TORONTO STAFF REPORT

September 2, 2003

To: Board of Health

From: Dr. Sheela V. Basrur, Medical Officer of Health

Subject: Promoting Healthy Weights

Purpose:

The purpose of this report is to provide information to the Board of Health on the "healthy weights" concept and on Toronto Public Health's approach to preventing the conditions of "unhealthy weight". This report describes the health consequences related to these conditions and positions healthy weights in the context of healthy eating, daily physical activity and social well-being.

Financial Implications and Impact Statement:

There are no financial implications resulting from the adoption of this report.

Recommendations:

It is recommended that:

(1) the Board of Health endorse the healthy weights approach described within this report;

(2) the Board of Health urge Health Canada and the Ontario Ministry of Health to publicly recognize the conditions of unhealthy weights as a public health epidemic and call for national and provincial public health responses including population-based prevention strategies with adequate financial resources for research, implementation and evaluation at national and provincial levels;

(3) this report be circulated for information to the Toronto Food Policy Council, the Food and Hunger Action Committee, Canadian Public Health Association, Ontario Public Health Association, Association of Local Public Health Agencies and other Boards of Health throughout Ontario; and

(4) the appropriate City Officials be authorized and directed to take the necessary action to give effect thereto.

Background:

During the last two decades, the conditions of unhealthy weights (i.e. underweight, overweight and obesity) have been of growing concern in industrialized countries such as Canada. Some public health experts label the problem as a "global epidemic" (1).

The "weight" issue is gaining more and more attention in Canada and around the world and has drawn the attention of governmental organizations, the private sector, health care practitioners, and the media. This interest from multiple sectors and stakeholders indicates that people are paying more attention to weight and its health related consequences.

The recognition of unhealthy weights as a health issue by the federal government led to the development of the 1988 Canadian Guidelines for Healthy Weights and other health promoting documents (2-5). To complement this initiative, Health Canada introduced a healthy weights strategy to promote healthy eating (not dieting), regular physical activity (not necessarily intense exercise) and social acceptance of a wider range of healthy weights and body sizes. With input from health professionals, the academic community and the voluntary sector, Health Canada conducted an in-depth investigation on the effects of weight, both underweight and overweight, on physical and psychological health.

This investigation led to Health Canada's development of the Vitality approach in the late 80's (6). This approach was aimed at helping individuals to accept a variety of body shapes and sizes, and to achieve and maintain a healthy weight through the adoption of a healthy lifestyle. The Vitality approach promotes a shift from negative to positive thinking about how to achieve and maintain healthy weights using three key messages – eating well, being active and feeling good about yourself. However, due to limited resources the Vitality approach was not broadly implemented nor evaluated except for a limited short-term social marketing campaign.

In 2003, Health Canada announced the initiation of a Pan-Canadian Healthy Living Strategy. This strategy incorporates comprehensive and integrated approaches to create stronger communities where healthy living is the norm and aims to support the promotion of healthy behaviours, reduce the rates of chronic diseases, increase longevity, and improve quality of life, thereby reducing the burden placed by chronic diseases on health care resources (7). The first phase of this strategy will focus on risk factors that are shared among several chronic diseases, i.e., physical activity and healthy eating, and their relationship to healthy weights. Toronto Public Health (TPH) participated in the consultations, roundtable discussions and provided written feedback on the development of the strategy framework.

The Healthy Living Strategy is guided by the principles of: integration, partnership and shared responsibility, and best practices. According to Health Canada, the Healthy Living Strategy will support the development of partnerships for collaborative research and action (8). Criteria for consideration first include how existing partnerships could be strengthened, and secondly, to identifying what new partnership may need to be created. Health Canada further indicates that

there is a need for a national research agenda to identify the issues that need to be addressed in order to support the Healthy Living Strategy. However, information on the amount of funds and when the funds will be available has not been released.

In addition, Health Canada also released the updated guidelines for body weight classifications in adults (9). This weight classification system can be used to identify weight related health risks in individuals and in populations. Health Canada encourages widespread use of this system as part of a comprehensive assessment of health risk. In addition, a weight classification system can identify trends in body weight patterns in the population as part of a longitudinal surveillance system (9).

The adverse health effects of being overweight and obese are also being reported with increasing frequency in the media. In the past several years, health related lawsuits focused on weight issues have also been gaining headlines. For example, the first-ever class-action lawsuit against a major food service agency was filed recently on behalf of children who suffer health problems as a result of eating their food (10). Similarly, other legal tactics are being discussed at the first Conference on Legal Approaches to the Obesity Epidemic (10).

Most recently, Toronto's Medical Officer of Health presented a Call to Action report on physical inactivity and health, and identified physical inactivity as an urgent public health issue for Toronto (11). The report made the case that "our sedentary lifestyles will contribute to increased health risks and premature death related to major chronic diseases". Moreover, the report highlighted the importance of "maintaining a healthy weight as a critical factor in preventing a number of these chronic diseases, and in supporting a person's social and psychological well-being".

This report builds upon the Call to Action and brings together physical activity, healthy eating and social well-being to promote healthy weights.

Comments:

The increased health risks attributable to unhealthy weights are well-established (12-14). What is less well established is a common understanding of the term "healthy weight". A healthy weight may incorrectly imply an assurance of good health (9) and is often misunderstood in today's society as the "ideal" body size and shape as portrayed by media, which is unrealistic for the majority of the population. As individuals strive to develop or maintain this perceived ideal, poor self-image, unhealthy eating and unhealthy physical activity patterns may develop, which may increase their health risks.

TPH has a unique opportunity to examine the concept and meaning of the term "healthy weights". TPH's healthy weights working group has developed strategies to counter the negative effects of an ideal body image, low self-esteem, and unhealthy eating and physical activity patterns by advocating for acceptance of a healthy weights concept and subsequent interventions to address the issue of unhealthy weights. This concept builds on the Vitality approach by promoting healthy eating (as opposed to dieting), regular physical activity, increasing self-esteem and social acceptance of more diverse weights and body sizes.

Promoting healthy weights and preventing the conditions of underweight, overweight and obesity are essential for improving the health of Canadians and achieving population health goals. The term "healthy weights" will be used throughout this report to refer to a concept based on an integrative approach to addressing these conditions – healthy eating, physical activity and increased self esteem. Appendix 1 details the definitions and terms used in this report.

Issues and Trends:

Underweight, overweight and obesity are conditions in which insufficient or excess body weight and/or fat may put a person at increased health risk. For the majority of individuals, these conditions result from inadequate or excess calorie consumption and/or inadequate or excessive physical activity.

The prevalence of overweight and obesity in Canadians has increased over the last 20 years. The prevalence of obesity in Canadian adults has more than doubled from a rate of 5.6% in 1985 to 14.8% in 1998 (16). According to the most recent Canadian Community Health Survey (CCHS), the number of obese Canadians aged 20-64 grew by 24% from 1994/5 to 2000/01 (17). It is important to note that obese individuals now represent 15% of the adult population in Canada. Measurement standards for weight are outlined in Appendix 2.

As in many urban centres, the residents of Toronto are overweight, but less overweight than elsewhere in Canada. While 26% of Torontonians are overweight, the problem is more prevalent in urban centres such as Ottawa (33%), Winnipeg (32%), Calgary (30%) and Montreal (27%). The lowest proportion of overweight individuals is found in Vancouver (15%) (17).

According to Toronto's Health Status at a Glance Report (2003), the proportion of Toronto residents with an acceptable weight was 52% among males and 57% among females (18). Appendix 5 contains a graph depicting the body mass index (BMI) for acceptable weights for 1990, 1996 and 2001.

The National Longitudinal Survey of Children and Youth (NLSCY) indicates that the prevalence of obesity is rising in Canada and the relative increase is greatest among children (19). Estimates on the prevalence of obesity in children and adolescents are difficult to make because of the lack of a consensus definition and the existence of only a few data sets that mirror the ethnic and socioeconomic composition of the population (20, 21). A recent study showed that from 1981 to 1996 the prevalence of overweight increased by 92% in boys and by 57% in girls (22). Moreover, during the same time frame, the prevalence of obesity has more than doubled in both boys and girls. Another study found that 48% of girls and 50% of boys in an Aboriginal community in Northern Canada were obese (20).

Overweight children and adolescents are more likely to develop diseases that were once seen only in adulthood. For example, the increase in overweight early in life may be responsible for an increase in obesity-related diseases in children, such as type 2 diabetes, which was previously considered "adult diabetes" (19). Another report on the BMI trends in Canadian children states that "there is growing concern that the current behaviour patterns of children and youth may

accelerate risk for diabetes and cardiovascular disease and result in premature illness and death" (20).

The prevalence of underweight in Canada is smaller in comparison to the prevalence of overweight and obesity. However, the risks associated with underweight are significant for sub-groups of the population. For example, underweight (in the small proportion of the population with eating disorders and in seniors) is associated with conditions such as osteoporosis and respiratory disease. Underweight and/or weight loss may also be early signs of an underlying disease (9). One study designed to assess the prevalence of disordered eating attitudes and behaviours in a sample of Ontario teenaged girls found that 1 in 4 teenaged girls engage in disordered eating (Jones, 2001). Another study indicated that 60% of Ontario girls in grade 7 & 8 are dieting to lose weight, despite being within a healthy weight range (69). The National Institute of Nutrition (undated) estimates that 200,000 to 300,000 Canadian women aged 13 to 40 (0.5% to 1%) have anorexia nervosa, and twice as many have bulimia (70).

Health Consequences/Risks and Economic Costs to Healthcare and Society:

Overweight, obesity and their associated health problems have substantial economic consequences for our health care system. The increasing prevalence of these conditions is associated with both direct and indirect costs. Direct health care costs refer to preventive, diagnostic and treatment services related to overweight and obesity (e.g. physician visits, prescription drugs, and home, nursing and hospital care). The total direct cost of overweight and obesity in Canada in 1997 was estimated to be over $1.8 billion, which corresponds to 2.4% of the total health care expenditures for all diseases in Canada (23). This analysis used a prevalence-based cost-of-illness methodology with total direct costs related to the major illnesses associated with obesity including coronary artery disease ($346 million), hypertension ($656.6 million), and type 2 diabetes ($423.2 million). These cost estimates were conservative because not all obesity-related diseases (e.g. gout and osteoarthritis) were included in the analysis. In addition, the estimates proposed above do not include the cost of treating obesity itself, since the treatment per se is not always funded by the provincial health care system. Total direct costs are estimated to range from $829.4 million to $3.5 billion, or 1.1% - 4.6% of total health care expenditures in 1997 (23).

The costs of sedentary lifestyle and poor eating are huge. The cost of poor diets (including those attributable to overweight and obesity) in Canada has been estimated to be $6.3 billion (24), while the estimated cost of physical inactivity is about $2.1 billion, or 2.5% of the total direct health care costs in Canada in 1999 (22).

Indirect costs refer to the value of wages lost by people unable to work because of illness or disability, quality of life, as well as the value of future earnings lost by premature death. There is much information that obesity and overweight contribute substantially to indirect healthcare-related costs (e.g. increased sick leave and disability pensions). However, there is a lack of good economic analyses in this area (25).

Recent reports have shown that the medical costs associated with overweight and obesity are fast approaching those of tobacco (10, 25, 26). Solutions to this health crisis require public health

policies and programs for improving the prevention and management of these conditions. A systematic approach for the prevention and treatment of overweight and obesity will need a united effort that involves health professionals, community organizations, governmental bodies, and individuals.

There are presently no good estimates related to the cost of underweight.

What Causes Unhealthy Weights:

It is well accepted that there are a number of contributing factors that cause the conditions of unhealthy weights: activity levels; diet; genetics; metabolic considerations such as age; environment; social, familial and individual choices; economics; and psychological, behavioural and biological factors.

Numerous studies have indicated that genetics is not likely to be responsible for the increase in the prevalence of these conditions due to the short period of time over which prevalence rates have increased (27-29). Studies point to societal and environmental changes for increased energy intake (i.e. eating) and/or decreased energy expenditure (i.e. physical activity). However, it is still unclear which factor has a greater effect.

An increase in energy intake has been implicated in promoting an increase in unhealthy weights (29). However, data on the type of foods Canadians eat are complex and must be interpreted with caution since there has been no national food and nutrition survey since the early 1970s. Surveys are necessary to gather information and monitor food consumption patterns. Without up to date food consumption data, information related to the type and amount of foods people eat can only estimate trends for future analysis.

According to a Statistics Canada (2002) report using estimates of food available for consumption after adjusting for retail, household, cooking and plate losses, Canadians are eating more cereal products, low-fat milk, cream and poultry in their diets (30). Data on the amount of food available indicates that Canadians are eating more pasta, bakery products and cereal-based products. This increased demand has resulted in the consumption of grain-based products reaching 65.6 kilograms per person in 2002, up substantially from 53.3 kilograms per person a decade ago. Similarly, consumption of lower-fat milk indicates that Canadians are drinking 26.7 fewer litres per person of higher-fat milk than they did 30 years ago. Conversely, consumption of higher-fat products such as cream increased approximately 1 litre per person from a decade ago. It is important to note that this growth coincides with increasing consumption of coffee in recent years, especially from food service establishments. Preliminary results from the Ontario Nutrition and Cancer Prevention (ONCP) survey indicate that Torontonians classified as underweight and normal weight are consuming more vegetables and fruit (median = 4.1 times per day) than those classified as overweight (median = 3.7 times per day) and obese (median = 3.3 times per day).

This suggests that Canadians are consuming more of some nutrients, but not enough vegetables and fruit. Disappearance data indicates that the availability of energy from food has increased 16.7% from 1991 to 2001. Carbohydrate availability increased 15.3%, while the availability of

fat rose 22.5%. Protein levels, with meat remaining the major source, have also risen since the mid-1990s. Some researchers believe this increase in consumption may be due to diet trends in "super-sizing" meals at food service establishments, increasing portion sizes, and the pervasiveness of the media in marketing and advertising high calorie foods with little nutritional value (31, 32). Apart from the commercial pressures to consume certain foods there are also social changes that affect consumer demand and food consumption (25, 32). Some of these changes include: busier lifestyles, smaller households (i.e., more single households and couples with multiple jobs), more working women, more snacking and grazing, and more travel often leading to consumers expanding the variety and diversity of foods consumed. More research is required to investigate the changing environment around food and food consumption patterns.

There also appears to be an increase in sedentary living among Canadians. According to the CCHS (16), only 41% of women and 42% of men aged 20-64 are physically active. The majority of Ontario's population are not physically active enough for optimal health, growth and development (11).

Healthy eating and physical activity are commonly identified behaviours for achieving and maintaining a healthy weight (8, 24); namely because unhealthy eating and physical inactivity are modifiable risk factors. From the above findings, it is reasonable to conclude that the majority of the population is inactive, are consuming calories in excess of that used by the body, and that a growing number of Canadians perceive their eating habits to be lacking. However, it is important to note that both dietary intake and physical activity are difficult to measure on either individual or population levels without investments in surveillance and monitoring systems.

Other Contributing Factors:

The World Health Organization's (WHO) report on diet, nutrition and chronic disease indicates that "in affluent countries, overweight and obesity are more common in younger adults and children. It is associated with lower socioeconomic status, especially in women" (31). Results from the Canadian heart health initiative, population-based surveys on the prevalence of cardiovascular risk factors, attitudes and knowledge undertaken in 10 provinces across Canada all confirm that a higher proportion of obesity exists among Canadians with lower levels of education (33). Preliminary results from the ONCP survey (Toronto sample) are consistent with this finding. Survey results indicated that those with lower socioeconomic status (in terms of education and income) had a higher BMI than those with higher socioeconomic status (34). More research is needed to further investigate the health risks of hunger, food insecurity and obesity, and how both of these serious threats can co-exist in the same household. A newly released report by the Center on Hunger and Poverty and the Food Research and Action Center has begun to examine this emerging relationship between hunger, food insecurity and obesity (35). The full report is available at http://www.frac.org/pdf/hungerandobesity/pdf.

TPH advocates for policy interventions at national and provincial levels that focus on promoting the determinants of health (including food security). Furthermore, TPH advocates that the promotion of healthy weights necessitates a supportive environment, which requires changing

the social and structural influences that create conditions conducive to underweight, overweight and obesity, and barriers to opportunities for healthy eating, active living and social well-being.

Current Weight-Loss Strategies – Implications of Weight Cycling:

In 1995, the weight loss industry in North America earned about $51 billion (71). The literature indicates that using traditional treatment interventions (i.e. low calorie, and very-low calorie diets), restrictive dieting, dietary counselling and behavioural therapy, drug therapy and surgery to address the conditions of overweight and obesity does not result in sustained reductions in weight (36-38), and that 95% of all diets fail (72). It is also widely recognized by some researchers that these strategies can lead to increasing rates of obesity, weight obsession and eating disorders (9, 37, 38).

The literature further indicates that repeated failures to maintain a lowered weight using the above interventions adds to the mental and emotional stress associated with the stigma of being overweight or obese in a society that values thinness (37, 38). It may also lead to physical and psychological consequences such as preoccupation with weight, food and eating, increased emotional sensitivity and inability to concentrate (38). Across the weight spectrum, as many as 66% of women and 52% of men report feelings of dissatisfaction or inadequacy regarding their body weight (39).

Studies on the effects of weight cycling indicate that it may represent a greater health risk for women than maintaining a high and consistent weight (40-42). Weight cycling can also, in some cases, lead to more serious eating problems (40-46). The following points highlight the implications of weight cycling in a Canadian context.

(1) In 1994-95, approximately 40% of women and 23% of men who had weights within the healthy weight range were trying to lose weight (47).

(2) Canadians with negative body images have a higher risk of engaging in unhealthy eating practices (e.g. bingeing and purging, refusing to eat) and excessive exercise, as well as developing actual eating disorders. Anorexia and bulimia are life threatening psychiatric illnesses that can have severely negative effects on mental health and well-being (48).

(3) Some adolescents are particularly susceptible to poor eating habits and extreme exercising as they strive to attain a culturally influenced body shape, assert themselves and become more independent from parents and teachers (49).

(4) The 1991 General Social Survey revealed that among the overweight, women were much more likely than men to be dissatisfied with their weight, whereas three-quarters of women classified as underweight (according to Canadian guidelines) considered themselves to be “just about right” (50).

Although weight loss at modest levels (5% to 10%) appears to lower the risk of health problems associated with overweight and obesity in individuals (51, 52), successful prevention strategies must address the implications of weight cycling as they relate to individual factors (food intake,

energy expenditure, genetics), social factors (urban planning, food availability and accessibility, advertising and media, self concept) and political factors (health policy, food policy, culture) (32, 54). All of these factors play a critical role in the development of unhealthy weights. One researcher described the interrelationship of these factors as the "causal web" of influences that impacts upon the individual (54). These influences shape the context in which individuals view themselves, and make choices about eating and physical activity. Many experts do point out that how people view themselves and the decisions they make can be reflected on a continuum of behaviours related to healthy eating, active living and self-esteem. Refer to Appendix 1 for a description of this continuum. To illustrate the interrelationship a causal model of factors influencing weight problems is presented in Appendix 6.

Traditional ways of preventing and treating unhealthy weights have almost invariably focused on changing the behaviour of individuals. One prominent researcher in the healthy weights movement describes this approach to be "inadequate, as indicated by the rising rates of these conditions" (32). Other sources indicate that "obesity prevention should be aimed at preventing obesity at a variety of levels. For instance, it is important to consider the following scenarios: 1) preventing the development of overweight in those who are within a healthy weight range, 2) preventing the progression of overweight to obesity in individuals who are overweight, 3) preventing weight regain in those who have been successful at losing weight in the past, and 4) preventing the worsening of a condition associated with obesity" (53).

As cited in the report 'A Public Health Approach to Promoting Healthy Weights and Preventing Obesity: A Review of the Literature on Effectiveness of Prevention Strategies' (2000), "public health units have an important role to play in promoting healthy weights for the prevention of chronic diseases and given the limited health-care resources, a public health approach will likely be the most cost-effective in addressing the obesity epidemic" (53). It has also been stated that "the effective implementation of a public health approach to the management of obesity will require a shift away from the traditional focus on clinical management and individual behaviour change towards strategies which deal with the environment in which such behaviours occur" (55).

Despite the high prevalence of unhealthy weights, there are limited effective prevention and management systems in place at a national level (1, 9). There continues to be a wide variation in prevention programs, with very few having a comprehensive approach capable of providing the level of care required to effectively manage and prevent these conditions. This is in contrast to chronic diseases such as coronary heart disease and diabetes where comprehensive approaches are frequently provided.

In order to make substantive gains in health outcomes related to healthy weights (i.e. healthful eating, physical activity and improved self-esteem), a concerted public health effort and integrated approach is necessary. According to Health Canada, the Healthy Living Strategy provides such an opportunity (7), and public health departments are ideally situated to facilitate that approach.

Benefits of Prevention – Promoting Healthy Weights:

The use of a non-dieting approach to addressing the issues of unhealthy weights grew out of the movement away from traditional treatments that focus on weight loss since these approaches have largely failed. This shift in thinking attempts to promote alternative ways of addressing weight and food issues by advocating health promoting behaviours and quality of life, rather than slenderness. Programs utilizing a non-dieting approach have demonstrated short-term improvements in self-esteem, body image, and other parameters associated with psychological well-being (51, 56).

A well known researcher in the area of healthy weights succinctly described her analysis of research on how we deal with weight and health on a personal and societal level as the following:

(a) "Good health is a state of physical, mental, and social well-being. People of all sizes and shapes can reduce their risk of poor health by adopting healthy lifestyles, including eating a variety of healthy foods, being physically active, and appreciating their bodies as they are.
(b) Human beings come in a variety of sizes and shapes, which should be seen as a positive characteristic of the human race.
(c) There is no ideal body size, shape, body mass index (BMI), or body composition that every individual should strive to achieve.
(d) Self-esteem and body image are strongly linked. Helping people feel good about their bodies and about whom they are can help them achieve and maintain healthy behaviours.
(e) Each person is responsible for taking care of his or her own body [but, there is a societal responsibility to create supportive environments and remove barriers to healthy eating and active living].
(f) Appearance stereotyping is wrong. No matter what their weight, all people deserve equal treatment in employment and the media and to receive competent and respectful treatment by health care professionals" (64).

This philosophy is grounded in the supposition that the factors contributing to unhealthy weights are complex and multi-factorial. Using this philosophy, self-responsibility is encouraged to foster choice and respect as ways to achieve health at any size; while societal-responsibility contributes to the attitudes, beliefs, and behaviours that create nurturing and supportive environments. A non-dieting approach requires a societal change in perspective in order to "de-normalize" the way weight is perceived today, and normalize a focus on health rather than appearance.

TPH has adopted a non-dieting approach, which is health and wellness-centred, rather than weight-centred, and focuses on the whole person, physically, mentally, and socially. This approach shifts the emphasis to living actively, eating in healthful ways, respecting each individual, and health and well-being for all, regardless of size (57).

A non-dieting approach not only advocates for and supports appropriate lifestyle behaviour changes to achieve these outcomes, but also emphasizes social and environmental factors. The

philosophy of federal organizations such as Health Canada and the International Task Force on Obesity indicate that a healthy weight is a weight that is achieved and maintained with a healthy lifestyle in a supportive environment. TPH's concept of a healthy weight mirrors this philosophy and identifies those individuals who manage to attain and maintain a "healthy weight" by adopting unhealthy practices such as skipping meals, smoking, engaging in a sedentary lifestyle or compulsive exercising, disordered eating or extreme dieting. In short, TPH seeks to engage people in the Vitality message – healthy eating, active living and feeling good about themselves, not necessarily to achieve weight loss alone but for overall health and well-being (6).

Positioning the Healthy Weights Concept:

It is the position of TPH that promoting healthy weights and preventing the conditions of underweight, overweight and obesity to improve overall health requires a lifelong commitment to healthy lifestyle behaviours emphasizing sustained and healthful eating practices, daily physical activity and increased self-esteem (57, 67). Individual action is necessary to change individual behaviours, but transformation of our social and environmental systems are crucial to change factors that actively encourage negative social environments, unhealthy eating and sedentary behaviours and discourage alterations to these patterns.

TPH is committed to five overarching principles aimed at making the shift at the societal level that is necessary to promote a non-dieting approach to addressing unhealthy weight conditions and focus on healthful behaviours. The principles, adapted from the U.S. Surgeon General's report include:

(i) Assist Canadians in increasing self-esteem, and balancing healthful eating with regular physical activity to achieve and maintain a healthy or healthier body weight.
(ii) Identify effective and culturally relevant interventions to prevent unhealthy weights.
(iii) Encourage environmental changes that help prevent unhealthy weights.
(iv) Develop, nurture and enhance public partnerships to help implement a healthy weights approach.
(v) Promote the recognition of underweight, overweight and obesity as major public health problems (62).

Using these principles to guide practices, TPH aims to:

(1) promote healthy weights as the key to managing the conditions of underweight, overweight and obesity;
(2) coordinate, accurate public information campaign(s) to promote consistent messaging around healthy weights; and,
(3) position the conditions of underweight, overweight and obesity as the public health epidemic they are and call for a coordinated national public health response supported with adequate resources to address this epidemic, and to develop, implement and evaluate appropriate population-based prevention strategies.

The goal of TPH's healthy weights initiative is "to enable people in Toronto to attain and maintain a healthy weight by increasing self-esteem, being active and eating in a healthy way, thereby helping them to achieve their full health potential" (57).

Weighing the evidence: Does a non-dieting approach work?

Presently, clinical trails have not compared the effectiveness of the non-dieting approach to other modalities such as restrictive dieting and pharmcotheraphies. Proponents for the non-dieting approach indicate that it may be more effective than traditional interventions (65). While opponents caution against implementing these strategies because they have not been tested with scientific rigor and maintain that "it is the obligation of those promoting this paradigm shift to provide data showing that it can be implemented, is beneficial, decreases morbidity and mortality, does not increase the risk of illness and is cost effective" (66).

Traditionally, evaluation of successful weight management strategies relied on the outcome of total and sustained weight loss as success indicators. However, outcome measures must not rely solely on weight reduction. Establishing goals for health through improving diet, physical activity and self-esteem, not weight, should be the primary focus of interventions for prevention. Preliminary results from a recent Health Canada survey in Quebec, suggests that people have spent considerable amounts of money on weight loss programs to little or no avail. The most popular weight loss products, services and methods identified include diets, programs or clinics, followed by natural products and meal substitutes (54). Data are needed to document the effectiveness of non-dieting approaches, and to develop outcome indicators and evaluation techniques which are consistent with a non-dieting philosophy. Weight loss may not be the appropriate indicator of success when evaluating prevention interventions. Any positive lifestyle change (i.e. healthful eating, increased physical activity and self-esteem), regardless of weight loss, is an achievement towards a healthy weight and overall health in general (57).

We must take action now for more active and comprehensive intervention strategies that promote the benefits of healthy and active living. This action can focus on collaborative partnerships and research using the healthy weights concept, and comprehensive health promotion strategies that foster increased physical activity such as daily physical activity and education programs in primary and secondary schools, increased pedestrian malls and automobile free-zones; and, healthful eating practices such as increased vegetable and fruit consumption and the promotion of exclusive breastfeeding, since breastfed children have less risk for acute diseases of infancy and childhood and a reduced risk of developing childhood obesity (59).

Opportunities:

TPH continues to strive to communicate healthy eating messages, daily physical activity and increased self-esteem that focuses on health – rather than appearance and weight. Towards this end, TPH will advocate for the following:

(i) A comprehensive approach to change public perception of healthy weights

Addressing healthy weights lends itself to an integrated approach due to the multiple risk factors (i.e., unhealthy eating, physical inactivity and poor mental health) plus important social, economic, physical and cultural influences and genetic factors. A comprehensive approach that focuses on integrated prevention efforts will also strengthen the link between these factors in promoting health (instead of controlling weight) while maximizing limited prevention and evaluation resources.

(ii) Multi-risk factor programming

Bringing together collaborative expertise from a number of areas and disciplines to address the issue of healthy weights will ensure that multiple risk factors are addressed and evaluated. As mentioned earlier, healthy weights traditionally implied a focus on dieting with the goal of weight loss. This approach has demonstrated little, if any long-term success and has been shown in the literature to lead to increasing rates of obesity, weight obsession and disordered eating.

(iii) Public health partnerships using the healthy weights concept

Public health units are vital in promoting healthy weights for the prevention of underweight, overweight and obesity. Public health units are well positioned to develop community, educational and workplace strategies that focus on long-term improvement in lifestyle behaviours (physical activity and healthful eating), and self-esteem. Partnerships also help to support an integrated pan-Canadian effort with shared responsibility in improving health and health outcomes. Working with sectors outside of health (e.g. food service establishments, urban planning) will also be necessary.

(iv) Consistent public messages and information

Educational programs, involving media outlets, television, magazine articles, website(s) and web-based activities, lecture symposia, school programs, and community education, should be developed to educate Canadians about the health risks associated with the conditions of being underweight, overweight and obese, what can be done to prevent excess weight, and the interrelationship between healthy eating, physical activity and self-esteem.

Consistent messaging and a unified effort amongst governmental departments and sectors with physical activity, healthy eating and mental health mandates will help to avoid misinterpretation of the healthy weights term and reflect the way weight should be perceived – an acceptance of different body shapes and sizes with a focus on improving health promoting behaviours.

(v) Policies to promote food security

Food security ensures that people have access to an adequate supply of nutritious, affordable and culturally appropriate food (60). The specific concern is with food insecurity. Current research indicates that food insecurity is influenced by the social, physical and economic environments of an individual's life (63). Thus, governments and other sectors need to focus on the broader determinants of health in order to address the underlying conditions that create or determine food insecurity. This will require advocating and supporting public policies and practices that address the root causes that lead to unhealthy personal practices and poor health outcomes.

(vi) Healthy weights networks, societies and committees

Development of central coordinating networks, societies and committees consisting of representatives from various levels of government and non-government bodies and agencies (including community representatives) to perform "governance" functions such as consensus documents, position statements, policy reviews and exchanging information and resources related to healthy weight issues (e.g. breastfeeding, nutrition quality in school nutrition programs, body image, smoking and physical activity).

(vii) Applied research and evaluation

Future research should be aimed at reversing the trend of unhealthy weights. New research needs to pilot, document, and support or challenge current assumptions related to a healthy weights approach. Areas of investigation may include understanding the critical periods for the development of unhealthy weights, understanding the interaction of factors among different sub-populations, devising successful family-oriented self-esteem, mental health, social support, nutrition and physical activity interventions aimed at behaviour modification, establishing additional clinical and genetic markers that identify individuals and populations at risk, and developing effective public health measures that increase participation in active rather than sedentary lifestyles. In addition, researchers in the areas of healthy eating, physical activity, self-esteem and healthy weights need to come together and develop comprehensive research agendas investigating healthy weights concepts.

(viii) Focused public health programs

To make the best use of scarce resources, public health uses strategies that focus on highly prevalent risk factors (e.g. physical inactivity, unhealthy eating, poor mental health) that are modifiable through behaviour change. This calls for continued support of public health initiatives and mechanisms that promote single-risk factor programming related to:

(a) healthy eating (e.g. Invite Us Along – a vegetables and fruit initiative which utilizes multiple strategies (environmental support, communication campaigns, skill-building, and policy development) and is implemented through diverse

channels (schools, grocery retailers, community-at-large and workplaces) to educate and encourage women with children to increase the variety and amount of vegetables and fruit consumed daily);

(b) physical activity (e.g. the Active and Safe Routes to School Program – a community action program that brings together parents, the elementary school community (teachers, principals, trustees), police services, traffic engineers, and city councillors to work in partnership to create safe community environments that encourage and enable students to walk to school with parents and older adults); and,

(c) self- esteem (e.g. TPH's mental health team – an innovative team of public health nurses with mental health expertise who promote mental health considerations across all TPH programs and services).

(ix) Enhanced surveillance

Monitoring systems are needed for healthy eating, physical activity, healthy weights and chronic disease to document the threat and impact on the health and well-being of Canadians.

(x) Adequate financial resources

The trend toward unhealthy weights can be reversed through a properly resourced public health approach that encourages regular physical activity, healthful eating and a positive social environment. However, the healthy weights approach needs a champion that is properly resourced in order to be sustainable over time. Public health units are in the unique position to be this champion, and the funds from the Healthy Living Strategy present an opportunity to resource this approach.

Conclusions:

The conditions of underweight, overweight and obesity are complex issues. To be effective in stabilising and reducing the future prevalence of these conditions, it is crucial to adopt at all levels an integrated approach that recognizes the connection between healthy eating, daily physical activity, a positive social environment and a positive sense of self, and their interrelationship with healthy weights. This will ensure that the issue of healthy weights is addressed without exacerbating weight preoccupations and disordered eating.

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Appendix 1

Definitions and Terms

Healthy Eating:

Health Canada indicates that healthy eating refers to eating practices and behaviours that are consistent with improving, maintaining and/or enhancing health (Health Canada, 2003).

Healthy Weights:

TPH indicates that a healthy weight implies a healthy lifestyle, which includes a balanced interrelationship between healthy eating, physical activity and self-esteem.

Extremes in body weight are a risk factor for a number of chronic diseases. Whether your weight puts you at risk is influenced by your body composition (body fat location and how much of your weight is fat). Your weight may also be a risk factor if you have weight related health problems, such as type 2 diabetes and high blood pressure. Confounding this risk is the complex interaction of genetics, physical activity level, age, dieting history and the foods you eat. There is a range of weights for heights associated with normal growth and development and the lowest occurrence of morbidity and mortality.

This definition reflects that a healthy weight is individualized and unique. It implies that it is not necessarily okay to be obese or underweight or to achieve, maintain and manage a healthy weight if it is done so by unhealthy means.

Healthy weight is concerned with physical, social and psychological well being. It urges social acceptance of a wider range of healthy weights and body sizes. Healthy weight promotes healthy eating (not dieting), and regular physical activity while discouraging social pressures for extreme body ideals (TPH, 2002).

Physical Activity:

Health Canada defines physical activity as any form of body movement, produced by skeletal muscles, that increases energy expenditure. This includes physical activity in all aspect of daily living – at home, school, work and play, and on the way (active transportation such as walking and cycling) (Health Canada, 2003).

Vitality:

A holistic, integrated approach that promotes healthy eating, active living and self-acceptance (positive self and body image). The Vitality Approach encourages individuals to make healthy choices easier. The three key components to the Vitality Approach are:

1) "Eat Healthy";
2) "Be Active"; and
3) "Feel Good About Yourself" (Health Canada, 1988).

Behaviour Continuum:

An individual can have a mixed profile for the behaviours (e.g. B for healthy eating, C for physical activity, and D for self-esteem). Ideally, all individuals would have a profile of C for all behaviours (TPH, 2002).

Behaviour	Spectrum of "compliance" with behaviour				
	A Not Trying	B Tense but Trying	C Successful	D Obsessed/ Over Managed	E Clinically Diagnosed (EXCLUDED)
Healthy Eating	Not planned, inconsistent eating. Doesn't listen to hunger cues.	Trying to eat according to CFGHE*. Trying to listen to hunger cues.	Eating according to CFGHE & listening to hunger cues.	Dieter. Too strict & rigid. Obsessive.	
Active Living	Doesn't try or think about physical activity.	Trying to include physical activity & participate in active living.	Active living includes regular physical activity.	Too strict & rigid. Exercise obsessed.	
Self-esteem	Non-reflective about self.	Trying to reflect about self.	Reflective & feeling good about self.	Damaging, negative thoughts/ feelings about self.	

Appendix 2

Measurement Standards for Underweight, Overweight and Obesity

Typically, the underweight, overweight or obese individual has a body weight that is below or above a "standard". The standard assesses body weight relative to height and is commonly known as body mass index (BMI). In Canada, BMI is defined as weight in kilograms divided by the square of height in metres (kg/m^2). According to Canadian BMI criterion, an adult is considered to have a "normal weight" if their BMI is between 18.5 and 24.9. A BMI of between 25 and 29.9 indicates that an individual is "overweight", whereas an "obese" adult has a BMI of 30 or higher. A BMI below 18.5 is considered "underweight". Appendix 3 contains the body mass index nomogram and Appendix 4 outlines summary tables of the health risk classifications for adults.

Maintenance of a healthy weight is a major goal in the effort to reduce the burden of illness and its consequent reduction in quality of life and life expectancy (9, 15). The selection of a BMI cut-off point to establish the upper limit of the healthy weight range is based on the relationship of overweight or obesity to risk factors for chronic disease or premature death. The high prevalence and associative relationship of overweight and obesity with many chronic diseases, including type 2 diabetes, high blood pressure, high blood cholesterol, heart disease, certain cancers (e.g., endometrial, colon, postmenopausal breast), osteoarthritis, and premature death are well established (9). A BMI of less than 25 has been accepted by Health Canada as the upper limit of the normal weight range, since chronic disease risk increases in most populations at or above this cut-off point. The lower cut-off point for the normal weight range (BMI of 18.5) was selected to be consistent with national and international recommendations. Problems associated with excessive thinness (BMI less than 18.5) include menstrual irregularity, infertility, impaired immunocompetence and osteoporosis. There is some concern that the increased focus on diet and weight may result in more eating disorders, such as bulimia and anorexia nervosa (9).

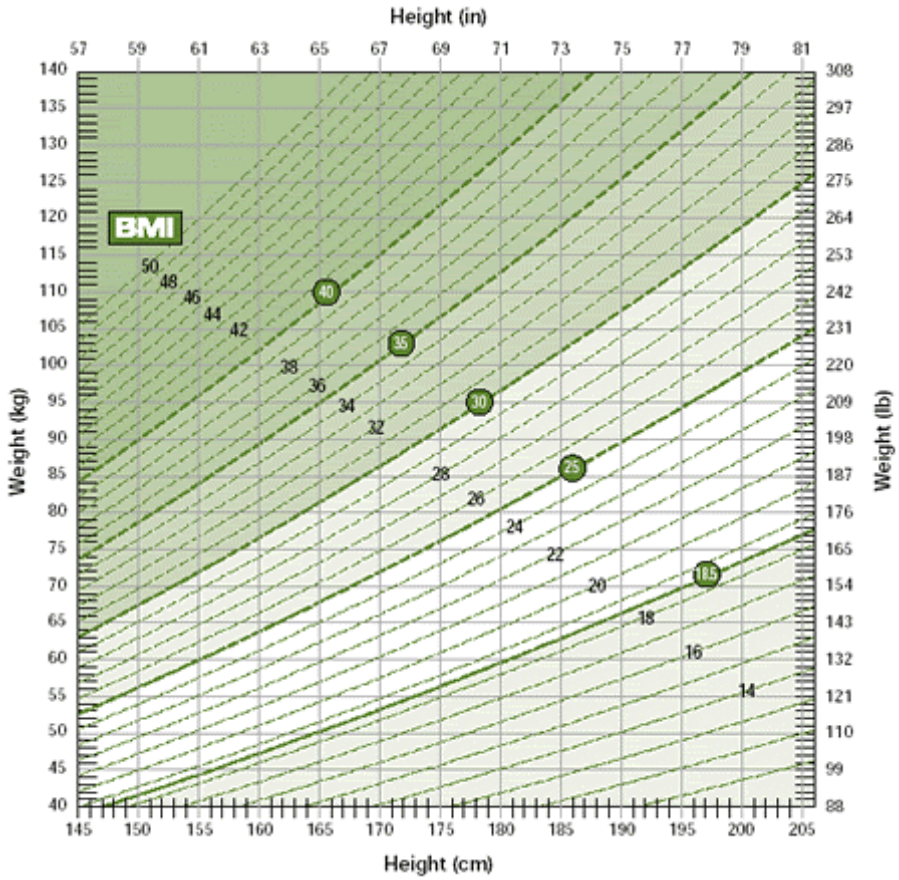
In children and adolescents, there is no generally accepted definition of overweight and obesity (9). However, a number of different measurements have been used to define overweight in children and adolescents. The preferred method is defined as a sex- and age-specific BMI at or above the 95^{th} percentile, based on revised growth charts by the Centres for Disease Control and Prevention. The International Obesity Task Force is working on the development of a system for children and adolescents and preliminary reports of this work have been published elsewhere (9).

BMI is the criterion chosen by many researchers and health professionals not only in Canada, but also around the world. Researchers have found it to be a useful, indirect measure of body composition, because in most people it correlates highly with body fat (15). However, BMI does not provide information concerning body fat distribution, which has been identified as an independent predictor of health risk (9). Thus, the revised weight classification guidelines recommend that waist circumference (WC) be used in association with BMI to determine health risk.

When BMI is between 18.5 and 34.9, WC measurement is the recommended way to estimate excess abdominal fat and thus, increasing health risk. A high-risk individual is categorized as having a WC of more than 88 cm (35 inches) for women and more than 102 cm (40 inches) for men. It is important to note that health risk increases as WC increases. But, as BMI increases above 35 then WC measurement does not provide additional information on health risk (9). The complete technical report on the Canadian Guidelines for Body Weight Classification in Adults can be viewed at http://www.hc-sc.gc.ca/hpfb-dgpsa/onpp-bppn/cg_bwc_introduction_e.html.

Appendix 3

Body Mass Index Nomogram



For a quick determination of BMI (kg/m2), use a straightedge to help locate the point on the chart where height (in or cm) and weight (lb or kg) intersect.

Source: Canadian Guidelines for Body Classifications in Adults, Health Canada, 2003, page 36

Appendix 4

Canadian Guidelines for Body Weight Classifications in Adults

Health Risk Classification According to Body Mass Index (BMI) For use with adults age 18 and older. Not for use with pregnant and lactating women.		
Classification	BMI Category (kg/m^2)	Risk of developing health problems
Underweight	<18.5	Increased
Normal Weight	18.5 – 24.9	Least
Overweight	25.0 – 29.9	Increased
Obese:		
Class I	30.0 – 34.9	High
Class II	35.0 – 39.9	Very high
Class III	>=40.0	Extremely high
Note: For persons 65 years and older the 'normal' range may begin slightly above BMI 18.5 and extend into the 'overweight' range.		

Source: Canadian Guidelines for Body Classifications in Adults, Health Canada, 2003, page 10

Health Risk Classification According to Waist Circumference (WC) For use among adults age 18 and older. Not for use with pregnant and lactating women.	
For BMIs in the 18.5 – 34.9 range, use WC as an additional indicator of health risk. For BMIs >= 35, WC measurement does not provide additional information regarding level of risk.	
WC Cut-Off Points	Health Risk (relative to WC below cut-off point)
Men >= 102 cm (40 in.) Women >= 88 cm (35 in.)	Increased risk of developing health problems*
* Risk for type 2 diabetes, coronary heart disease, hypertension	

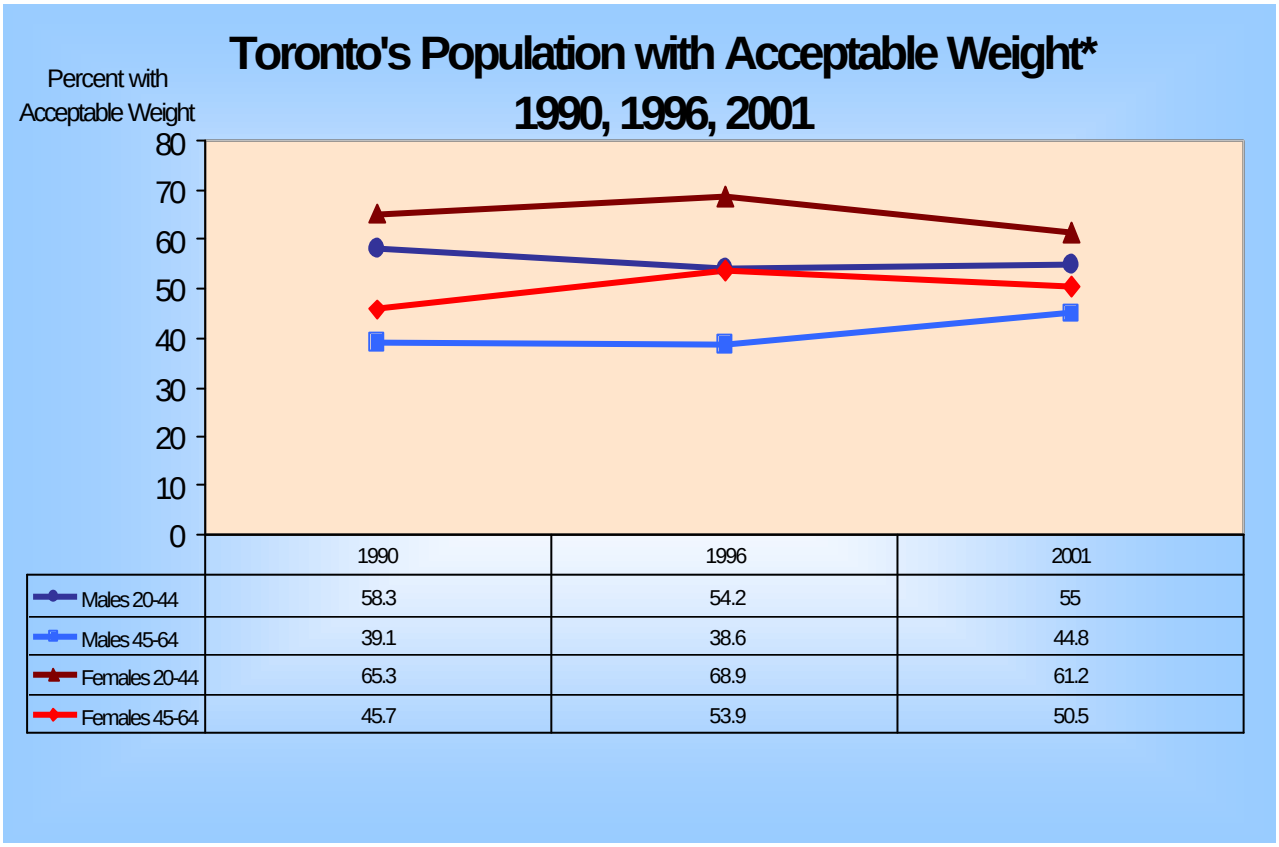
Source: Canadian Guidelines for Body Classifications in Adults, Health Canada, 2003, page 10

Health Risk* classification according to Body Mass Index (BMI) and Waist Circumstance (WC)				
		Body Mass Index (BMI)		
		NORMAL	OVERWEIGHT	OBESE CLASS I
Waist Circumference (WC)	< 102 cm (Males) >= 88 cm (Females)	Least risk	Increased risk	High risk
	< 102 cm (Males) >= 88 cm (Females)	Increased risk	High risk	Very high risk
*Risk is relative to normal BMI and a waist circumference of < 102 cm for males and < 88 cm for females				

Source: Canadian Guidelines for Body Classifications in Adults, Health Canada, 2003, page 11

Appendix 5

Body Mass Index – Acceptable Weight, Toronto, 1990, 1996, 2001

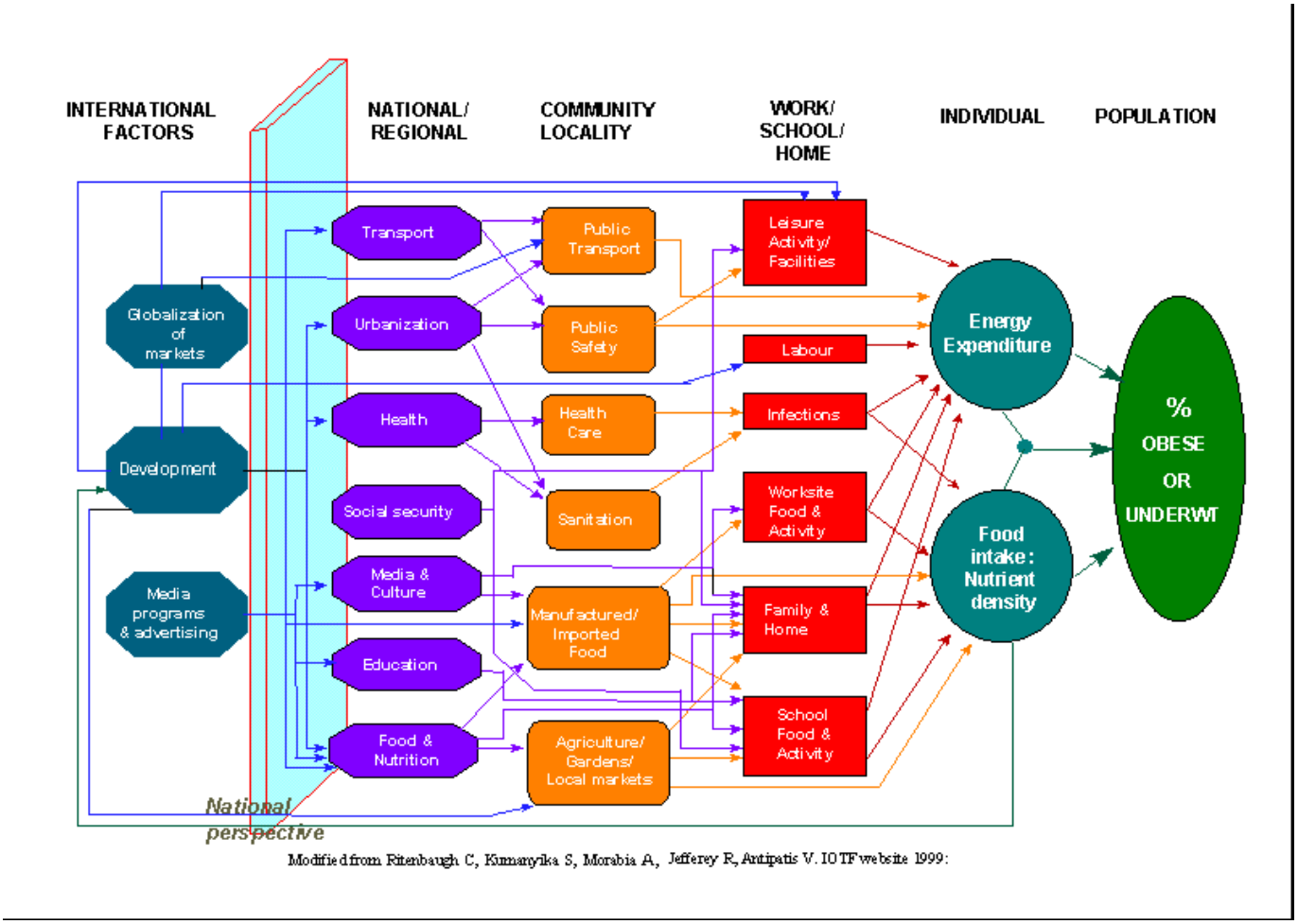


	1990	1996	2001
Males 20-44	58.3	54.2	55
Males 45-64	39.1	38.6	44.8
Females 20-44	65.3	68.9	61.2
Females 45-64	45.7	53.9	50.5

Source: Toronto Health Status at a Glance, Toronto Public Health, August 2003

Appendix 6

Causal Model of Factors Influencing Weight Problems



Modified from Ritenbaugh C, Kumanyika S, Morabia A, Jefferey R, Antipatis V. IOTF website 1999: