

**WEIGHING THE OPTIONS: TOWARDS IMPROVING  
SECONDARY PREVENTION OF EATING DISORDERS  
AMONG CHILDREN AND YOUTH WITHIN BRITISH  
COLUMBIA**

by

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## **ABSTRACT**

Recent analyses of eating disorder services within B.C. have revealed significant gaps in service delivery for the province's child and youth population. There is an identified need for additional secondary prevention services for children and youth exhibiting early signs of disordered eating. Improving the quality, and building the capacity, of secondary prevention services within B.C. is a key priority, especially given the importance of early intervention in maximizing health outcomes among these patients.

This paper consists of a review of the literature surrounding best practices for both screening and early intervention of eating disorders, as well as an exploration of how this issue has been tackled internationally. Both the literature review and environmental scan are used to inform a series of recommendations for the improvement of secondary prevention eating disorder services within B.C. Major challenges and limitations associated with the available research and the application of recommendations are also discussed.

**Keywords:** eating disorders; children and youth; secondary prevention; treatment; screening; early intervention

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# TABLE OF CONTENTS

Approval .....	ii
Abstract .....	iii
Acknowledgments .....	iv
Table of Contents .....	v
Glossary .....	vii
<b>Introduction .....</b>	<b>1</b>
<b>Context .....</b>	<b>3</b>
<b>Purpose .....</b>	<b>4</b>
<b>Literature Review .....</b>	<b>5</b>
Eating Disorders .....	5
Gender and Eating Disorders .....	6
Myths & Stigma Surrounding Eating Disorders .....	7
Costs to the Health Care System .....	7
Health Promotion and Prevention .....	7
Eating Disorders & Obesity .....	10
Treatment .....	10
<b>Methods .....</b>	<b>12</b>
<b>Results .....</b>	<b>14</b>
Primary Prevention .....	14
Secondary Prevention .....	14
Tertiary Prevention .....	16
Support Groups and Rehabilitation .....	16
Summary of Identified Gaps .....	16
Focusing on Secondary Prevention .....	17
Early Detection: Best Practice and Literature .....	18
Early Intervention: Best Practice and Literature .....	21
Lessons from the Field: An Environmental Scan of International Initiatives .....	25
<b>Implications &amp; Recommendations .....</b>	<b>27</b>
Early Detection .....	27
Early Intervention .....	28
Next Steps .....	30

<b>Challenges &amp; Limitations</b> .....	<b>31</b>
<b>Conclusion</b> .....	<b>34</b>
<b>Appendix A</b> .....	<b>35</b>
<b>Appendix B</b> .....	<b>37</b>
<b>References</b> .....	<b>38</b>

## GLOSSARY

Health Promotion	“the combination of educational and environmental supports for actions and conditions of living conducive to health. The purpose of health promotion is to enable people to gain greater control over the determinants of their own health” (Green & Kreuter, 1991)
Primary Prevention	“protection of health by personal and communal efforts, such as enhancing nutritional status immunizing against communicable diseases, and eliminating environmental risks, such as contaminated drinking water supplies.” (Last, 2001)
Secondary Prevention	“a set of measures available to individuals and communities for the early detection and prompt intervention to control disease and minimize disability, e.g., by the use of screening programs” (Last, 2001).
Tertiary Prevention	“measures aimed at softening the impact of long-term disease and disability by eliminating or reducing impairment, disability, and handicap; minimizing suffering; and maximizing potential years or useful life” (Last, 2001).



## INTRODUCTION

Eating disorders are presently the third most common chronic health condition diagnosed in females between the ages of 15 and 19 living in North America (Johnston, 2004). These disorders are characterised by both physiological and psychiatric components and include disturbances in body image and detrimental changes in food intake and behaviour, such as extreme dieting, bingeing and purging (De la Torre et al., 2006). The most common eating disorder diagnoses are Anorexia Nervosa (AN), Bulimia Nervosa (BN) and Eating Disorder - Not Otherwise Specified (EDNOS) (De la Torre et al., 2006). In British Columbia (B.C.), it is estimated that eating disorders affect 0.1% of the 5-15 year old population, and 1.5% of the total population over 15 years of age (Waddell, 2007; Katzman et al., 2005), meaning that approximately 1,000 children across B.C. currently suffer from eating disorders (Waddell et al., 2004). However, given the secretive nature of the illness and the literature to suggest that eating disorders are vastly under-treated (Hudson et al., 2007), it is likely that this is an underestimation of the actual number of youth in the province who are afflicted by eating disorders.

Adolescents of both sexes between the ages of 10 and 19 have the highest hospitalization rates of any age group (PHAC, 2002). According to the Public Health Agency of Canada (PHAC), hospitalizations for eating disorders in Canada are 34% higher among children under 15, and nearly 30% higher in 15 to 24 year olds, than they were 20 years ago (PHAC, 2002). While not a uniquely female diagnosis, the vast majority (90-95%) of eating disorders are diagnosed in women and girls. In Canada in 1999/2000, women accounted for 94% of all hospitalizations associated with eating disorders. Moreover, while eating disorders have traditionally been most commonly associated with American and European girls and women, they are now being diagnosed more uniformly in women of diverse ethnicities (Becker et al., 2003; Cachelin & Striegel-Moore, 2006).

Adolescence is a time where rapid growth and physiological changes associated with the onset of puberty commonly result in increased concern about weight and body image. Body image dissatisfaction has been associated with many of the unhealthy weight control behaviours observed in eating disorder patients, such as frequent dieting, binge eating, and skipping meals (Neumark-Sztainer et al., 2006). While eating disorders most often emerge in adolescence, the first symptoms of disordered eating frequently manifest themselves during childhood; there is recent evidence to suggest that approximately 30% of girls and 24.5% of boys as young as 10-14 years of age have engaged in dieting to lose weight despite being within a healthy weight range (McVey et al., 2004; 2005). These data suggest that while clinically-diagnosed eating disorders are estimated only to affect a small proportion of the population, a far larger number of children and youth may be exhibiting disordered eating behaviours. Thus, the true extent of the eating disorder crisis may not be effectively captured by population prevalence rates.

Eating disorders can have a serious impact on child growth and development, and are associated with disturbances of the cardiac, gastrointestinal and endocrine systems, the effects of which (ie: heart or kidney failure) can be fatal if left untreated (Waddell et al., 2004; NIMH, 2007). Furthermore, eating disorders are frequently associated with a variety of other mental health issues, including anxiety, alcohol and substance abuse, and suicide and depression, thus amplifying the stress and decreased quality of life experienced by the child or youth (Waddell et al., 2004; PHAC, 2002). In addition to the severe physiological pathologies which often arise as a direct consequence of an eating disorder, long-term effects, which can include psychological or social health problems, often persist for years after the resolution of an acute episode (PHAC, 2002).

## **CONTEXT**

Recent analyses of eating disorder services available within B.C. have revealed significant gaps in service delivery for the province's child and youth population. There is an identified need for additional services for children and youth across the spectrum of care, from primary prevention to rehabilitation. Because current services are insufficient to meet population demand, many children and youth in British Columbia are unable to access timely and appropriate treatment; in fact, in many cases they remain untreated until their condition deteriorates substantially and they are admitted to the hospital. As noted by Noordenbos: "Long waiting lists for treatment and lack of knowledge concerning the effectiveness of treating eating disorders hampers the realization of secondary prevention" (Noordenbos, 1994, p. 128). Improving the quality, and building the capacity, of preventive eating disorder services within B.C. is a key priority, especially given the importance of early intervention in maximizing health outcomes among eating disorder patients.

## **PURPOSE**

The purpose of this project is to contribute to the improvement of secondary prevention of eating disorders among children and youth within a large urban region of British Columbia. As previously mentioned, early detection and intervention for children and youth with eating disorders has been identified as a key priority within this region.

It should be noted that much of the work described in this paper was performed for a particular organization within B.C. The information I gathered during my time with this organization remains unpublished to date, and much of the data are therefore currently reserved for internal use only. As such, both the identity of the organization and of the specific region of B.C. which was studied will remain confidential at this time, and thus will not be explicitly referenced within this paper.

# LITERATURE REVIEW

## Eating Disorders

Disordered eating includes a wide range of abnormal eating, ranging from anorexia to obesity. The scope of this project will include behaviours seen in eating disorders such as anorexia and bulimia, chronic restrained eating, compulsive eating and habitual dieting (APA, 2000). Eating disorders (EDs) are considered psychiatric disorders and involve severe disturbances in eating behaviours and attitudes (APA, 2000). Anorexia nervosa (AN) is characterized by refusal to maintain a healthy body weight, distorted body image, and an extreme fear of gaining weight (PHAC, 2002). In addition to the associated psychological disturbances, AN is characterised by low body weight, that is, 85% or less of expected weight for height. Bulimia nervosa (BN) is also associated with a distorted image of one's body shape or size, and involves frequent binge eating, followed by behaviours intended to prevent consequent weight gain, including vomiting, excessive exercise and laxative abuse (PHAC, 2002). A residual category, eating disorders not-otherwise-specified (or EDNOS), is intended to capture all eating disorders which are neither AN nor BN; in B.C., it is estimated that between 50 and 75% of individuals referred for tertiary care have an EDNOS diagnosis. Binge-eating disorder (or BED) is an example of an EDNOS-type eating disorder, and involves frequent and excessive eating without the associated mechanisms to prevent weight gain (PHAC, 2002).

Although the underlying causal mechanisms of the illness remains largely elusive (NIMH, 2007), eating disorders are most likely the result of a combination of biological (i.e.: genetic, gender, temperament), psychological (i.e.: poor body image, low self-esteem, and lack of self-regulation, stress management or coping mechanisms), social (i.e.: pressures to be thin, teasing, social isolation, family dysfunction, insecure attachment) and developmental (i.e.: bullying, trauma, neglect, rejection) determinants (PHAC, 2002; Hosman et al., 2005).

Patterns of restrictive food intake or restrained eating during the younger years may result in interruption of normal physical growth, may offset a person's natural weight for optimal growth and development, and may trigger weight gain resulting from binge eating (e.g., disinhibited eating) (Field et al., 2003). Physiological side effects of eating disorders include hypotension, anemia, electrolyte imbalance, heart failure, kidney failure, osteoporosis, menstrual irregularities and neurological complications (Gucciardi et al, 2004), many of which can be fatal if left untreated (Waddell et al, 2004; NIMH, 2007). Moreover, eating disorders are frequently associated with other mental health disorders, such as anxiety disorders, depression, and personality disorders. Severe co-morbidities associated with eating disorders result in a 12-fold increase in the risk of death for young women with AN compared to other women without anorexia (Jones et al., 1993).

Due to the inherent complexity of eating disorders, and despite the fact that they are biologically-based psychiatric disorders, the unique combination of medical and psychiatric conditions associated with these illnesses creates barriers to treatment. Neither the medical nor the psychiatric system is able to adequately address the full extent of symptoms affecting eating disorders patients on its own, and this frequently results in ED patients being juggled back and forth between the two systems of care.

## **Gender and Eating Disorders**

The notion that there is more intensive social pressure on women than on men to be thin is widely accepted (Hsu, 1989; Johnson et al., 2004). Adolescent females tend to express greater dissatisfaction with their bodies than their male counterparts, and also feel more pressure to fix problematic parts than do boys or men. Research shows that preoccupations with weight and body image, as well as self-concept disturbances, which include body dissatisfaction and body size overestimation, are generally more prevalent among females than males (Gucciardi et al, 2004); while body image satisfaction increases in males during adolescence, adolescent females are more likely to experience decreased body satisfaction during this period (Bearman et al., 2006). As such, AN and BN most often develop during adolescence or young adulthood; young women 15-19 years old are at greatest risk of developing eating disorders, followed by

girls 10 -14 years old (Gucciardi et al., 2004). Results of the 2008 B.C. Adolescent Health Survey showed that school-age boys reported higher overall satisfaction with their body than girls, and were twice as likely as their female peers to report being highly satisfied with their body image (Smith et al., 2009).

## **Myths & Stigma Surrounding Eating Disorders**

There is a widespread misconception that the affected individuals suffering from eating disorders have “chosen” to engage in disordered eating as a result of their own vanity – using their behaviour as a means of attaining a the socio-cultural ideal of beauty (Crisp, 2005). This leads to strong feelings of guilt and shame, both for the person experiencing the eating disorder, as well as for their parents and family members, who feel that they are to blame for the development of the child’s illness (PHAC, 2002). As a result of this stigma, individuals suffering from eating disorders can be reluctant to come forward and speak about their experience, thus contributing to the invisibility of the disease. These attributes of the disease make it difficult for the public health care system to develop an appropriate response, and consequently contribute to keeping individuals and their families trapped in the throes of the disease (Crisp, 2005).

## **Costs to the Health Care System**

Although eating disorders affect a small percentage of the population, they have significant impacts on child and youth mental health services, specifically hospitalization. The province of British Columbia has the highest Canadian hospitalization rate for women with eating disorders at 15.9 per 100,000 women per year (Statistics Canada, 2004). B.C. spends about \$3.4 million annually on hospital-based care for eating disorders. Furthermore, a recent analysis shows that B.C. may be spending up to 30 times as much, or \$101.7 million, on long-term disability payments for people with anorexia (Su & Birmingham, 2003).

## **Health Promotion and Prevention**

School-based prevention strategies which aim to increase self-esteem and capacity to resist environmental pressures to engage in dieting have emerged as the most effective interventions for reducing

the onset of disordered eating symptoms among children and youth (McVey, 2002; 2003a; 2003b; 2004). Universally-applied interventions employed in the school setting reduce the risk factors for eating disorder development by providing an opportunity for individual education and skill-building, specifically with regard to fostering self-esteem, increasing body image satisfaction, improving media literacy and developing coping skills and stress management techniques (McVey et al., 2007; O'Dea & Abraham, 2000; Wade et al., 2003).

Additional school-based strategies target the social and physical aspects of the school environment (i.e.: sensitizing teachers and staff to their influence on children's body image, encouraging the adoption of policies to reduce weight-based teasing and overweight or obese prejudice), and also aim to engage local public health practitioners in the delivery of these strategies (McVey et al., 2005; 2007; 2008). These types of interventions support the promotion of healthy lifestyles, physical activity, greater school connectedness, reduced body weight obsession, and increased acceptance of body size diversity, all of which are protective against the development of eating disorders among children and youth. The school-based approach can also be successfully implemented within the context of high-risk environments. For example, in an elite, primarily residential ballet school setting, Piran utilized a participatory research strategy which aimed to reduce body weight/shape preoccupation and to create a school atmosphere in which students felt comfortable with puberty and growth; the result was a reduction in disordered eating and general body dissatisfaction among students (Piran, 1999).

Moreover, the incorporation of peer support groups has been identified as an essential component within the implementation of school-based prevention strategies (McVey et al., 2003a). Given the high degree of importance which young girls tend to place on both friendships and relationships in general, "friendship networks have the potential to support healthy body image and eating, and create sub-cultural changes in the school setting" (McVey et al., 2003a, p. 180; Paxton, 1996; Piran, 1999). The use of peer support groups within school-based interventions contributes to creating a sense of empowerment and increased self-acceptance at a developmentally vulnerable time in young girls' lives (McVey et al., 2003). As such, partnerships with community youth groups (i.e.: Girl Scouts) should be considered when designing



eating disorder prevention strategies for children and youth (Neumark-Stainzer et al., 2000). Furthermore, even though eating disorders are far more prevalent among girls than boys, the benefits of including males in health promotion activities designed to reduce the incidence of eating disorders should not be underestimated, especially given the negative social role sometimes assumed by males in environments which contribute to the development of eating disorders (ie: by making derogatory comments about a female's weight or engaging in weight-based teasing of their female counterparts) (Wade et al., 2002).

Additionally, the school provides a key setting for the introduction of screening processes, which can lead to earlier detection of eating disorder symptoms and associated improvements in patient outcomes (Austin et al., 2008). Treatment is most effective when initiated during the early stages of the disorder, and disordered eating attitudes and behaviours are sufficiently common in Canadian adolescent females to warrant routine screening (Jones et al., 2001). Therefore, routine assessment of teenaged girls for the early signs of an eating disorder can help identify those who are most likely to benefit from treatment (PHAC, 2002).

Connectedness to both family and school has a protective effect on the development of both eating disorders and childhood obesity (Danielsdottir et al., 2009). Encouraging parents to act as role models by demonstrating healthy living, healthy eating and physical activity at home has been identified as an important first step toward fostering a supportive home environment and achieving the associated benefits related to body image satisfaction and resilience to social pressures imposed on children and adolescents. This can be achieved through tasks as simple as having more family dinners and avoiding overemphasis on weight (or excessive "weight talk") in the home, especially during mealtime. In addition, school policies which encourage or require student participation in extra-curricular activities have been shown to solidify a sense of school/community connectedness among children and adolescents (Danielsdottir et al., 2009).

Lastly, although health-related outcomes associated with recent private sector initiatives to promote healthy body image and esteem (e.g., the Dove Campaign for Real Beauty) have not yet been addressed,

the influence of these campaigns, particularly on young girls (who are at the highest risk of developing eating disorders), is expected to be beneficial, and warrants further examination.

## **Eating Disorders & Obesity**

There is general concern among health professionals surrounding the inadvertent effects of the numerous interventions that have recently emerged as a means of addressing rising rates overweight and obesity among children and youth. These interventions are intended to reduce excess weight among school-age children, but may have the unintended consequence of contributing to the development of undue preoccupation with weight and shape among young girls and boys, as well as the adoption of unhealthy weight control practices and further propagation of overweight prejudice (Berg, 2001; Cogan et al., 2008; Ikeda et al., 2006; Neumark-Sztainer et al., 2008). By ensuring that school-based interventions and messages targeting childhood obesity are holistic, focused on positive behaviours rather than negative ones, and structured around “healthy living” rather than weight loss (Neumark-Sztainer, 2009), it may be possible to simultaneously tackle the prevention of both childhood obesity and eating disorders. Health promotion initiatives in this field should therefore be weight-neutral, emphasizing the importance of living healthy at any weight, and free of any specific “weight goals,” since weight is not a behaviour, and should therefore not be regarded as a modifiable factor within the context of an intervention (Danielstottir, 2009).

## **Treatment**

Given the inherent complexity of eating disorder pathology and the many co-morbidities with which eating disorders are associated, care for children and youth suffering from eating disorders is most effective when delivered by a team of specialists, including a paediatrician, a dietitian or nutritionist, a psychiatrist, a mental health nurse, and a mental health therapist. When possible, outpatient treatment is preferable, but inpatient treatment may be necessary for patients presenting with medical instability or whose condition rapidly deteriorates upon discharge (NICE, 2004). Additional recommendations, according to 2004 guidelines published by the National Institute for Clinical Excellence (NICE), suggest that growth and

development should be closely monitored in children and adolescents with eating disorders. In cases where development is delayed or growth is stunted despite adequate nutrition, paediatric advice should be sought. Lastly, healthcare professionals assessing children and adolescents with eating disorders should be knowledgeable about co-morbidities and risk factors associated with eating disorders, and should furthermore remain vigilant for any signs of abuse in their patients (NICE, 2004).

Research and evaluation of best practices in psychological therapies for treating and managing eating disorders among children and youth recommend that interventions address not only the characteristics of eating psychopathology but also the developmental tasks and psychosocial issues for this age group. For patients suffering from bulimia nervosa, cognitive-behavioural therapy (CBT-BN) remains the treatment of choice (Waddell et al., 2004; Rutherford and Couturier, 2007). Although medications have not been proven efficacious for promoting weight gain or reducing eating disorder symptoms in anorexia, there is evidence to suggest that they may be useful in reducing bulimic symptoms. However, more research on the use of medication in children is nonetheless required (Waddell et al., 2004).

In order to be maximally effective, services for children and youth should directly involve parents or primary caregivers, as well as other significant family members. While the evidence is limited, family-based therapies (FBT) with the goal of mobilizing the family as a resource have been found to be effective and, in many instances, superior, to individual therapy. For adolescents with AN, family-based therapies have proven to be the most effective method for achieving clinically significant weight gain and improved eating and mood-related outcomes, especially if the eating disorder is of early onset and short history (Chavez & Insel, 2007; Rutherford & Couturier, 2007; Lock et al., 2006). Types of family therapy include conjoint, separated and multiple family group therapy (Eisler et al., 2000; Le Grange, 2005). Multiple family group therapy is a form of FBT designed to reduce segregation and the sense of isolation reported by families dealing with eating disorders by bringing several families together for treatment sessions. Benefits of this process include its collaborative nature and the opportunity to share coping strategies (Le Grange, 2005).

## **METHODS**

The process outlined below largely describes my direct contribution to a quality improvement plan for eating disorders services for children and youth within a large urban region of B.C. Although the organization for which I conducted this work wishes to remain anonymous, it should nonetheless be acknowledged that much of the information produced and reported in this paper is the result of a highly collaborative process, and that all steps and procedures were therefore undertaken in close partnership with an advisory group specializing in eating disorders. This advisory committee consisted largely of representatives from various eating disorder programs within the region of interest who regularly attended meetings and provided feedback and information to help develop the quality improvement plan for eating disorders. Also included in the advisory group was one member responsible for all matters related to community engagement. Public consultations were conducted at various stages in the process, and involved both focus groups and one-on-one interviews intended to capture public opinions and personal experiences surrounding gaps in service delivery within the region. The focus group question guides were designed to elicit information about eating disorder services from patients and past patients, their families, and other professionals and community groups involved in the spectrum of eating disorders.

The process of developing a plan for improving eating disorder services for children and youth within B.C. involved first conducting an environmental scan of services currently available to this population within the region of interest. This was achieved through web-based research as well as in-person and phone interviews with key personnel employed at identified service-delivery locations for eating disorder patients.

Once program data had been collected, it was analyzed based on a “levels of prevention” framework, such that each program was classified by the level of prevention addressed through its services. In some cases, programs were categorized as fulfilling prevention service criteria at multiple levels (ie: providing both secondary and tertiary prevention). The levels of prevention framework was used to assess

and identify the existence of service delivery gaps at each level. Further analysis involved a breakdown of service availability by age group and geographic region (see Appendix A). Dividing the program sites and services in this manner was expected to more clearly elucidate which population groups and regions were in greatest need of attention at each level of prevention.

Once the program site survey data had been analyzed and service delivery gaps had been identified, the findings were presented to the eating disorders advisory group. In keeping with the levels of prevention framework, these gaps were organized by prevention level. The advisory group was given the opportunity to discuss, review and comment on the content of the gap analysis; revisions and updates were made based on their feedback. A public consultation process was also conducted in order to supplement the environmental scan and gap analysis. Findings from the public consultation were used to further consolidate the gap analysis and identify priority areas for improvement.

The next stage of the project involved drafting a list of recommendations to address the identified gaps. At this stage, a second round of public consultations was conducted, in which participants were asked to comment on these recommendations, identify priority areas for improvement, and suggest strategies which could be used to implement them. Given the importance of early detection and intervention in improving health outcomes for eating disorder patients, and the fact that secondary prevention was identified as one of the most pressing ED service gaps by health care professionals, eating disorder advisory group members, and the public, the recommendation which emphasized the importance of improving access to (and quality of) secondary prevention services, was prioritized for further development. As such, an extensive literature review of best practices in screening and early intervention was conducted in order to inform a set of strategic recommendations which was specific to improving secondary prevention of eating disorders among the child and youth population of B.C.

# **RESULTS**

## **Primary Prevention**

Results from both interviews and community engagement reports indicated that services addressing the primary prevention of eating disorders were offered with very little consistency and had not been formally integrated into school curricula or community programming anywhere in the region. Moreover, among the early intervention programs available, few successfully addressed the root causes of eating disorders (i.e.: resiliency, coping skills, anxiety management, and emotional competency). In essence, coordinated education and prevention efforts aimed at reducing the incidence of eating disorders at the school and community level were lacking throughout the entire geographic region studied.

## **Secondary Prevention**

Secondary prevention is defined here as screening and intervention at early stages of the condition. The need to invest in early detection and treatment efforts is made evident by the early age at which eating disorders first manifest themselves. Where they existed, secondary prevention services were most often delivered through community-based outpatient clinics, which were generally team-based and intended to address early detection and treatment upon identification of the initial signs and symptoms of an eating disorder. However, as a result of long wait lists for intensive hospital-based care, many professionals working in these outpatient programs reported that they frequently managed patients with more acute treatment needs than the program had the capacity to provide. Conversely, due to the lack of consistent secondary prevention services within the region, intensive inpatient and day treatment programs (intended to provide specialized, tertiary prevention services) were frequently admitting patients whose needs could be better served in a community-based, outpatient setting.

The outpatient programs also differed vastly in their capacity, serving anywhere between 15 and 300 patients at any given time. At the time of the study, wait lists for admission ranged from 2 weeks to 3 months. However, as a consequence of the limited number of operating hours, especially among the smaller programs, patients were rarely seen on a weekly, or even a bimonthly basis. Generally there were very few hours of outpatient clinic operation per week, and a significant mismatch between clinic availability and demand for secondary prevention services. Long wait lists contribute to substantially delaying treatment, consequently reducing opportunities for improved outcomes resulting from early intervention (Canadian Paediatric Society, 2004; American Academy of Paediatrics, 2003; American Dietetic Association, 2001).

Within the region's existing secondary prevention services, access to health professionals was very limited, as was access to specialists and other therapeutic options. For example, few of the secondary prevention programs offered specialized eating disorder family therapy, even though this form of treatment is widely recognized best practice in the management of eating disorders among children and youth. Moreover, rarely did programs employ a full-time clinical counsellor or provide access to specialists in alternative and experiential therapies (i.e.: art, music or occupational therapy).

Outpatient nutritional counselling services were available to all B.C. residents through the region's two nutritional counselling centres, although referral from a physician was a requirement for all appointments. Wait times for both clinics were reported to average between 8 and 9 weeks, and patients were generally seen by their dietitian only once every 2-3 weeks. After assessment by the dietitian, patients requiring more intensive treatment were referred to one of the two hospital-based tertiary care centres in the region, where they were typically subject to wait times up to several months.

In short, there was a clear deficit in the availability of secondary prevention services for children and youth with eating disorders within the region.

## **Tertiary Prevention**

All tertiary prevention services in the region were hospital-based, and all provided inpatient, day treatment, and outpatient services. The majority of hospitals in the region did not have specialized eating disorder programs, and therefore restricted their admissions to eating disorder patients in crisis who required stabilization; these facilities did not provide long-term care for such clients, meaning that patients were routinely discharged from hospital once deemed medically stable.

At the time of the study, wait times for intensive tertiary prevention services, such as inpatient or day treatment programs, were lengthy and ranged from 2-3 months. Where they existed, specialized in-hospital treatment centres provided family-based therapy and full-time, publicly-funded academic support for patients, as well as alternative forms of therapy, including art, music and recreational activities.

## **Support Groups and Rehabilitation**

Some of the hospital-based tertiary care centres offered limited spaces in rehabilitative programs. The environmental scan also revealed a very small number of support groups for family and friends of eating disorder patients. The lack of resources for families of eating disorders patients was also emphasized during the public consultation process, and remains a major area of concern given the importance of familial/parental involvement in the treatment of eating disorders among children and youth.

## **Summary of Identified Gaps**

Given the findings from the environmental scan, levels of prevention framework analysis, and public consultations, the following summary of identified gaps was developed:

### **Primary Prevention**

1. Lack of a consistent, sustained approach to education and prevention programs in the area – and very few existing programs focusing on the root causes rather than the symptoms of eating disorders.



2. Lack of a well-publicized, effective way to navigate the information and resources relevant to eating disorders.

### **Secondary Prevention**

3. Insufficient training on ED for education, social service and medical professionals to ensure early detection of eating disorders and intervention.

4. Lack of standardized tool for primary health care providers for early detection of eating disorder

### **Tertiary Prevention**

5. Insufficient harmonization during the transition from child/youth eating disorder services to adult eating disorder services.

### **Whole Continuum (primary through tertiary prevention)**

6. Insufficient family-based therapy options to ensure a more supportive environment across the continuum of care.

7. Insufficient and inconsistent eating disorder programming across the continuum of care in prevention, treatment and aftercare, including inpatient, outpatient, day treatment and residential care facilities.

8. Insufficient opportunities for authentic collaboration and communication between health service providers, acute care facilities, community-based eating disorder programs, consumers and their families in planning and designing the delivery of eating disorder services.

## **Focusing on Secondary Prevention**

While primary prevention is often the initiative of choice in public health as it serves to promote health and ideally prevent the development of illness altogether, in the case of eating disorders, secondary prevention services, which target high-risk patients who are displaying early signs of an eating disorder, have in fact been shown to produce better results than primary prevention programs, and are often more successful in reducing actual symptoms of disordered eating among these patients (Stice and Hoffman,

2004; Striegel-Moore and Bulik, 2007). Although the environmental scan revealed significant gaps at the primary prevention level as well, incomplete knowledge about the root causes of eating disorders currently limits the effectiveness of primary prevention initiatives. As such, secondary prevention was preferentially targeted as a key area for improvement.

## **EARLY DETECTION: BEST PRACTICE AND LITERATURE**

A handful of studies have been published which explore the usefulness of various screening tools in the detection of eating disorders (see Becker et al, 2004, Cotton et al., 2003, D'Souza et al., 2005, Hautala et al., 2009, Leung et al., 2009, Parker et al., 2005). Although many of these studies were performed in university or college settings, and therefore may not be directly applicable to the child and youth population, there is nonetheless significant evidence to suggest that screening may indeed be beneficial in detecting and treating eating disorders within this population (Austin et al., 2008; D'Souza et al., 2005; Currin and Schmidt, 2005). The general consensus among researchers and professionals is that regular screening by primary care physicians and school health professionals should be recommended (Rome et al., 2006; Currin and Schmidt, 2005). According to Jones et al, disordered eating attitudes and behaviours are sufficiently common in Canadian adolescent females to warrant routine screening (Jones et al., 2001), and the Public Health Agency of Canada has stated that routine assessment of teenaged girls for the early signs of an eating disorder can help identify those who are most likely to benefit from treatment (PHAC, 2002).

The school may constitute a key setting for the introduction of screening processes which can lead to earlier detection of eating disorder symptoms and associated improvements in patient outcomes (Austin et al., 2008; D'Souza et al., 2005). According to Currin and Schmidt, educational professionals are often cited as an alternative source of support for young people experiencing mental health problems (Currin and Schmidt, 2005). A study by D'Souza et al. found that a 35-question screening tool used in high-school classrooms was successful, particularly among girls, in increasing student awareness about eating disorders and in encouraging students to talk to adults about their screening score (D'Souza et al., 2005). Information

and capacity building programs may also increase the ability of high school faculty and staff to detect and prevent weight-related disorders among secondary school students (Toledo et al., 1999). For example, some of the main goals of a successful training program developed by Toledo et al. included increasing awareness about eating disorders, encouraging faculty and staff to explore their own attitudes and beliefs surrounding eating disorders, and increasing faculty and staff competency in providing support and resources to students experiencing a weight-related disorder (Toledo et al., 1999).

A second study, which aimed to assess the usefulness of the SCOFF questionnaire (a brief, five-question screening tool – see Appendix B) in a high school (8<sup>th</sup> and 9<sup>th</sup> grade) health care setting also showed promising results (Hautala et al., 2009). Findings suggested that the test was not only successful in increasing detection of eating disorders among students, but that it also facilitated discussions dealing with sensitive issues between the students and the school nurse (Hautala et al., 2009). Moreover, the study showed that prior to the introduction of the screening tool, a large number of eating disorders remained unnoticed unless the school nurse was specifically concerned about a student's weight, therefore indicating that early eating disorder symptoms are commonly under-diagnosed within the school health care system (Hautala et al., 2009). A Chinese study which used the SCOFF questionnaire within a secondary school population also reported positive results, and confirmed the cultural acceptability of the test, thus implying a high rate of transferability for this screening tool and further validating its usefulness in the school health care setting (Leung et al., 2009). The brief nature of the SCOFF questionnaire, as well as the fact that it can be orally-administered, make it an attractive option for incorporation into school intake assessments and/or annual physicals (Currin and Schmidt, 2005).

Primary care physicians are also ideally situated to play a role in early detection of eating disorders. However, a number of characteristics of this illness make early detection and diagnosis more difficult than would be expected (Currin and Schmidt, 2005). For example, given the relatively low prevalence of eating disorders, the majority of primary care practitioners have had very little direct experience with the detection and treatment of eating disorder symptoms. Moreover, the nature of the illness, as well as the stigma with which it is associated, make it likely that eating disorder patients will deny

their symptoms, even when questioned about them directly. As such, cases of eating disorders prove relatively difficult to identify in their early stages (Currin and Schmidt, 2005). It is therefore unsurprising that the vast majority of early eating disorder cases remain undetected, even among patients regularly accessing primary care, particularly if the effects of starvation are not evident by the patient's weight and appearance (as is often the case for BN); these findings have been replicated cross-culturally (Bryant-Waugh et al., 1992; Karwautz et al., 1997; Johnson et al., 2001; de Zwaan, 1999). Thus, while ideally primary care physicians should feel competent in recognizing the early warning signs associated with eating disorders, identifying associated co-morbidities, and, where needed, referring suspected eating disorder patients for specialist assessment, studies have shown that this is rarely the case (Flahavan, 2006). General practitioners (GPs) generally feel ill-equipped to engage in the management of eating disorders and have reported a lack of available resources for effectively managing these patients (Flahavan, 2006). However, there is evidence to suggest that brief screening tools (such as the SCOFF questionnaire) and ongoing education and awareness-raising surrounding eating disorders can significantly improve early detection rates of primary care physicians (Currin and Schmidt, 2005; Hoek, 1995). There is also a need for improved coordination between primary and secondary care services, including collaboration between professionals from the fields of mental health, psychiatry and nutrition (Flahavan, 2006). Thus, it is recommended that once the patient has been assessed by the GP and referred for a mental health consultation, the primary care physician should remain involved in creation of the patient's treatment plan, and should continue to serve as the link between the multidisciplinary treatment team, the family and the patient (De la Torre et al., 2006).

Finally, there is a growing body of literature to suggest that dentists and oral hygienists are well-positioned to participate in the secondary prevention of eating disorders, both through early detection of the illness based on oro-dental signs of disordered eating and through referral of the patient for further assessment and treatment of the disorder, either directly, or via communication with the patient's primary care physician (DeBate et al., 2005; 2005a). However, studies of the attitudes, beliefs and experiences of dentists in engaging in the secondary prevention of eating disorders suggest that oral health professionals

do not practice secondary prevention as frequently as they could, largely due to a lack of training and knowledge about eating disorders, ineffective or nonexistent communication between oral, mental and medical professionals, and the lack of a firmly defined role for dentists in the secondary prevention of eating disorders (DeBate and Tedesco, 2006). Given these findings, as well as the lack of curriculum time spent on eating disorders in dental and dental hygiene programs, it is likely that oral health professionals often do not possess the training required to effectively identify signs of an eating disorder or broach the subject of eating disorders with their patients (DeBate et al., 2007). DeBate and Tedesco also identify a clear need to improve communication and collaboration between oral health and mental health professionals (DeBate and Tedesco, 2006). Thus, training, education, and increased collaboration between health sectors all represent crucial leverage points which can be targeted as a means of improving the capacity for oral health professionals to engage in early detection and intervention of eating disorders (DeBate et al., 2006; DeBate and Tedesco, 2006).

## **EARLY INTERVENTION: BEST PRACTICE AND LITERATURE**

Fully-diagnosed eating disorders (ie: which meet official diagnostic criteria) are severe, extremely detrimental in nature, and notoriously difficult to treat. As such, early detection, prompt assessment, and rapid treatment are all particularly important goals within the context of these disorders, as they can significantly improve patient prognosis and final health outcomes (le Grange and Loeb, 2007).

Some examples of behaviours which might signal the need for early intervention, but which, on their own, do not meet the criteria for a diagnosis of an eating disorder, include extreme dieting and exercise, binge eating, self-induced vomiting, and abuse of laxatives and diuretics (Choate and Schwitzer, 2009). In cases where these symptoms are present but there is absence of a full-blown eating disorder, early identification and treatment can often spare the patient years of suffering, and can prevent the development of significant co-morbidities associated with eating disorders (Neumarker, 2000). It should also be noted that, given the significant socio-cultural component of eating disorders and the established

connection to social portrayals of the thin ideal, it is imperative that any effective secondary prevention program be implemented as part of a more widespread, integrated approach to the prevention of body image disorders. This should include broad-based changes to the environment and large-scale, community-level challenges to pervasive beauty norms (Huon, 1998). Although the requirements associated with implementing this type of initiative are beyond the scope of this paper, it is nonetheless important to recognize the need for a comprehensive approach to eating disorder prevention.

Best practice in the management of eating disorders suggests that treatment at any stage is most effective when delivered by teams of professionals, including a clinical psychologist or mental health counsellor, a psychiatrist, a dietician, and a family therapist (Endacott et al., 2006; De la Torre et al., 2006). While the ideal situation involves establishing a formal eating disorder team, most patients exhibiting early signs can also be treated effectively by a primary care physician who is collaborating with a dietician and a mental health therapist (Rome et al., 2004). This type of collaboration is particularly important in regions where there are no eating disorder programs, given that providing services locally through a variety of health care professionals (rather than requiring the patient to commute to obtain treatment from a formal team or program) has been shown to increase treatment compliance, and thus patient outcomes (Rome et al., 2004; Endacott et al., 2006). Coordination of eating disorder services for children and youth at the provincial level is also likely to require the collaboration and support of BC-wide ministries that specialize in mental health issues for this population, including the Ministry of Children and Family Development's (MCFD) Child and Youth Mental Health Program (CYMH), which is responsible for providing community-based mental health services to children and youth and their families within BC (MCFD, 2010). For example, one of the goals of the 2005/2006 "Child and Youth Mental Health Plan for British Columbia" was to begin to remedy the mismatch between population service needs and available service capacity within the province (MCFD, 2010).

A number of studies have shown that while individual therapy sessions are helpful, group psychotherapy is often more beneficial to girls and women experiencing eating disorder symptoms due to the advantages of social support which are afforded by group sessions (Stice, 2002; Stice and Hoffman,

2004). Moreover, the group setting has proven to be an effective way to allow females to explore new ways to build and strengthen their social networks (which have been identified as a protective factor in the development of eating disorders) (Choate and Schwitzer, 2009). Online discussion forums such as “Student Bodies”, (an online resource that provides self-help tools for young women suffering with body image or weight management issues), represent a contemporary and innovative means of fostering these types of social networks (Zabinski et al., 2001). However, it should be noted that the mixing of Eating Disorder clients that differ in their level of progression and developmental stage may lead to increasing progression at a younger age. This is commonly referred to as “contamination theory.” For example, the guidelines on the treatment of eating disorders from the National Institute for Clinical Excellence state that separate services should be made available for children and adolescents (NICE, 2004). There is also anecdotal evidence to suggest that “contamination” occurs frequently within inpatient programs, especially when patients living in close proximity to one another differ significantly with respect to age and severity of disorder. It is consequently important to emphasize that group therapy sessions, and particularly online groups, should be closely monitored in order to avoid the emergence of pro-eating disorder (commonly referred to as “pro-ana”) opinions and attitudes, which are not conducive to recovery, as they frame eating disorders as a lifestyle choice rather than a serious and life-threatening illness (Norris et al., 2006; Dias, 2003).

It is also recommended that mental health counsellors incorporate various forms of psycho-education and cognitive behavioural therapy into their group work (Choate and Schwitzer, 2009). Psycho-education involves providing patients with information about the thin ideal, its portrayal in the media, and the inappropriateness of this ideal as a basis for personal comparison with regard to body image (Choate and Schwitzer, 2009). There is also evidence to suggest that females at high risk of developing an eating disorder may benefit from knowledge of techniques to improve self-esteem and body image, as well as tips for healthy weight management which promote healthy lifestyle choices rather than extreme dieting (Stice et al., 2007).

Cognitive-behavioural techniques which have proven most effective include exercises and activities which allow patients to explore and challenge negative beliefs and attitudes surrounding their body size and

image, and encourage them to explore the harmful, adverse consequences associated with internalization of the thin ideal (Franko and Oroson-Weine, 1998; Zabinski et al., 2001). Cognitive dissonance strategies have also been recognized as an effective therapeutic tool due to their success in encouraging adolescents to question and oppose socio-cultural norms which equate beauty and attractiveness with thinness by actively changing their thoughts and responses to the thin ideal (Choate and Schwitzer, 2009). According to Choate and Schwitzer: “In a small-group format, a combination of social support, psycho-education, and cognitive behavioural strategies will best meet the needs of young women with intermediate-level concerns” (Choate and Schwitzer, 2009, p. 171).

Perkins and Schmidt also emphasize the importance of incorporating the patient’s family into the treatment regimen, including a psychological assessment of familial dynamics and the provision of self-help tools for patients and their families (Perkins and Schmidt, 2005). In fact, therapy involving the entire family is increasingly being recognized as best practice, particularly for the treatment of anorexia nervosa (AN) in children and adolescents (Eisler et al., 1997; Lask and Bryant-Waugh, 2000; le Grange and Loeb, 2007). Although only five randomized-controlled trials of family-based therapy (FBT) have been conducted to date for AN, all five have found this form of therapy to be beneficial to the treatment of AN among youth (Russell et al., 1987; Robin et al., 1994; 1999; le Grange et al., 1992; Eisler et al., 2000; Lock et al., 2005). FBT is generally considered a suitable form of therapy according to families, and has been shown to be particularly useful when initiated in the earlier stages of the illness, resulting in significant improvements in patient outcomes (compared to a control group) at up to 4-5 years post-treatment, even if treatment was short-term (ie: 6 months) (le Grange and Loeb, 2007; Eisler et al., 1997). Studies exploring the usefulness of FBT in the treatment of bulimia nervosa (BN) remain preliminary, but have nonetheless also demonstrated some promising results (le Grange and Loeb, 2007).



## **LESSONS FROM THE FIELD: AN ENVIRONMENTAL SCAN OF INTERNATIONAL INITIATIVES**

While a handful of countries have recently identified eating disorders as a priority area in public health, and have consequently announced plans to implement a variety of large-scale projects aimed at improving service delivery for prevention and treatment of this illness, to date, very few of these initiatives have been fully mobilized, and even fewer have undergone any kind of formal evaluation. It should also be noted that evaluating the impact of eating disorder prevention programs can often prove difficult, largely due to the lengthy delay between program initiation and the emergence of quantitatively relevant population effects (ie: with regard to reduced prevalence or incidence of eating disorders). Therefore, a current limitation is that at none of the programs below have actually proven effective in achieving secondary prevention within the country of interest.

Large-scale programs and frameworks from Norway, Wales, Australia and New Zealand were analyzed and compared for their content and recommendations with respect to secondary prevention. Of note is that all plans recommended the upskilling of GPs as well as other school and health professionals likely to come into contact with children and youth at risk of eating disorders (Roxon, 2009; Boyle, 2009; Gresko & Karlsen, 1994; New Zealand Ministry of Health, 2006). Some of the recommended strategies for upskilling of GPs included:

- Distribution of pamphlets and information packages (often tailored/targeted to a specific group of professionals) (Roxon, 2009; Boyle, 2009; Gresko & Karlsen, 1994; New Zealand Ministry of Health, 2006).
- Training sessions (both for screening and early intervention – ie: how to facilitate a support group) (Gresko & Karlsen, 1994).
- Education surrounding more consistent use of validated screening tests (such as SCOFF) (Boyle, 2009; New Zealand Ministry of Health, 2006).

- Establishing guidelines for treatment of patients with mild/moderate eating disorder symptoms by general staff within the community mental health system (Boyle, 2009).
- Improving physician knowledge of local resources and referral pathways (Gresko & Karlsen, 1994; Boyle 2009; Gerrand, 2006).
- Employing a full-time education officer to provide information sessions and training (Gerand, 2006).

Several of the initiatives emphasized the importance of adopting a tiered approach to treatment, which would allow GPs and other professionals at the primary care level to have rapid access knowledge from specialists in tertiary care (New Zealand Ministry of Health, 2006; Endacott et al., 2006). As an adjunct to this approach, frameworks from both Wales and New Zealand included the creation of a “liaison” position – a specific individual in each region who is responsible for facilitating communication between tiers and for overseeing and monitoring their patients’ treatment plans. The liaison would also be responsible for overseeing treatment in their region, and providing eating disorder staff with opportunities for professional development (Boyle, 2009; New Zealand Ministry of Health, 2006). In this same vein, New Zealand specified that there was an important role for physicians beyond screening in primary care. The New Zealand Ministry of Health recommended that where possible, the physician should also act as their patient’s care coordinator, such that once the patient has been assessed by the GP and referred for a mental health consultation, the primary care physician remains involved in development of the patient’s treatment plan, and continues to serve as the link between the multidisciplinary treatment team, the family and the patient (New Zealand Ministry of Health, 2006)

It should be noted that of the four large-scale frameworks analyzed, Wales was the only country to explicitly outline an evaluation component. The Welsh document incorporated a checklist of standards including information on how adherence to the standard can be measured, who is responsible for implementation of that standard, and who is responsible for monitoring compliance (Boyle, 2009). This ensures that the framework goals are measurable, and that accountability mechanisms are established at an early stage of the implementation process.

## **IMPLICATIONS AND RECOMMENDATIONS**

Within the large urban region of B.C. which was studied, there is an identified need for development of a strategic plan for a coordinated, accessible secondary Eating Disorder system. In order to be effective, this plan must be well connected with tertiary services as well as primary prevention/health promotion initiatives. Given the existence of this gap in service delivery, and the available knowledge surrounding strategies for achieving effective secondary prevention, the following recommendations are proposed:

### **EARLY DETECTION**

**1. Produce and disseminate informational packages for groups who are most likely to come into contact with children and youth suffering from mild to moderate eating disorder symptoms. Where possible, this information should be accompanied by staff training.** Specific targets with this initiative include: primary and secondary school teachers, gym instructors, sports coaches, health and welfare workers, dentists and dental hygienists, and youth workers. Based on the available evidence, it is clear that while staff in schools and in the primary care setting are ideally positioned to play a role in detection and early intervention regarding eating disorders, the majority of these professionals are currently under-informed about issues related to eating disorders, and do not feel competent in assessing, treating or referring patients presenting with eating disorder symptoms. Moreover, they are often unsure of the boundaries of their specific role within the context of secondary prevention of these disorders. Informational packages should also include information about accessing resources within the community, as well as about the use of appropriate referral pathways and under what circumstances such referrals should be sought.

**2. Implement standardized use of the SCOFF screening tool within the school and health care systems for children at the primary and secondary school levels.** As previously mentioned, the SCOFF questionnaire has been identified as a useful tool for detecting eating disorders which otherwise would likely have remained undiagnosed. It is currently the only screening tool which has been validated for use among children and youth within a variety of settings, and is generally accepted as being appropriate and effective for use by health care staff in schools and by GPs in primary care. The brief nature of the test makes it less cumbersome than other screening tools, and also makes it more likely to be readily adopted by professionals within the education and primary care systems.

## **EARLY INTERVENTION**

**3. Produce a provincial document which clearly delineates the roles and responsibilities of various professional groups with respect to secondary prevention of eating disorders among children and youth.** This document would include activities determined to be within the mandate of each group (ie: screening, assessment, early intervention, etc.) and would identify measures that can be used to assess adherence to these standards. It would also designate individuals responsible for ensuring that activities are carried out, and for monitoring and reporting on compliance within each sector. The creation of this document would serve to establish accountability mechanisms and to facilitate future performance evaluations for each activity and within each group.

**4. Appoint one “Child and Youth Eating Disorders Liaison” within each Local Health Area (LHA) to serve as a point of reference and to provide consultation for professionals dealing with eating disorder patients within their practice.** The Liaison should be a specialist in the area of child and youth eating disorders and should serve to facilitate communication between health care workers in primary, secondary and tertiary services. As such, this person would be the first point of contact for a GP who is seeking more specialized support for a potential eating disorder patient. As suggested by the NZ Ministry of

Health, this Liaison should also be made responsible for providing staff members with ongoing opportunities for professional training and skill development related to eating disorders. The Liaison position would ideally be further supported by other specialists from tertiary eating disorder services within the region.

**5. Ensure that all child and youth eating disorder patients have timely access to outpatient care through a multidisciplinary team, with special emphasis on a family-based approach.** It is clear from the literature that best practice for the treatment of eating disorders among children and youth requires not only that care is provided by a multidisciplinary team, but also that it is family-based. As such, each child deemed to be at risk of developing an eating disorder should have timely access local, multidisciplinary treatment which includes a family therapist. Where possible, treatment teams can be formal entities, but they may also be informal, especially in regions where local access to eating disorder treatment teams is not feasible. In such instances, there is a need for enhanced collaboration between mental health professionals, dietitians, pediatricians, etc., as well as enhanced support for these teams through communication and consultation with specialists within a stepped-care model.

**6. Facilitate the formation of support groups for patients and family members, either through regularly-scheduled sessions or via online discussion forums.** Support groups are particularly crucial in regions which have limited access to services. Training sessions, such as those provided by the Eating Disorders Foundation of Victoria, should be made available to individuals interested in facilitating group sessions in order to build community capacity. Best practices emphasize the importance of group psychotherapy sessions in helping eating disorder patients build social networks and benefit from the support of others who share in their experience. Where the establishment of such groups is not possible, it may be also helpful to introduce monitored online discussion forums which provide individuals with a similar type of support, and which can also assist in patient treatment through the incorporation of a variety of self-help tools (ie: see Zabinski et al's "Student Bodies" website).

## **Next Steps**

The creation of an effective quality improvement plan for eating disorders services for children and youth within B.C. is an ongoing process. Next steps will most likely involve further consultation with the eating disorders advisory committee in order to consolidate the recommendations for improving secondary prevention and to identify key strategies for moving forward with a detailed implementation plan. As with all of the work done on the quality improvement plan to date, public consultations should remain a crucial and integral part of the strategic planning process. Moreover, the development of key strategies and decisions surrounding implementation of these strategies should be carried out in collaboration with key stakeholders at all levels in order to reduce duplication of efforts on this issue, build consensus with regard to accountability mechanisms and responsibilities, and to ensure collective ownership of both the strategic plan and any resulting outcomes.

## CHALLENGES & LIMITATIONS

While the above recommendations represent an optimistic situation with regard to secondary prevention of eating disorders within the geographic region of B.C. which was studied, it is important to recognize that there are significant logistic barriers to implementation. In many cases, funding and available personnel represent a major limitation to what can be considered realistic with regard to eating disorder service delivery. As noted by the New Zealand Ministry of Health: “A barrier to the provision of a comprehensive national eating disorder service is a lack of suitably trained staff. If local level services are to consider increasing the eating disorders component of the job descriptions of generally trained mental health professionals, it is necessary to ensure these professionals are adequately trained and receive ongoing input from specialist services.” (NZ Ministry of Health, 2006, p. 20).

Furthermore, without adequate government funding and knowledgeable specialists in the field, it becomes extremely difficult to achieve the type of organizational structures and capacity necessary to adequately serve B.C.'s child and youth eating disorder population. At a time when budget cuts are nearly universal across the health care sector, it is likely to be challenging to garner the financial and human resources needed to carry out each of the above recommendations. Given the fact that this is a province-wide project in which there are many opportunities for improvement and many key players, it will likely prove difficult to achieve full stakeholder buy-in and avoid duplication of efforts surrounding this issue. Finally, in order to achieve structural and functional changes, and to obtain the funding required for effective engagement in secondary prevention, it is first necessary for the local government to gain a well-informed understanding of the benefits of these types of initiatives. As eloquently expressed by Gresko & Karlsen, in reference to the success of the Norwegian eating disorders initiative: “The socialized nature of the Norwegian health care system and the commitment of the government to progressive health care planning has facilitated the implementation of this uniquely broad-based prevention initiative” (Gresko & Karlsen,

1994, p. 57). In the absence of sufficient funding, the challenge becomes the necessity to develop new, innovative and cost-effective means of enhancing service delivery for this population.

In addition to practical restrictions which can hinder the effectiveness of secondary prevention, there are a number of theoretical considerations which should also be taken into account. For example, it has been noted that although detection of early warning signs by school faculty and staff and health professionals is crucial to secondary prevention, there are obvious difficulties and concerns associated with providing these professionals (who, for the most part, are not specialists in eating disorders) with information which draws a definitive line between the statistically “normal” and the “abnormal”. In doing so, we run the risk of creating unintended labelling effects by employing standards of normality which may be too idealistic (Rosevinge et al., 1997). Given the relatively simplistic nature of the SCOFF tool, as well as the limited training available to workers in the school and health care sectors who are expected to administer this type of test, it is likely that routine screening would yield a substantial number of false positive results, and thus potentially stimulate a significant amount of undue concern and anxiety among children and youth and their families. In order to avoid this, Rosevinge et al. recommend taking into consideration the degree of suffering and the level of concern expressed by those closest to the individual when making decisions about the need for treatment or referral to more specialized medical professionals (Rosevinge et al., 1997).

Evaluation of secondary prevention efforts can also prove to be particularly challenging, largely because traditional assessment measures such as incidence and prevalence may not be considered adequate as they are often affected by variables unrelated to the prevention program (Rosevinge et al., 1997). In addition, the significant time lag between program initiation and any resulting population effects presents another obstacle. Measures of prevalence and incidence also provide no insight into other important indicators, such as delay between onset of symptoms and access to treatment, patient satisfaction, and patient adherence to therapeutic interventions (Rosevinge et al., 1997).

The fact that secondary prevention is most crucial among children and adolescents poses yet another dilemma, given that the evidence base for practice within this population is limited, with most of the available research having been performed among adult groups (NZ Ministry of Health, 2006). As such, it becomes



necessary to take into account the unique needs of children and youth, and to address diagnostic and developmental issues that are associated with this group and that often serve to increase the complexity of the health issue. Special consideration must be taken when designing service delivery frameworks intended for children and youth in order to ensure that the principles of equitable service delivery and early intervention are met for this special population (NZ Ministry of Health, 2006).

Finally, it is important to reflect upon some of the possible unintended consequences of improving services aimed at secondary prevention of eating disorders without simultaneously building the capacity of eating disorder services at other levels of care. Given that effectively improving screening and early detection of eating disorders among children and youth can be expected to result in a large number of previously undetected cases being diagnosed, it is crucial that the above recommendations be applied in concert with parallel changes at other levels of care, especially given the current deficit in eating disorder services available to existing eating disorder patients. While some of the recommendations (ie: those pertaining to enhancing the role of primary care professionals in practicing early intervention) are likely to increase treatment capacity to a certain degree, there are clear ethical and health-related concerns associated with increased diagnosis of potential cases without first ensuring that there are adequate facilities and sufficient health care professionals available to provide treatment to these incoming patients. Thus, while it is beyond the scope of this paper to discuss the types of changes that would be required at other levels of prevention, it is nonetheless necessary to mention that the recommendations made here regarding secondary prevention will only serve to improve public health if they are integrated into large scale structural and system-level changes which include increased capacity at other levels of care.

## **CONCLUSION**

Although the prevention of eating disorders among children and youth is increasingly being recognized as an important public health issue, only a handful of countries have developed comprehensive plans to address it, and an even smaller number have actually implemented the proposed frameworks or attempted to evaluate their effectiveness. However, a thorough review of the literature reveals that there is considerable evidence illustrating improved health outcomes associated with early intervention among children and youth with eating disorders. Effective secondary prevention can spare children and adolescents years of unnecessary illness and suffering, and can significantly improve patient prognosis. Improving the secondary prevention system within B.C. will require that steps are taken to increase the competency of school and health care personnel in the screening, identification, referral, and treatment of eating disorder patients; to improve coordination, communication and access to consultation within the stepped-care system; and to provide timely access to community-based treatment via a multidisciplinary team, with a focus on a family-based approach. It is imperative that clearly defined roles and responsibilities at all levels of care be embedded into this framework, ensuring that accountability processes are established early on and maintained throughout program planning and implementation.

## APPENDIX A

### Overview of Services for Children and Youth with Eating Disorders Within the Region of Interest

**Green text** = resource centers and education/early prevention initiatives (primary prevention)

**Blue text** = team-based outpatient services (either through a hospital, community center or clinic) (secondary prevention)

**Red text** = hospital-based tertiary care (day treatment, inpatient programs) (tertiary prevention)

**Pink text** = after care programs (for re-integration into the community)/support groups for family & friends

Age Group	Region A	Region B	Region C	Region D	Region E	Region F	Region G
5-11 years			- Site 4 Inpatient Services	- Site 4 Inpatient Services	- Site 4 Inpatient Services	- Site 4 Inpatient Services	
11-17 years	- Site 2 (dietitian, counsellor, physician)	- Site 2 (dietitian, counsellor, physician)	- Site 3 (dietitian, counsellor, paediatrician) - Site 4 Inpatient Services	- Site 3 (dietitian, counsellor, paediatrician) - Site 4 Inpatient Services	- Site 3 (dietitian, counsellor, paediatrician) - Site 4 Inpatient Services	- Site 3 (dietitian, counsellor, paediatrician) - Site 4 Inpatient Services	

<b>17-19 years</b>	- <b>Site 2</b> (dietitian, counsellor, physician)  - <b>Site 2</b> (dietitian, counsellor, physician)  - <b>Site 5</b> (assessment, individual counseling, and support groups for people suffering from eating disorders)	- <b>Site 3</b> (dietitian, counsellor, paediatrician)  - <b>Site 4 Inpatient Services</b>	- <b>Site 3</b> (dietitian, counsellor, paediatrician)  - <b>Site 4 Inpatient Services</b>	- <b>Site 3</b> (dietitian, counsellor, paediatrician)  - <b>Site 4 Inpatient Services</b>	- <b>Site 3</b> (dietitian, counsellor, paediatrician)  - <b>Site 4 Inpatient Services</b>
<b>19-24 years</b>	- <b>Site 2</b> (dietitian, counsellor, physician)	- <b>Site 2</b> (dietitian, counsellor, physician)  - <b>Site 5</b> (assessment, individual counseling, and support groups for people suffering from eating disorders)  - <b>Site 5 family &amp; friends support group</b>			
<b>Family &amp; Friends</b>					

**Services offered to all residents of the region:**

1. **Site 1 (all ages)**
2. **Both nutritional clinics (outpatient nutritional counselling starting at age 5)**
3. **Site 6 outpatient services (0-17 years, or up to 18 years if still in high school)**
4. **Site 6 day treatment/inpatient clinic (0-17 years, or up to 18 years if still in high school)**
5. **Site 7 outpatient services (17+ years)**
6. **Site 7 day treatment/inpatient clinic (17+ years)**
7. **Site 7 family support and follow-up programs (for patients 17+ years)**
8. **Site 4 Eating Disorders Support Group (for family members, parents and partners of individuals diagnosed with an eating disorder)**
9. **Site 6 family support group**

## APPENDIX B

Retrieved from: <http://www.disordered-eating.co.uk>

### SCOFF Questionnaire - Test for Detecting Eating Disorders

The **SCOFF Questionnaire**, devised by researchers at St George's Hospital Medical School, is a valid and reliable screening tool for detecting the existence of an eating disorder. The questions focus on some key characteristics of **anorexia** and **bulimia**.

#### \* SCOFF Questionnaire \*

1. Do you make yourself **S**ick because you feel uncomfortably full?  
Yes  
No
2. Do you worry you have lost **C**ontrol over how much you eat?  
Yes  
No
3. Have you recently lost more than **O**ne stone in a 3 month period?  
Yes  
No
4. Do you believe yourself to be **F**at when others say you are too thin?  
Yes  
No
5. Would you say that **F**ood dominates your life?  
Yes  
No

#### Interpretation of Results

If you answer 'No' to every question, the test indicates you do not have an eating disorder. If you still think you may have an eating disorder, see your doctor.

If you answer 'Yes' to 1 question, with the rest answered as 'No', the test indicates you do not have an eating disorder. However, it does suggest you may have some issues with food or your body image. If you are in any doubt about whether or not you have an eating disorder, see your doctor.

If you answered Yes to at least 2 questions, the test indicates you may have **Anorexia Nervosa** or **Bulimia Nervosa**. This is not a diagnosis, but it is possible you have an eating disorder that needs further investigation by a qualified health professional. Please see your doctor.

Adapted from:

**Morgan, J. F., F. Reid and J. H. Lacey.** The SCOFF questionnaire: assessment of a new screening tool for eating disorders. *BMJ*.

319: 1467 - 1468, Dec 1999.

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