware of the socially constructed notions of physician grandeur that they have historically been draped with (Cole & Carlin, 2009). These various factors within the medical field, however, have created an environment that places priority on efficiency and precision to the extent that it can be argued that medicine is becoming increasingly dehumanized. The conveniences and ubiquitous presence of technology create and maintain incentives for this dehumanization of medicine. As the four different models highlight, how obesity is approached has a significant impact on the interventions proposed, the policies and initiatives funded, and the priorities set for population health. Model 3 arguably represents the best approach but requires a significant overhaul of the current dogma regarding the obesity epidemic. Its emphasis on the interconnected nature of the SDOH, obesity, and adverse health outcomes requires acknowledging the level of complexity involved but it boldly states the age of devising broad stroke policies and hoping for the

best health outcomes is over. Wilful ignorance to the interconnectedness of these factors for financial, political, or social reasons should no longer be accepted, let alone tolerated.

Implications

Supersized Obsession: Impact of the Hyper-Concern with Obesity. The hyper-concern with obesity warrants attention for several reasons. Foremost, obesity poses health complications that have clear consequences that impact an individual's life (Kersh & James, 2002). Chronic diseases, poor quality of life, and a shorter lifespan are just a few among a long list of research backed findings linked to obesity (Kersh & James, 2002). Nevertheless, the biological and medical concerns related to obesity are not the driving force for the observed hyper-concern with obesity. As a review of the literature has highlighted, the concern with obesity has several factors unrelated to clinical concerns that play a pivotal role. Societal structures and power dynamics, political rhetoric, and economic forces collectively drive the hyper-concern with obesity. Social structures and power dynamics dictate an individual’s access to resources, especially access to scarce healthcare resources. Perceptions of obese individuals are laden with negative values. As such, discrimination and prejudice are issues that are associated with obesity. Powerful stakeholders, such as those in the food industry, have clear financial incentives to drive the hyper-concern with obesity as they are able to produce fad diets and 'healthy' food alternatives to consumers. Politicians have an incentive to use obesity as a tool for pushing their campaign objectives and to garner support for their candidacy. Governments have an incentive for obesity to be a priority to

produce initiatives and policies anchored to obesity to give the perception of ushering in meaningful reform. Local and global economies thrive on the products and businesses that emerge in the wake of the hyper-concern with obesity.

The hyper-concern with obesity has a significant impact on policy makers and health officials. First, policymakers need to appear to be sensitive to the concerns and priorities of the people they serve. Policymakers are motivated to devise and implement policies and initiatives that attempt to reflect the level of importance such a focus suggests due to the increasing concern with obesity. This in turn, arguably affects the mandates and objectives that are sought after and maintained. Under this premise, the work policymakers accomplish could be seen as being responsive to immediate concerns and not proactive in nature. Therefore, health inequalities and inequities can be argued to never be fully addressed because of the hyper-concern with obesity which produces and perpetuates mediocre responses. For instance, the fitness industry is very lucrative and growing and government funding is allocated to regulate this industry (Gard & Wright, 2005). One can argue the allocation of money and time to this industry by both government officials and the lay public could be better spent appropriately tackling other societal concerns such as several social determinants of health.

Food for Thought: Implications of Reviewed Literature. The findings of this paper highlight the areas of priority for the various actors devising and implementing interventions to combat obesity. Social, political, and economic agendas appear to steer the aims and objectives researchers emphasized. This affinity towards any of the overarching factors was not explicitly clear in the vast majority of studies, though.

Critical analysis of the various articles did reveal that no research objective was immune to this skewed affinity towards one of these factors. Furthermore, the various research examined in this review approached the issue of obesity with the mentality that one solution is possible to the current dilemma when the issue is so multifaceted that such a notion ignores the level of complexity present. Such a premise could be argued to weaken the findings of a given research. Future research should be conducted that takes into account at least two of the three overarching factors alluded to. Although research endeavours that simultaneously consider all three factors would be ideal, that may be currently too lofty and unrealistic of a goal. Nevertheless, as the current critique of the pool of literature on obesity and critical examination of the various CPGs highlighted, future interventions on obesity must consider the various overarching factors if meaningful reforms are to emerge.

Policies that attempt to adequately and appropriately address obesity must take into consideration the structural processes that impact the health of those a given policy is meant to help. With regards to obesity, if the future health concerns of Canadians are to be considered a priority, policies must take into account the various developmental needs of children, the SDOH that impact children, and the sustainability of such policies for the foreseeable future. Political rhetoric and fiscal concerns cannot and should not dictate the health and well-being of children.

A Recipe for Success: Recommendations for the Future

Interventions that attempt to address obesity and the nutritional needs of children should be diverse and extensive. If we hope to curb the increasing prevalence of obesity

among Canadians, the numerous underlying factors should be simultaneously addressed. In order for this level of response to effectively usher in meaningful changes, coordination amongst policymakers, academics, and government officials is vital. To accomplish this, new techniques that help to facilitate better communication and collaboration are required. Databases that are widely accessible and up-to-date are needed for the required infrastructure that would allow such concerted efforts to be possible.

Furthermore, establishing these multiple interventions requires that such endeavours be equally valued and prioritized. This recommendation is extremely difficult to implement and maintain because financial constraints are a reality. Attempts to pursue normative objectives are difficult and will surely be faced with stern resistance, especially from those in power who have clear incentives to maintain the status quo. Lastly, constant review of what is effective is needed. This is predicated on the notion that the above two recommendations are implemented and feasible. Although this last recommendation could be argued to be the easiest to implement, the extent to which an intervention can be deemed ineffective or effective, is strongly tied to the extent to which the previous recommendations are adopted and available. This recommendation is extremely important because it helps to prevent stagnation and helps to improve the health of all Canadians.

Conclusion

The hyper-concern with obesity stems from several overarching factors. Obesity indeed poses a threat to an individual's health and well-being but health concerns are not

the driving force in the level of attention it has. Societal structures, power dynamics, and social norms also play a significant role, but similarly are not the dominant factors in perpetuating its supremacy over the collective consciousness. It is the political and economic forces at play that give obesity this level of notoriety. Present initiatives, policies, and legislation within Canada reflect this hyper-concern with obesity. Key stakeholders involved have clear incentives to maintain this politically and economically driven propaganda. If meaningful health reforms are to be ushered in, strategies to circumvent the impact political and economic forces have in shaping societal priorities must be discussed. No discussion is ever made in a vacuum. The numerous subtle factors that contextualize the lives we live must be acknowledge and considered.

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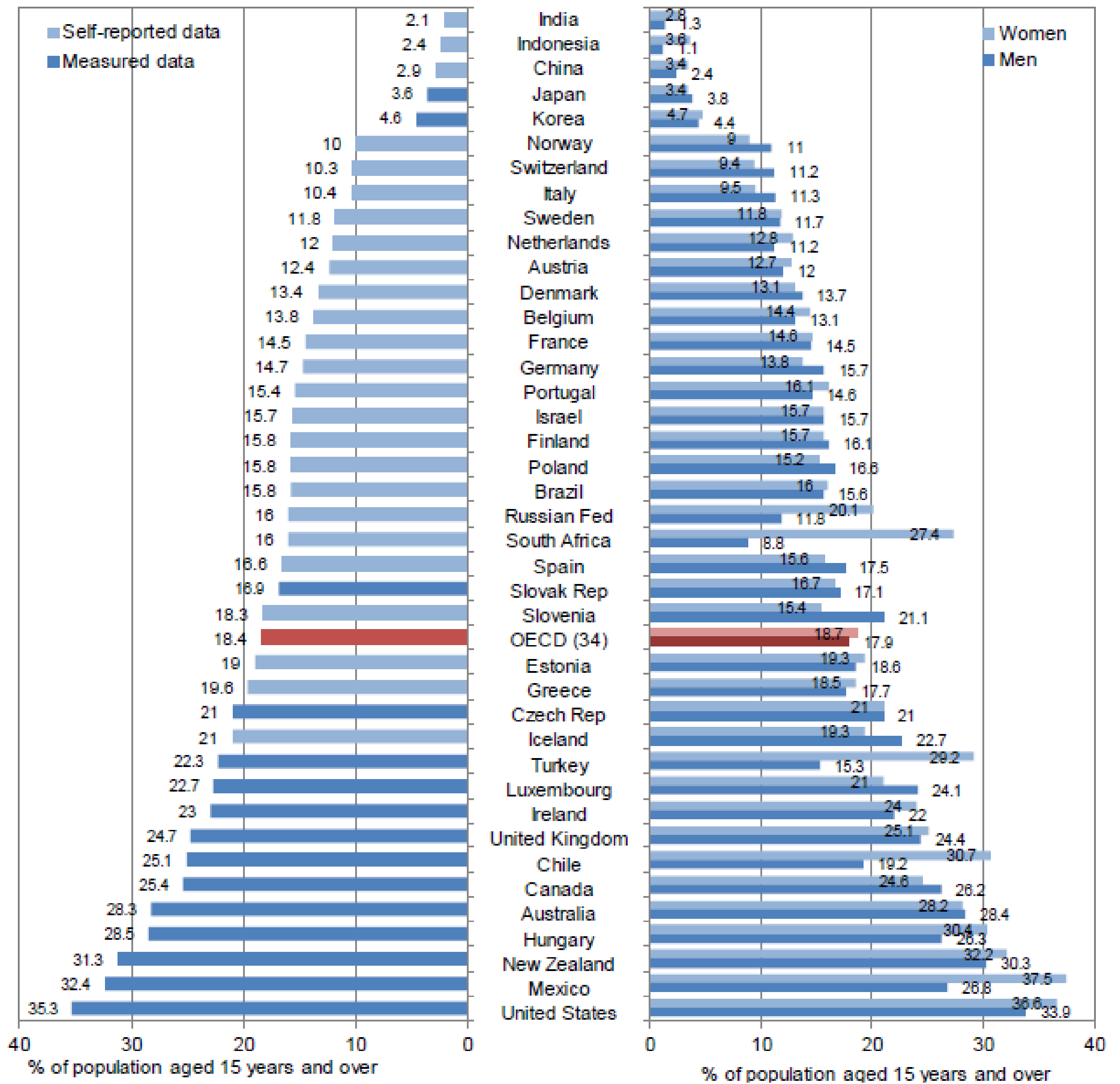
Appendices

Appendix A

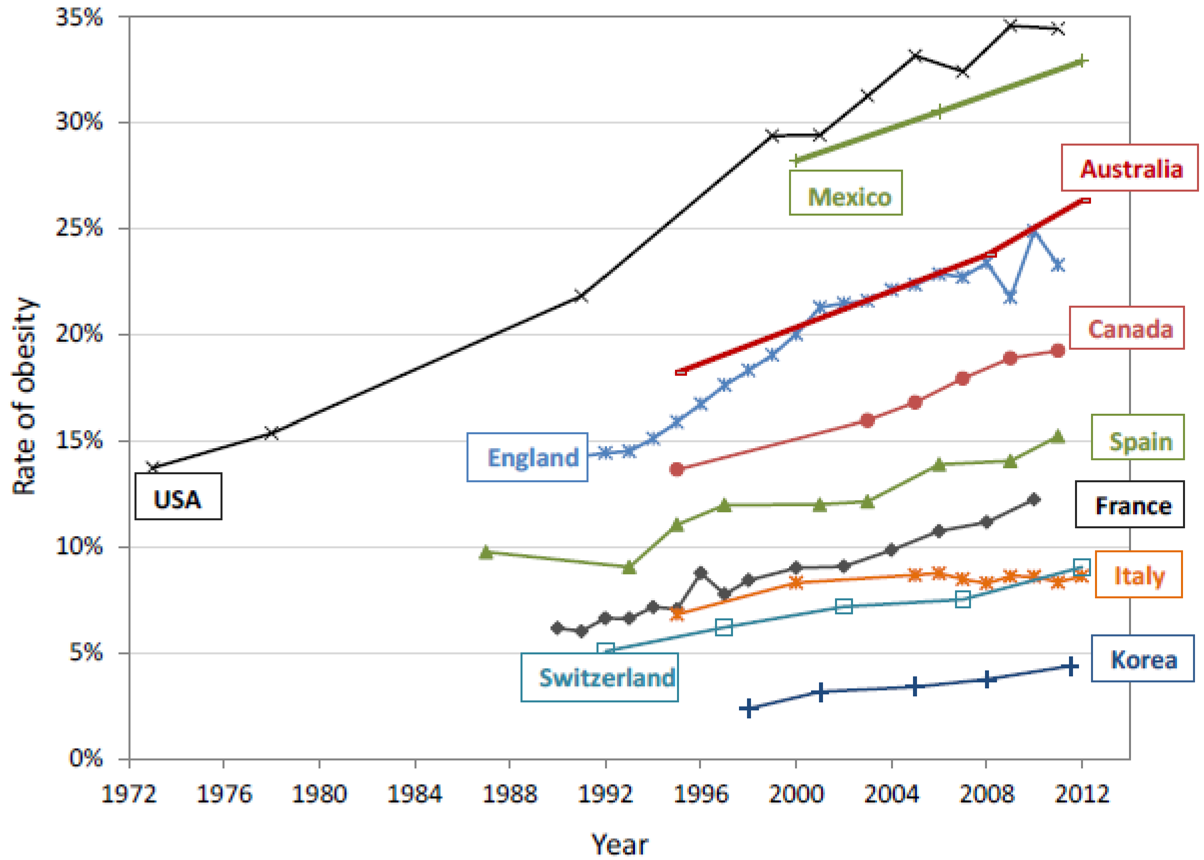
Figure 1: Obesity Among Adults, 2012 or Nearest Year



Source: OECD (2014), OECD Health Statistics 2014, forthcoming, www.oecd.org/health/healthdata.

Appendix B

Figure 2: Obesity Rates



Source: OECD analysis of health survey data.

Appendix C

Health Impact of Childhood Obesity

Within the academic community, obesity in general and child obesity in particular has been extensively examined across multiple disciplines. Research examining the physiological causes of obesity has found evidence that it is the result of a chronic caloric imbalance where on a daily basis an obese individual has higher caloric intake than expenditure (Pulgarón, 2013). These findings have led some to characterize obesity as a chronic disease (Dierk et al., 2006). In addition to physiological underpinnings, the causes of obesity have also been linked to several other factors including an individual's genetics, socioeconomic status, environmental cues, and culture (Pulgarón, 2013).

Childhood obesity has been linked to several health complications that involve multiple organ systems (Ebbeling, Pawlak, & Ludwig, 2002). Similar to obesity in adults, obese children have been found to have higher rates of chronic inflammation, hypertension, increased blood clotting, and hyperinsulinaemia (Ebbeling, Pawlak, & Ludwig, 2002). These cardiovascular risk factors have been collectively referred to as the insulin resistance syndrome and have been observed in obese children as young as five years old (Ebbeling, Pawlak, & Ludwig, 2002). A significant concern stemming from obesity in children is that of the increase in number of cases of type II diabetes. Though the incidence of type II diabetes has been shown to also be associated with genetics and lifestyle factors, a significant amount of research has shown the rise in childhood obesity as contributing to its rise in incidence (Ebbeling, Pawlak, & Ludwig, 2002). In fact, approximately half of newly reported incidences of type II diabetes in the United States

are children (Ebbeling, Pawlak, & Ludwig, 2002). Obese children are extremely susceptible to type II diabetes because of the observed pre-diabetic state of glucose intolerance and insulin resistance that is so pervasive among these children (Ebbeling, Pawlak, & Ludwig, 2002).

Other health complications associated with being obese include pulmonary concerns such as asthma and a significant reduction in endurance (Ebbeling, Pawlak, & Ludwig, 2002). These complications have been argued to reduce the quality of life of obese children and help to perpetuate being seriously obese because the capacity for physical activity is greatly hindered (Ebbeling, Pawlak, & Ludwig, 2002). This in turn exacerbates current health difficulties obese children face and contributes to the emergence of new health problems such as neurological, renal, musculoskeletal, and hepatic complications (Ebbeling, Pawlak, & Ludwig, 2002). Studies have also shown that obesity has a significant negative impact on the mental health of children (Ebbeling, Pawlak, & Ludwig, 2002). Several negative stereotypes obese children are implicitly and explicitly labelled with include being lazy, socially awkward, scholastically subpar, and generally unhealthy (Pulgarón, 2013). This cocktail of inflammatory, derogatory, and grossly inaccurate characterizations can lead to the manifestation of several mental health concerns such as a negative self-image and self-worth, persistent nervousness, and bouts of severe clinical depression (Ebbeling, Pawlak, & Ludwig, 2002). Lastly, these socially constructed associations with obesity have been correlated with an affinity towards high-risk behaviours in childhood (Ebbeling, Pawlak, & Ludwig, 2002).

The Importance and Impact of Nutrition on One's Health

Similar to the literature on obesity, the academic literature on the importance of proper nutrition is very comprehensive. Through human ingenuity and scientific breakthroughs there is now an abundance of food and the importance of eating nutritious food is arguably more crucial now than in the past. Nutrition has been shown to have a significant impact on an individual's longevity and quality of life (Basch, 2011). Contrary to public perception, the health related implications that stem from nutrition revolve around the quality of food and not merely quantity (Basch, 2011). Although this fact is not confined to any particular period of an individual's life, research has shown the formative years to be extremely important (Gomez-Pinilla, 2008). Childhood is a time of numerous physical, cognitive, and emotional developments (Gomez-Pinilla, 2008). A child's nutrition is vital for not only proper development but development in a timely manner (Gomez-Pinilla, 2008).

Research has shown that in addition to a child's overall brain development, adequate nutrition also influences daily physiological processes such as the monitoring of neural and chemical pathways that are involved in signal-transduction, key neurotransmitters, and for the fostering of the right conditions for synaptic transmission (Gomez-Pinilla, 2008). In particular, the impact of nutrition has been highlighted in research exploring the role dietary lipids play on overall health. Researchers have discovered that diets rich in Omega-3 polyunsaturated fatty acids have been observed to correlate with optimal brain functioning and the enhancement of higher level brain activity (Gomez-Pinilla, 2008). This overarching impact of nutrition on brain

development has led many academics to view nutrition as the best medium for protecting, repairing, and possibly even reversing the effects of aging on the brain (Gomez-Pinilla, 2008). This view is predicated on the notion that manipulation of one's nutrition will in turn initiate a cascade of factors at the molecular level that will then manifest at the individual level (Gomez-Pinilla, 2008).

More broadly, the impact of nutrition has been shown to be quite profound and influential in shaping the overall life one leads. Studies have shown that a childhood marred by a lack of adequate nutrition stemming from food insecurity significantly hinders one’s potential by virtue of its impact on brain development (Basch, 2011). A child's formative years plagued with food insecurity have been shown to manifest several negative precursors to more debilitating problems (Basch, 2011). A deficiency in iron and other essential nutrients has been correlated with the development of learning disabilities, increased childhood delinquency, and the development of habitual emotional instability (Basch, 2011). Furthermore, food insecurity and the subsequent poor nutrition that results, has also been associated with the repeating of grades in school and lower mathematical capabilities (Basch, 2011). Lastly, children with poor nutrition have higher hospital emergency visits, poor access to adequate healthcare and lower rates of compliance with prescribed treatment, thus resulting in poorer overall health outcomes (Basch, 2011).

The Impact of Nutrition on Scholastic Ability

Research has shown that a significant correlation exists between the quality of a child's nutrition and their academic success (Basch, 2011). Examining the impact missing

breakfast has on school performance, Basch, (2011) found urban minority school children had higher school absences and lower grades. In particular, the gap in academic performance between children of different socioeconomic status and of different ethnicities was found to be quite large (Basch, 2011). Although a child's overall diet is important, focusing on breakfast and the time period they are in school was found to help circumvent some of the difficulties students face revolving around attention span, motivation, and energy level (Basch, 2011).

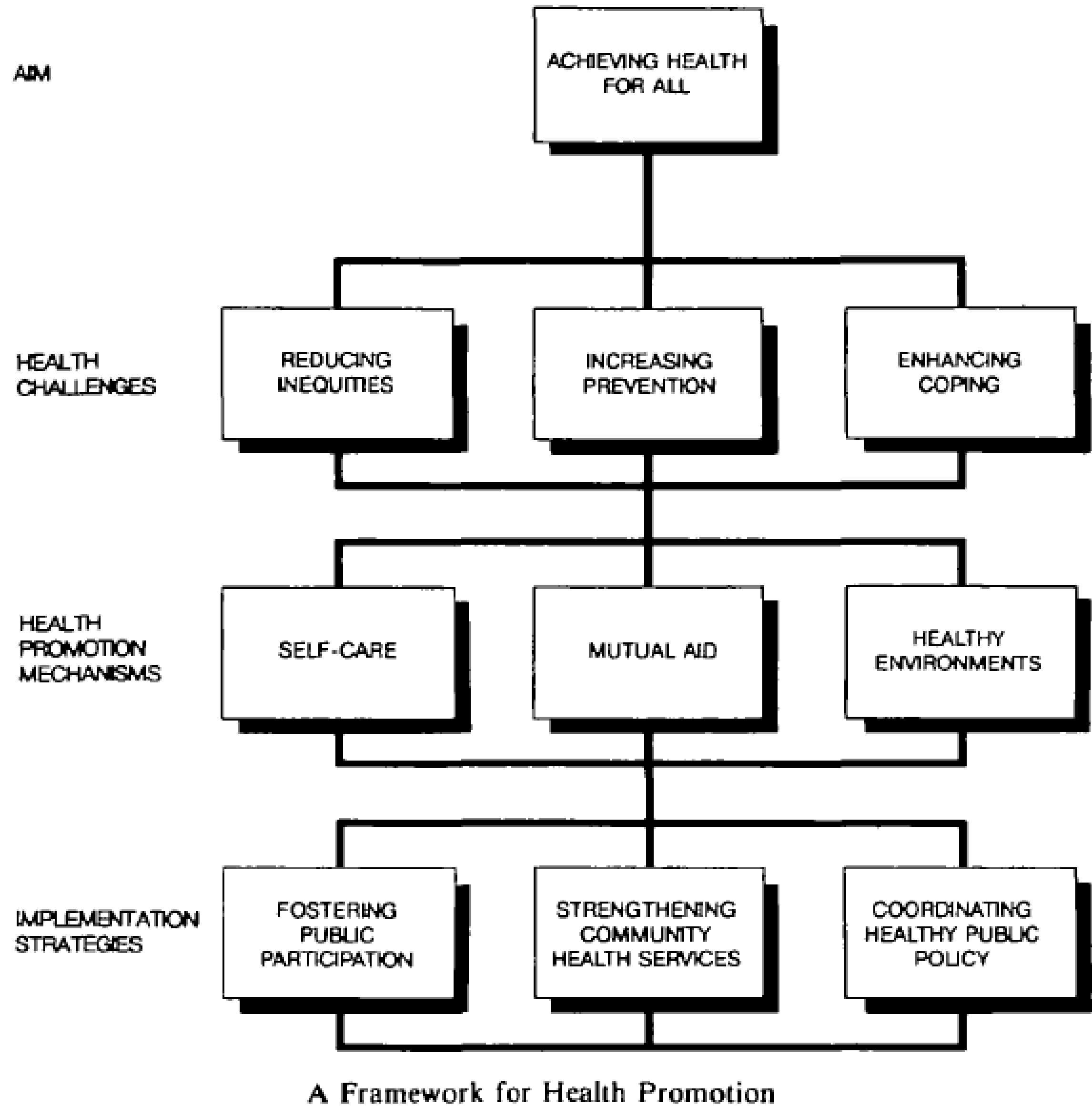
Challenges in Devising and Implementing Effective School Nutrition Policies

Several factors have been found to be involved in the relative success or failure of school based nutrition policies such as the *School Food and Beverage Policy* (Gonzalez-Suarez, Worley, Grimmer-Somers, & Dones, 2009). Factors found to be helpful in fostering the formulation and execution of strong nutrition policies in schools were found to include consensus among the various policy makers, the level of attention and foresight involved in the development phase, and the level of involvement principals played once such policies were adopted (MacLellan et al, 2009). In particular, principals were found to be instrumental in bridging the gap between school officials and policy makers which in turn helped in the level of adoption of a given policy (MacLellan et al, 2009). Research highlighted challenges to success as revolving around logistical and budgetary constraints, problems relating to time, and a lack of sufficient relevant actors to ensure the policy is appropriately executed (MacLellan et al, 2009). In addition, the need for vigilant monitoring over school based policies was expressed (Ramanathan et al, 2008). The lack of sufficient data, especially data required for the creation of

benchmarks, was the last clear obstacle to success expressed by several academics (Ramanathan et al, 2008).

Appendix D

Figure 8: Epp's Framework for Health Promotion

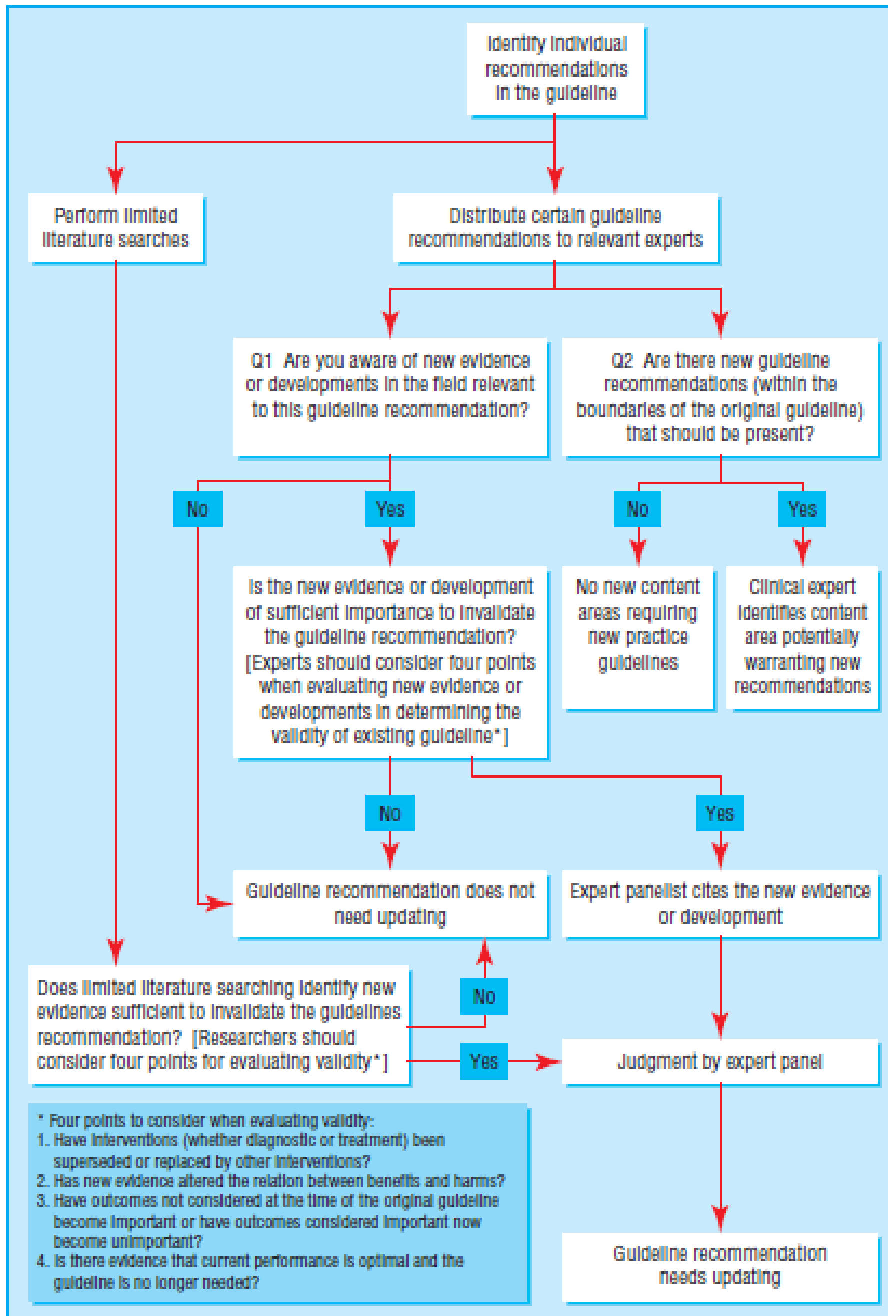


A Framework for Health Promotion

Source: Epp, 1986

Appendix E

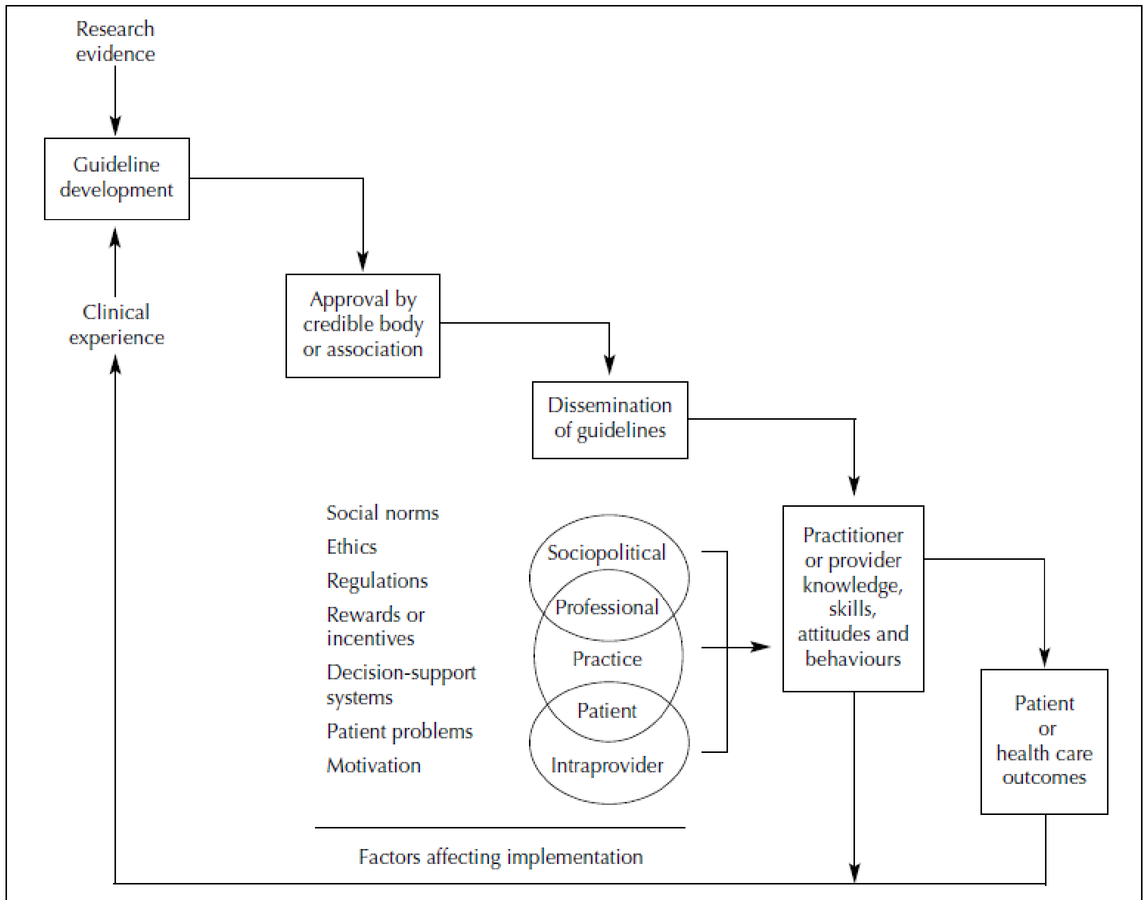
Figure 3: Proposed Model for Assessing the Current Validity of Guidelines



Source: Shekelle, Eccles, Grimshaw, & Woolf, 2001

Appendix F

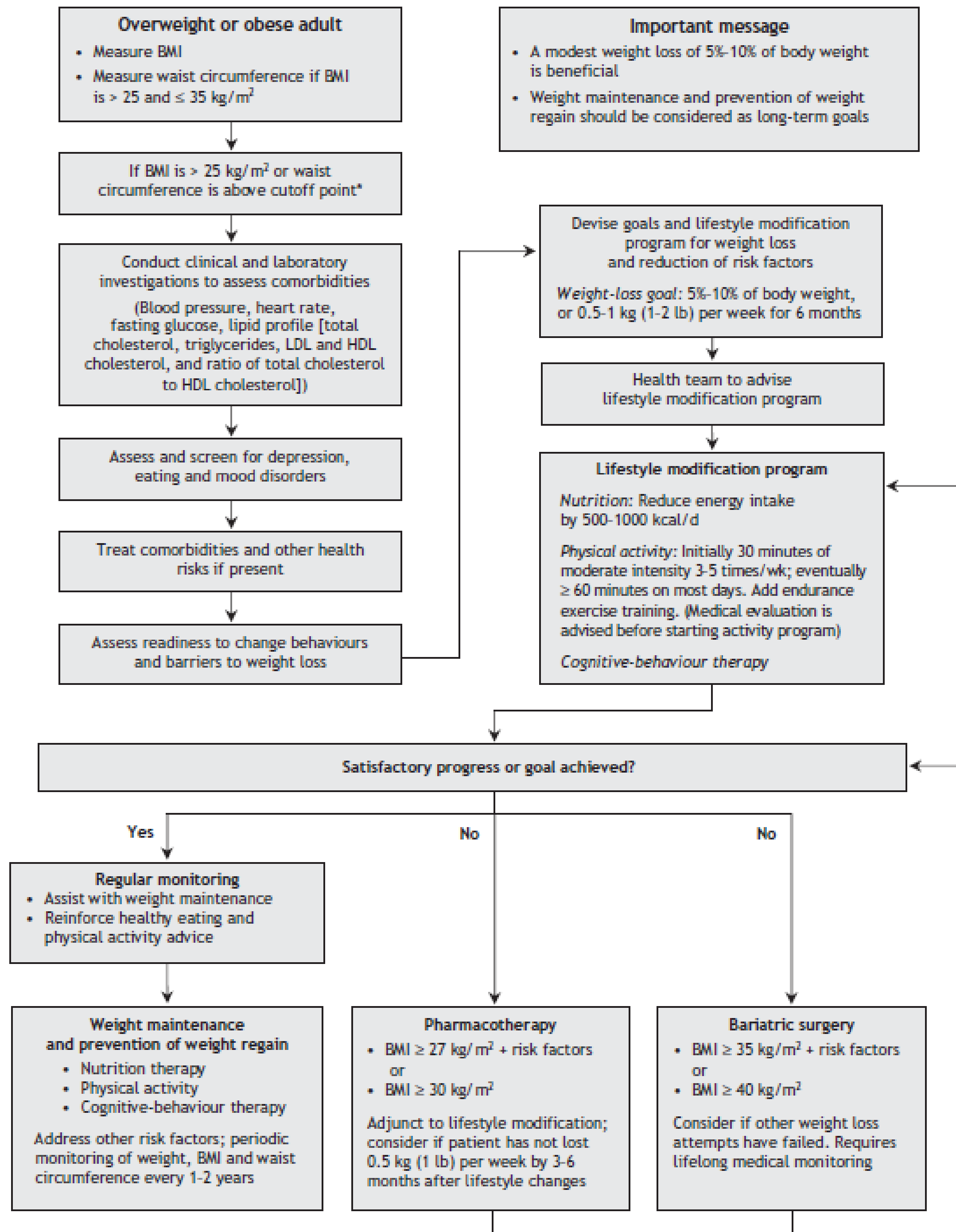
Figure 4: The Guideline Cascade: Steps in the Development and Implementation of Clinical Practice Guidelines, and Factors Influencing the Adoption of Guidelines.



Source: Davis & Taylor-Vaisey, 1997

Appendix G

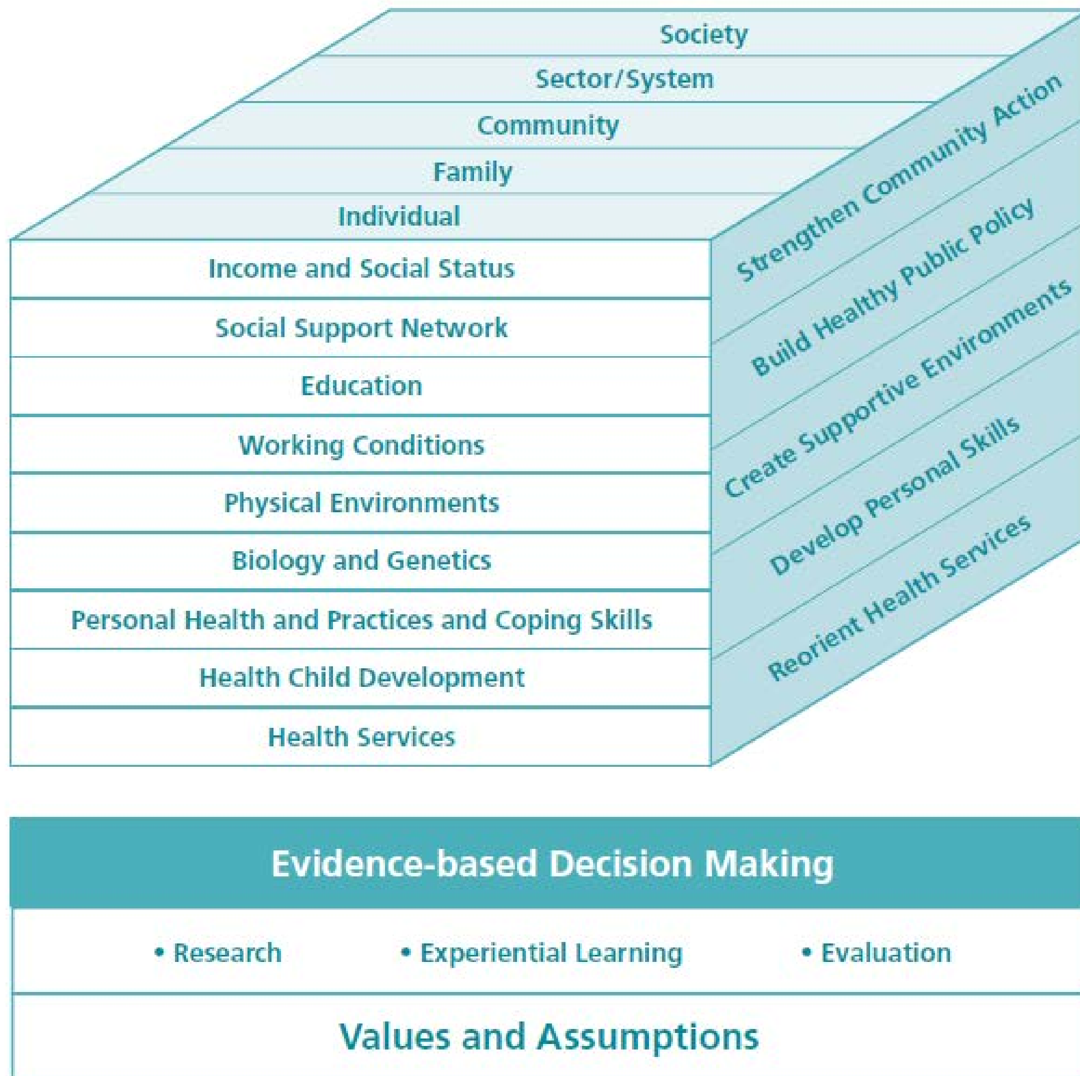
Figure 5: Algorithm for the Assessment and Stepwise Management of Overweight or Obese Adults



Source: Lau et al., 2007

Appendix H

Figure 6: Population Health Promotion Model



Source: Registered Nurses' Association of Ontario, 2014

Appendix I

Figure 7: Strategy for Treatment of Overweight and Obesity

Evaluate your patients for current and potential health risks related to weight (Booklet 2)

- Measure body mass index (BMI)
- Measure waist circumference
- Assess for presence/extent of suspected comorbid diseases

Talk to your patients about weight loss (Booklet 3)

- Explain the importance of weight loss
- Assess your patients' readiness to make behavior changes
- Work with your patients to establish realistic treatment goals

Help your patients manage weight through dietary management (Booklet 4)

- Collaborate on strategies for reducing calories and balancing the diet
- Recommend weight loss programs and resources as needed
- Follow up with your patients to monitor progress and provide support

Help your patients manage weight through physical activity (Booklet 5)

- Collaborate on strategies for increasing physical activity in the daily lifestyle
- Recommend physical activity programs and resources as needed
- Follow up with your patients to monitor progress and provide support

If indicated, help your patients manage weight through pharmacotherapy (Booklet 6)

- Determine whether your patients are candidates for pharmacotherapy at this time
- If pharmacotherapy is an option, help your patients make and carry out treatment decisions
- Monitor your patients for weight loss and medication side effects

If indicated, help your patients manage weight through surgery (Booklet 7)

- Determine whether your patients are candidates for bariatric surgery at this time
- If surgery is an option, help your patients and their bariatric team make and carry out treatment decisions
- Manage your patients post-operatively

Optimize your communication and counseling style (Booklet 8)

- Establish an effective patient–physician partnership
- Help your patients obtain skills for self-management
- Be sensitive to anti-fat bias and approach the topic of weight sensitively

Optimize your office environment (Booklet 9)

- Be more sensitive to your patients' needs by adapting office practices and the waiting room configuration
- Set up your office with the equipment needed to assess and manage your patients
- Facilitate patient care through a team approach

Adapted from Serdula MK, Khan LK, Dietz WH. Weight loss counseling revisited. *JAMA*. 289;1747-1750:2003.

Source: American Medical Association, 2003