



Reviewing the Efficacy of Community-Based Treatment for Eating Disorders

Prepared for

Body Brave

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Definitions

Absenteeism – the habit of regularly missing work, school, or other obligations without good reason (Johns, 2008).

Anorexia Nervosa – characterized by distorted body image and severe dietary restriction and/or exercising more than usual (Canadian Mental Health Association [CMHA], 2020; Senate, 2014; Statistics Canada, 2014).

Binge Eating Disorder – characterized by periods of overeating without purging. Individuals may feel like they cannot control how much they eat, leading them to feel distressed, depressed, and guilty after bingeing (CMHA, 2020; Senate, 2014; Statistics Canada, 2014).

Bulimia Nervosa – characterized by periods of uncontrollable binge eating, followed by purging (e.g., self-induced vomiting or misuse of laxatives) to avoid weight gain (CMHA, 2020; Senate, 2014; Statistics Canada, 2014).

Comorbidity – the co-occurrence of distinct diseases (Valderas et al., 2009).

Holistic Approach – is support that considers the person as a whole and not just their illness. In this light, a holistic approach considers the physical, emotional, social and spiritual needs of the patient (NSW Health).

Ibid – refers to in the same source or a source that was mentioned in a previous reference.

Secondary Diagnosis – a condition that coexists at the time of admission to a clinical intervention or develops during the intervention that may affect the treatment outcome or length of time needed to reach remission.

Presenteeism – the act of showing up to work despite being sick; often resulting in underperforming and loss of productivity (Johns, 2008).

Primary Diagnosis – the diagnosis of the most important or serious presenting illness which often requires the most resources to address (McGraw-Hill Concise Dictionary of Modern Medicine, 2002).

Executive Summary

Approximately 1-2.9 million people meet the diagnostic criteria for eating disorders (EDs) in Canada. Even though community treatment programs see many more people than hospitals, hospital-based ED programs receive more funding which is placing a financial burden on the healthcare system and has far reaching effects on individuals, caregivers, and employers. To determine a more effective use of healthcare resources, the McMaster Research Shop conducted a research project on the potential of community-based models for the treatment of ED. This project was prepared for Body Brave, a national charity that provides treatment and support for ED.

The research team estimated the annual costs of EDs in Canada for the year 2017-2018. Data sources included peer-reviewed literature, government healthcare institutes, and reports from professional advisory services. The costs focused on:

- Direct costs to the healthcare system,
- Costs to caregivers and individuals with an ED due to reduced wellbeing, and
- Costs to employers due to absenteeism and loss of productivity at work.

The findings show that from 2017-2018, the costs of hospitalizations for an ED as a primary diagnosis approximated \$58M CAD. Outpatient primary care for an ED was between \$180M – \$522M.

To determine the potential of community-based treatment, the research team conducted a literature review of the effectiveness of community-based treatment as an alternative to conventional hospital-based treatment based on the following indicators:

- Cost effectiveness,
- Program retention,
- Recovery rates, and
- Symptom reduction.

Research suggests that community-based treatment is on par with and at times superior to conventional treatments for EDs. Community-based treatment has the ability to reduce ED symptoms and comorbidities related to ED, such as anxiety and depression. Additionally, stepped-care and triage models have the potential to reduce costs to the health care system by addressing ED symptoms earlier and matching care to the severity of the condition. Given the potential for cost-effectiveness and improved patient outcomes, community-based treatment models are likely to have positive impacts on the Canadian healthcare system.

Introduction

Brave Body is a national charity dedicated to providing timely, quality treatment and support to anyone struggling with an ED. The Body Brave community is committed to reducing stigma and increasing access to support. Body Brave pushes for innovative, national strategies that change the way eating disorders are perceived and addressed. Their core treatment is available to clients at no charge. Body Brave also provides fee-for-service training and education for health care professionals and uses these revenues to help fund their operations.

Body Brave is the only organization in Ontario to offer an intermediate community treatment model for individuals struggling with an ED. The organization has a multi-disciplinary team that includes a psychotherapist and family doctor, dietitian, and a registered psychotherapist. They use a stepped-care approach to tailor treatment according to individuals' needs. Their innovative "pod" approach is an 8-week treatment program for groups of 3-8 individuals who are grouped according to where they are in their eating disorder recovery (e.g., beginning, middle, end) and/or according to similar life circumstances (e.g., identifying as LGBTQ+). Within pods, the content of the treatment program is decided in collaboration with individuals rather than prescribed. This contrasts with traditional approaches that involve bigger groups, not centered on individual needs/circumstances, and clinically focused (e.g., standardized Cognitive Behavioural Therapy [CBT] programs).

Body Brave is interested in learning more about the efficacy of their treatment approach. In the winter of 2020, Body Brave approached the McMaster Research Shop (RShop) to conduct a literature review to answer the following question:

What is the efficacy of community-based treatment for eating disorders?

The goal of this research is to provide Body Brave with a formal research report accompanied by a two-page plain-language and concise summary of the findings. The report will be used to advocate for innovative community-based treatment approaches to eating disorders at the national level.

The RShop agreed to take on the project and this report is a summary of the team's research methods and findings.

Methodology and Limitations

This section provides an overview of the indicators used to determine “effectiveness,” the search strategy for the literature review, and the limitations to the research.

Determining Effectiveness

This report provides a summary of research studies and reports that have explored the efficacy of community-based ED treatment. These studies measured the effectiveness of their treatments by using qualitative and quantitative measuring tools, including Likert scales, questionnaires, and interviews. The team evaluated effectiveness based on the following indicators:

- costs,
- program retention,
- recovery rates, and
- symptom reduction.

Search Strategy

The team looked for existing research on community-based treatment for ED, as well as similar or associated programs, including group-based, stepped care, and triage systems for EDs in Canada, the United States (US), the United Kingdom (UK), and Australia. The team included studies found in peer-reviewed scholarly journals and searched the following databases:

- American Psychological Association
- Google Scholar
- ICare publications list
- McMaster Library Catalogue
- Neda
- Nursing and Allied Health Database
- PsycINFO
- Psychiatry Online
- PubMed
- Science Direct

Search terms included, “state of eating disorders in Canada,” “Canada and eating disorder rates,” “eating disorder costs Canada,” “eating disorders and stepped care,” “stepped care eating disorder treatment,” “stepped care model eating disorders,” “triage eating disorder,” “triage model eating disorder,” “triage cost effectiveness,” “mental

health triage costs,” “pod-approach,” “pod-based treatment,” “pod-based eating disorders,” “community-based treatment eating disorders,” “efficacy of community-based treatment eating disorders,” “community-based treatment anorexia nervosa,” “community-based treatment model,” “group-based approach,” “group-based treatment for eating disorders,” “brief group treatment for eating disorders,” and “cost analysis eating disorder treatments.”

The team also examined grey literature, including:

- government reports and studies,
- hospital data,
- eating disorder programs, and,
- evaluations of eating disorder programs.

Limitations

The team had difficulty determining the cost effectiveness of ED treatments in Canada, as cost analysis data, specifically in-patient hospital costs and triage systems, is limited. The issue is complicated by differences in provincial funding models and categorizations for mental illness. For example, in Ontario all mental illnesses are categorized into five broad groups making it difficult to determine costs per condition. Additionally, most studies on costs for ED interventions are theoretical rather than being based on empirical evidence. To address this issue, the team expanded their search of cost effectiveness beyond Canada to the US, the UK, and Australia. For discussions of in-patient hospital costs and potential savings, the team focussed their research efforts on UK and Australian data as they have similar rates of ED and a comparable health care system to Canada.

Research was further hindered by data on ED rates in Canada being out of date and/or limited to treatment rates. Limiting ED rates to those who have been treated likely underestimates the number of people struggling with EDs as not everyone with an ED receives or seeks treatment (National Initiative for Eating Disorders [NIED], 2019; Senate 2014). Despite evidence of EDs affecting people from all ethnic and racial backgrounds, ED statistics and clinical trials focus heavily on Caucasian women. Data on how EDs affect members of various racialized communities, ages, gender identities, and sexual orientations ranges from limited to non-existent (McGilley, 2006; NIED, 2019; Senate, 2014). While statistics indicate that women have higher rates of EDs than men, the stigma surrounding mental illness and the perception of EDs as a female condition may result in underestimating the number of men struggling with EDs (NIED, 2019; Senate, 2014). Additionally, the Canadian Institute for Health Information (CIHI) often includes EDs under the broad category of mental illness, making it difficult to determine statistics specific to individual conditions.

Background

This section provides an overview of:

- The definition and characteristics of EDs,
- The state of EDs in Canada, including demographics, conventional treatments and costs, and,
- The definition and characteristics of community-based treatment for EDs.

Definition of Eating Disorders

ED's are complex and serious life-threatening mental illnesses, which include but are not limited to:

- Anorexia nervosa (AN) – characterized by distorted body image and severe dietary restriction and/or exercising more than usual;
- Binge eating disorder (BED) – characterized by periods of overeating without purging. Individuals may feel like they cannot control how much they eat leading them to feel distressed, depressed, and guilty after bingeing; and,
- Bulimia nervosa (BN) – characterized by periods of uncontrollable binge eating, followed by purging (e.g., self-induced vomiting or misuse of laxatives) to avoid weight gain (CMHA, 2020; Senate, 2014; Statistics Canada, 2014).

Individuals with an ED can develop debilitating physical and psychological effects, such as depression, suicidal thoughts, and heart, kidney, and/or digestive problems (CMHA, 2020; Oliveira et al., 2016). These conditions can also be life threatening, with EDs having the highest overall mortality rate (10-15%) of any mental illness (Senate, 2014).

The State of ED's in Canada

Demographics

Approximately 1-2.9 million Canadians meet the diagnostic criteria for an ED (Galmiche, 2019; NIED, 2019; Senate, 2014). While EDs can affect anyone, regardless of age, gender, class, ethnicity, or socio-economic status, statistics indicate a higher prevalence among women and girls (80%) than men and boys (Senate, 2014; Statistics Canada, 2012). Young Canadians are also at increasing risk of developing an ED (NIED, 2019; Statistics Canada, 2012).

Conventional Treatment for EDs

Conventional treatment for EDs in Canada focus on medical stabilization, psychiatric supports, and nutritional information and rehabilitation (Galmiche 2019; NIED, 2019; Statistics Canada, 2012). Many ED programs take place in a hospital setting and require a physician referral to access care (Nova Scotia Health Authority, n.d.). There are a limited number of specialized, publicly funded ED clinics and treatment centres across the country, most of which are in urban centres in British Columbia, Alberta, Ontario, Quebec, and Nova Scotia (NIED, 2019, Senate, 2014).

The 2014 Report of the Standing Committee on the Status of Women, “Eating Disorders Among Girls and Women in Canada,” highlights limitations to the current treatment system. For instance, shortages in publicly funded ED clinics and programs result in long wait times of around 4 to 6 months. Waitlists can lead to worsening symptoms, as well as affected individuals:

- failing to show up to or withdrawing from support programs,
- deciding to stop seeking treatment, or,
- experiencing an emergency room visit as their first ED treatment
- turning to expensive private treatment centres inside or outside of Canada (Senate, 2014).

ED programs and resources are also not always covered by provincial insurance (NIED, 2019; Nova Scotia Health Authority, n.d.). The travel and costs associated with private treatment centres can place a heavy financial burden on affected individuals and their families. Often affected individuals cannot afford the cost of treatment due to the debilitating nature of ED, which can hinder an individual’s ability to work, leading some to rely on disability or employment insurance as their main source of income (NIED, 2019; Senate, 2014). Costs associated with ED care represent a substantial economic burden to the Ontario health care system. Given the high costs of out-of-country care, there may be opportunity to redirect these funds to increase capacity and expertise for ED treatment within Ontario (Oliveira et al., 2016).

Access to treatment can also be hindered by the stigma associated with ED. Individuals may feel ashamed or embarrassed by their condition and not seek appropriate support. Or, family members, friends, and even medical providers may not be trained to understand the symptoms and health consequences of ED’s and dismiss an individual’s concern about body image and weight (NIED, 2019; Senate, 2014). For example, a doctor may not suspect someone of having an ED unless they appear underweight (NIED, 2019; Senate, 2014). The concurrent illnesses associated with ED’s (e.g., depression, anxiety, or a trauma related disorder) can also result in misdiagnosis and delayed treatment (NIED, 2019, Senate, 2014).

Cost to the Health Care System

In the absence of data detailing the financial costs of ED in Canada, estimations were made using peer-reviewed literature, government reports and other grey literature.

Direct Healthcare Costs

1. Hospitalization

From 2017-2018, there were a total of 2117 discharges for ED as a primary diagnosis in Canada (Canadian Institute for Health Information [CIHI], 2019). These discharges do not refer to unique individuals, as one individual can have multiple discharges in the same fiscal year. The average length of stay per discharge was 33.56 days for a total of 71,048 days in the fiscal year (CIHI, 2019).

A report from PricewaterhouseCoopers (2015) found that the cost of inpatient care in the UK for ED is £434 per day, or \$822.51 CAD.¹ This figure is similar to a cost reported by a Canadian study that estimated a mean cost per day of \$1355 CAD for inpatient adolescents with anorexia nervosa (Toulany et al., 2015). Since the figure from Toulany et al. (2015) does not include a cost estimate for all eating disorders, the former was used instead.

The overall cost for inpatient stay for individuals suffering from ED's in Canada from 2017-2018 was estimated to be over \$58 million dollars. This was estimated by multiplying the total length of stay in days (71,048) by the mean cost per day (\$822.51). The average cost per discharge was estimated by multiplying the average length of stay per discharge in days (33.56) by the mean cost per day (\$1,355 CAD), resulting in approximately \$27,000 CAD.

These estimates are conservative since they do not capture costs for inpatient stays for ED as a secondary diagnosis. Nonetheless, they are in line with studies such as Toulany et al., (2015) who report that cost per stay ranged from \$16,000 to \$200,000 CAD, depending on the length of hospital stay.

2. Emergency Department Visits

Deloitte (2020) estimated the cost of emergency department visits for EDs in the United States. After accounting for comorbidities, it was calculated that emergency department visits cost \$1012 USD when ED is the primary diagnosis and \$462 USD when ED is a

¹ 1 GBP = 1.8925 CAD, reported on February 1, 2015.

secondary diagnosis. Accounting for the exchange rate, this results in \$1341.76 CAD and \$612.54 CAD for visits due to a primary and secondary diagnosis, respectively.²

3. Outpatient Primary Care

PricewaterhouseCoopers (2015) reports that 100% of individuals with ED are likely to use primary care services, with an average of 3 visits per year. The total cost of outpatient primary care services was calculated using the current prevalence rates of eating disorders in Canada.

Prevalence Rate	Cost of Primary Care Visit	Average Number of Visits per Year	Total Cost
Upper Limit: 2.9M	\$60	3	\$522M
Lower Limit: 1M			\$180M

It is estimated that the total cost of primary care visits by individuals with ED’s is between \$180-522M CAD. Due to the presence of comorbidities, it is not correct to assume that a single disorder is responsible for all healthcare costs (Knapp, Mangalore, & Simon, 2004). However, in the absence of additional data, we are unable to determine the cost that is directly attributable to ED’s. Nonetheless, it is clear that the use of primary care services by individuals with ED represent a large expenditure for the healthcare system.

4. Out of Country Care

Ontario patients with ED’s receive out-of-country care for specialized inpatient treatment. Annual costs for patients who receive treatment both out-of-country and in province are reported at \$6.5M (de Oliveira et al., 2016). Annual costs for patients who only received out-of-country care are reported at \$3M. According to de Oliveira et al. (2016), “The ongoing need for out-of-country care for Ontario patients with an eating disorder likely reflects inability to access care and/or to adequately manage complexity within eating disorder cases.”

Indirect Healthcare Costs

² 1 USD = 1.33 CAD, reported on August 16, 2020.

1. Caregiver Costs

Caregiver costs include a loss of participation and productivity at work, a loss of overall wellbeing and quality of life, negative impacts on social and family life and travel costs for treatment (PricewaterhouseCoopers, 2015). Overall, caregivers provide an average of 4.45 hours of care per week, or the equivalent of 5.8 full-time working weeks per caregiver (Deloitte, 2020). Therefore, the cost of care per person with ED is \$1228 USD or \$1633.24 CAD.³ This results in a total cost that is between \$1.2B and \$3.5B, assuming prevalence rates of eating disorders as 1M and 2.9M, respectively.

2. Individual Costs

Individuals with EDs report a significant impact on their overall wellbeing, as well as their social and family life. Additionally, they face negative impacts with respect to employment. According to Deloitte (2020), individuals with AN and BN are 20.1% less likely to be employed, while individuals with binge eating disorders and other feeding disorders are 4.8% less likely to be employed. The cost of reduced employment is therefore estimated at \$3700.06 CAD per person with ED's (\$2782 USD).⁴ The total cost is between \$3.7B CAD and \$10B CAD annually, assuming that the prevalence rates of eating disorders is between 1M and 2.9M.

3. Costs to Employers

Issues such as absenteeism and presenteeism are estimated to cost \$1550.78 CAD and \$4420.92 CAD per person, respectively (\$1166 USD and \$3324 USD).⁵ The total costs are therefore between \$5.9B and \$17B CAD, assuming that prevalence rates of eating disorders are between 1M and 2.9M.

Summary

Table 1: Annual Direct Costs to the Healthcare System (CAD)

Hospitalizations	\$58M *Does not include costs for inpatient stays for ED as a secondary diagnosis
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³ Ibid.

⁴ Ibid.

⁵ Ibid.

Emergency Department Visits	\$1341.76 per visit for ED as a primary diagnosis \$612.54 CAD per visit for ED as a secondary diagnosis
Outpatient Primary Care	\$180M – \$522M
Out-Country-Care	\$6.5M for Ontario patients who receive care both in-province and out-of-country \$3M for Ontario patients who only received out-of-country care

Table 2: Annual Indirect Costs (CAD)

Costs to Caregivers	\$1.2B – \$3.5B
Costs to Individuals	\$3.7B CAD – \$10B
Costs to Employers	\$5.9B – \$17B

Community-Based Treatment for ED

There is no universal definition for community-based treatment. While the term is used in studies on alcoholism (Gordon et al., 1977), drug addiction (Moral et al., 2004), and mental health (Wilkinson et al., 1995), researchers appear to describe its characteristics differently.

Body Brave defines community-based treatment for EDs as a model of treatment that is integrated in the community. It includes a wide range of services to meet the needs of clients at multiple stages of treatment and often uses an interdisciplinary approach that is tailored to the individual needs of the client. Community-based treatment does not require access to a hospital and community-based programs like Body Brave often work in collaboration with caregivers, family physicians, hospital-based treatment programs and other community-based supports (Body Brave, 2020).

Characteristics

Community-based treatment generally takes the form of small group-based therapy sessions offered on a weekly basis for a predetermined length of time, that varies depending on the study and/or program, but have been known to range between 8 and 12 weeks (Body Brave; Jones, 2015; Proulx 2006; Turner et al., 2018). Group-members are usually pre-assessed and matched based on similar characteristics and symptoms and comparable stages of intervention, which aids in promoting a sense of support and comfort within the group (Body Brave; Jones, 2015; Kashdan & Roberts, 2011; McGilley, 2006). Additionally, community-based treatment models for EDs often employ a holistic approach to treatment based on both the emotional and physical needs of clients. This might include, but is not limited to, nutrition and psychoeducation, mental health and media literacy, emotional and self-regulation practice, as well as collaborative treatment with family members (Body Brave; Byford et al., 2007; Jones, 2015; Newton et al., 2013; Proulx, 2006).

Rationale for Community-Based Treatment vs. Conventional Approaches

1. Stepped Care & Triaging

One aspect of community-based treatment that differs significantly from conventional support is the use of a stepped-care approach whereby clients are assessed and offered personalized treatment based on symptom severity. This ensures that the most effective and least resource intensive treatment is delivered first (CICMH, 2020), and treatment will only “step up” to a more resource intensive service (e.g., hospitalization) if the client is in need.⁶

Another way that the stepped-care approach differs from conventional treatment is its promotion of a preventative model of treatment where individuals in early or preliminary stages of a disorder are offered some form of support. Primary prevention of ED development is shown to reduce the onset of ED risk factors and symptoms (Stice et al., 2008) and often focuses on enhancing protective factors such as media literacy (i.e., how to critically analyze messages portrayed in the media pertaining to body image), as well as preventing risk factors for disordered eating behaviors (Neumark-Sztainer et al., 2000). To this end, clients are not required to meet the often life threatening and severe criteria of the disorder that is necessary to receive in-patient care. Not only does this decrease the burden on traditional forms of treatment offered in a clinical setting, it also addresses the critical issue of early intervention in the context of an ED by offering treatment to all levels on the disorder-severity spectrum.

⁶ Resource intensiveness” refers to the impact on patients in terms of costs and personal inconvenience, as well as the amount of required time with a specialist therapist (Bower and Gilbody, 2005).

A critical facet of the stepped-care model is the use of an efficient triage process. Triage is a clinical process used to assess and identify the needs of a person and the appropriate response required, prioritizing service type, need, and urgency based on risk, need, disability or dysfunction (NSW Ministry of Health, 2012). This process will often include a series of psychological questions and a medical assessment of the individual. While triaging is frequently done in-person, there is an increasing trend towards “tele-triage”, where the process is performed over the phone (Sands, 2007). Early detection and appropriate triaging can facilitate timely and equitable access to treatment and maximize the chance of recovery (Golden et al., 2015; Sands, 2007).

Multiple studies have provided a strong evidence-based foundation for the efficacy of a stepped care approach, indicating that it is at least equal to or superior to “traditional” ED treatment, and should be implemented in current ED treatments (Bower and Gilbody, 2017; Crow et al., 2013; Mitchell et al., 2011; Tasca et al., 2018).

2. Community-Based Treatment vs. Cognitive Behavioral Therapy (CBT)

Currently, the standard approach to early intervention for EDs is CBT. The goal of CBT is to help the patient understand the interaction between their thoughts, feelings, and behaviors and develop strategies to change unhelpful thoughts and behaviors (Agras et al., 2017). While individual CBT may be successful in deterring or postponing upper tier hospitalization-based care, community-based treatment is unique in that it goes a step further by also offering the opportunity to be supported by a group. McGilley (2006) notes that treating adolescents with EDs in a group environment reminds participants that they are accepted members of a community and allows them to be validated by their peers. In another study by Linville et al. (2012), participants noted that group-based treatment offered them a space where their ED could be addressed non-judgmentally and with compassion by their treatment providers. When comparing the two treatments, participants who had previously undergone individual CBT shared that being the sole focus of treatment was not helpful and damaging to their recovery process (Linville et al., 2012). Thus, the group element of community-based treatment may provide opportunities that individual CBT cannot.

The social aspect of community-based treatment can also prevent relapses. For example, in a study of comorbid social anxiety disorder patients with depressive disorders, CBT was successful at facilitating recovery, but the rate of relapse was significant (20-64%) (Kashdan & Roberts, 2011). To combat relapse, researchers tested the effectiveness of group-based treatment and found that the dynamic of groups provides explicit opportunity for emotional processing in social situations (Kashdan & Roberts, 2011). This contributed to a rapid decrease in depressive symptoms within the first few weeks of treatment, followed by a slow, continued improvement for the duration

of the study (Kashdan & Roberts, 2011). In ED treatment, group-based therapy could allow patients to practice and discuss urges to restrict and the ability to recognize and control triggers in a group environment where they feel safe and supported.

3. Person-Centered Care

Person-centred care (PCC) is a model that encourages healthcare providers to partner with patients in order to co-design and deliver personalized care (Santana et al., 2018). The main components of PCC include:

- Cultivating strong communication;
- Offering respectful and compassionate care;
- Engaging patients to manage their care by encouraging them to co-design their care plans;
- Providing coordinated care, support or treatment (Santana et al., 2018).

PCC has been increasingly promoted by researchers, healthcare providers, and policy makers due to its ability to improve patient experience, health outcomes and quality of care (Santana et al., 2018; The Health Foundation [THF], 2016). Additionally, PCC can improve healthcare system efficiency and effectiveness (Santana et al., 2018). Research has found that patients who are supported to manage their own care are less likely to use emergency hospital services and are more likely to adhere to their treatment plans, resulting in cost-savings opportunities and reductions in service-use (THF, 2016).

Despite the benefits of PCC, it is often difficult to incorporate into traditional healthcare settings. PCC requires strong collaboration between healthcare providers, patients, and caregivers in a process that is time consuming and iterative. This shared decision-making can be problematic in settings where there are strict time constraints, such as primary care offices and hospitals (Légaré et al., 2008).

Although traditional healthcare settings struggle to implement PCC, community-based settings that focus on healthcare innovation and incorporate PCC into their healthcare quality improvement plans may have greater success in adopting this model.

Literature Review

The purpose of this literature review is to examine the efficacy of community-based treatment for ED in scholarly studies. It is divided into three sections:

- A summary of reviewed articles and relevant findings,
- A summary of reviewed articles and cost effectiveness, and,
- A discussion section to synthesize and explain the findings.

Summary of Reviewed Articles and Relevant Findings

The following is a table summarizing the articles reviewed for this study and their relevant findings regarding the efficacy of community-based treatment for ED.

Author/Year	Intervention	Pathology	Study Type	Sample Size	Participant Characteristics	Relevant findings (patient outcomes, costs)
Hannon, Eunson, & Munro (2017)	Multi-disciplinary community-based treatment. Three components: psychological treatment, dietetic treatment, and risk management. Provide continuity of care (3+ years).	AN	Qualitative, Phenomenological Analysis	5	Representative of four treatment categories: unstable, stable, remitted, and recovered.	All patients described an increased understanding of their illness through treatment. Those in the “remitted” and “recovered” stages ascribed feelings of self-acceptance, connection, hope, and change to their recovery.

<p>Munro, Thomson, Corr, Randel, Davies, Gittoes, & Freeman (2014)</p>	<p>A multidisciplinary community intensive treatment service consisting of both psychological and dietetic interventions grounded in a process of risk management.</p>	<p>AN</p>	<p>Quantitative, Survey</p>	<p>46</p>	<p>BMI <13 kg/m², or <15 kg/m² and losing weight >1 kg per week.</p>	<p>Patients described staff as supportive, caring and genuine and valued a holistic psychological approach based on both emotional and physical needs. There was a high overall-satisfaction rating and open text themes from the survey reflect strong engagement from patients. Service costs were reduced by 669,410.30 CAD due to increased capacity to deliver intensive treatment in the community.</p>
<p>Newton, Bosanac, Mancuso, & Castle (2013)</p>	<p>The Body Image Eating Disorders Treatment and Recovery Service (BETRS) is disorder service bridging the primary and specialist continuum of care that engages with the patient and family in a collaborative manner.</p>	<p>AN, BN, eating disorder otherwise specified (EDNOS)</p>	<p>Quantitative, mental health and ED diagnoses pre and post treatment</p>	<p>208</p>	<p>90% female, mean age 27 years, >50% significantly underweight.</p>	<p>Twenty-three per cent of the 208 patients who accessed the BETRS attended a day patient programme and showed a significant improvement in their body mass index. Measures of depression, anxiety and eating disorder symptomatology showed a concomitant, significant decrease.</p>

<p>Hay, Mond, Paxton, Rodgers, Darby, & Owen (2007)</p>	<p>A community-based two-phase survey with the aim of testing the putative health benefits of a brief ED-Mental Health Literacy (MHL) intervention. Participants were randomized to receive either a brief Mental Health Literacy intervention or information about local mental health services. MHL, ED symptoms and health-related quality of life were assessed prior to the intervention and at 6- and 12-month follow-up.</p>	<p>EDNOS</p>	<p>Quantitative, survey</p>	<p>185</p>	<p>Females with ED symptoms meeting DSM-IV criteria for clinical severity.</p>	<p>Those in the intervention group had generally improved quality of life with those in the control group displaying worsening quality of life, as well as a statistically significant trend for improvement in ED symptoms in the intervention group.</p>
<p>Simpson et al. (2010)</p>	<p>Group 'schema' treatment where individuals would be exposed to situations which triggers schemas and modes.</p>	<p>AN and BN</p>	<p>Quantitative survey and ED diagnoses pre and post treatment</p>	<p>8</p>	<p>Females with diagnosed anorexia or bulimia. Co-morbidity and chronicity were noted.</p>	<p>While the sample size is too small to be sure, preliminary evidence that those with comorbidity and chronicity were more likely to benefit from the group. Researchers hypothesized this was because they were able to</p>

						normalize their conditions to themselves by being surrounded by individuals of similar disposition.
Tasca, Giorgio A. and Lampard, Amy M. (2012)	12-week group-based treatment.	Patients with diagnosed ED and recommended by a doctor.	Statistical approach to model the dynamic interplay between alliance to patients in therapy	238 (between 1998 and 2007)	Mix between mild, moderate, and severe symptoms.	After 12-weeks, patients' symptoms improved over the period. Interestingly, the improvement of symptoms of one individual was able to affect the others in the group; i.e., as one improved, others improved.
Proulx, K. (2007)	Group-based treatment using mindful based stress reduction therapy - a systems-based self-regulation practice that focuses attention on the present moment without judgement and with self-compassion. Hypothesized that by focusing on alternative lifestyle, one could reduce eating disorder	BN	Qualitative analysis	6	College-students, women. All had been dealing with ED for a very long time, on psychotropic medication, and experienced comorbid mood or anxiety disorders.	Combination of meditation practices, psychoeducation, and interpersonal approaches provides a powerful intervention to build self-awareness, interpersonal connection, and positive coping skills while reducing intense emotional activity, judgemental thoughts, and self-harming behaviours.

	symptoms at the roots of bulimia nervosa.					
Todd B Kashdan, John E. Roberts (2011)	10-session psychoeducational group for depression. 2 were individual format and 8 sessions had a group format. Initial diagnostic evaluation taken before and after.	Major Depressive Disorder (MDD), Minor Depression, or Social-Anxiety Disorder (SAD)	Quantitative analysis	76	59 of the patients were women. Mostly Caucasian. Forty-one clients (53.9%) reported ongoing psychopharmacological treatment at the time this program was introduced.	Clients with comorbid SAD exhibited a significantly faster rate of symptom reduction over the course of treatment compared to those without SAD. This suggests group treatment may be better for those who experience comorbidity. Group-based treatment also led to reductions in self-focused attention and more positive relationships with the group. Usually patients with SAD have poor social networks, and the group-based treatment provided relationship and support.
Beth Hartman McGilley (2006)	Long-term group therapy (about 3 years long). Themes of discussion are identified and facilitated by the group.	AN or BN	Qualitative analysis from the perspective of a therapist who has specialized in the treatment	Groups of 8. Author does not disclose how many	High school and college-aged youth (15-22). All socioeconomic classes and ethnic backgrounds. While the group is open to	In this study, group-based treatment is an effective way to treat eating disorders, especially those in teens. The group setting reminds each other they are accountable and accepted members of a community and is a way to

			of eating disorders for over 20-years.	total patients in their 20-year practice	males, no male had ever joined.	have their feelings validated by those who feel similar ways.
Janine Wanlass, J. Kelly Moreno & Hannah M Thomson (2006)	Post-group intervention, participants were administered a survey by mail. Therapist also compiled observations. Both were compared.	AN or BN	Qualitative analysis of surveys and observations noted	10 former group members participated.	Participants were enrolled in a comprehensive treatment program for eating disorders. Most were women, white, single, half Mormon and half no religious affiliation. Varied levels of education and severity of ED.	Out of those who had positive experiences, group treatment helped those overcome feelings of denial and recognize distorted thoughts and habits. Some participants said they had revelations only after treatment after they had time to reflect.
Bailer et al. (2003)	Randomly selected to complete a CBT group treatment program or provided with self-help materials. Both were conducted in an outpatient clinic.	BN	Quantitative analysis of remission rates	81	Participants were 17 years and older in Vienna.	Remission rates went from 56.6% at the end of treatment to 73.9% at follow-up in the self-help group. For group-based CBT, 36% had been remitted by end and 44% at follow-up. While this suggests that group-based CBT was less effective, researchers noted that patients in group-based CBT had more severe cases. Also, many participants in the group were on antidepressant medication

						which meant they may have been more at risk for an unsatisfactory treatment outcome.
Jones (2015)	A community-based eating disorder service nine weeks in length, each session lasted two hours and was facilitated by two experienced eating disorder practitioners. Sessions focused on both nutrition and psychoeducation, as well as emotional regulation and craving management.	BED	Quantitative analysis of binge eating scale scores and qualitative assessment of personal experience during treatment	9	The group consisted of 8 women and one man between the ages of 34 and 60 with BED.	All clients showed improvements in their binge eating scale scores after group and reported being able to regain control of their eating. Importantly, all scores two weeks after groups were in the range that indicated little to no binge eating symptoms and all clients were discharged from the program after completing the group. Additionally, clients saw an improvement in their social isolation and reported feeling comfortable in each other's company.

Turner, Philpot, Wilton, Everett, & Hill (2018)	A single group, pre- and post-intervention study examining the effectiveness of a 12-week Guided self-help (GSH) service delivered by dietitians for the treatment of Binge eating disorder (BED).	BED	Quantitative analysis of ED psychopathology and behaviors, depression and anxiety	24	Patients were recruited from Leeds Community Health Care Trust Adult Community Dietetics Weight Management Service, over 16 years of age, clinically diagnosed with BED with a BMI of over 30 kg m ⁻² or over 27 kg m ⁻² with comorbidities.	Participants reported significant reduction on all subscales of eating disorder psychopathology, as well as reduction in loss of control over eating. There was also a significant reduction in depression and anxiety over the course of the intervention.
Linville, Brown, Sturm, & McDougal (2012)	A qualitative examination of recovered individuals' perspectives of how and what social supports influenced their ED recovery process and an examination of how family, friends, health care professionals, and any other relevant social supports, helped or hindered participant's ED recovery.	In recovery from an ED	Qualitative assessment of how social supports helped and hindered ED recovery process through in person and Skype interviews	22	Women aged 25-55 years in recovery from an ED from 1 to 35 years.	Participants talked about wanting social support to notice and connect with them and that open and compassionate discussions about their disorder with their family members and close friends was important. Additionally, participants reported the importance of being addressed non-judgmentally and with compassion by their treatment providers. Participants also shared that having weight be the sole focus of treatment was not only not helpful, it was damaging to their recovery process.

Mitchell et al. (2011)	A two-armed trial assessing the efficacy of manualized CBT through 20 sessions 50 minutes in length over 18 weeks, as compared to a stepped model approach, wherein patients primarily used a self-help book, "Overcoming Binge Eating", in addition to 8 sessions 20 minutes in lengths over a period of 18 weeks.	BN	Randomized trial with two arms	293	Males and females 18 years and older who met the criteria for either purging or non-purging bulimia nervosa as per the DSM-IV.	At the end of the 1-year follow up, the stepped care arm was superior to the manualized CBT arm in reducing binge eating and associated behaviours, including vomiting laxative use, diuretic use and excessive exercise.
Bauer et al. (2009)	A single arm trial that used an online platform, ES[S]PRIT to provide a stepped care approach to treating ED using online discussion forums, feedback, and weekly monitoring of ED behaviours	ED	Quantitative trial	44	Participants were included if they were college students and identified as being either at risk of developing an ED or if they already showed mild symptoms of ED, as per the Weight Concerns Scale and the Short Evaluation	This study was in the pilot phase, and indicated that there is a great need for online support for individuals struggling with ED symptoms. However, more research is required.

	through questionnaires.				of Eating Disorders questionnaire.	
Crow et al. (2013)	A two-armed trial assessing the efficacy of CBT with fluoxetine for treating BN, as compared to stepped-care approach, with varying levels of intensity based on severity of BN.	BN	Two-Armed Randomized Trial	293	Women with purging or non purging bulimia nervosa as per the DSM-IV	A stepped-care approach to BN was more cost-effective and resulted in better clinical outcomes compared to traditional CBT. The cost per participant was \$12,146 for stepped care and \$20,137. (USD)
Homan et al. (2019)	A study aimed at examining the medical assessment and triage of pediatric patients with AN seen in primary care.	AN	Retrospective Cohort Study	41	Pediatric patients between the ages of 10-18 diagnosed with AN in a primary care setting.	Findings indicate that patients diagnosed with AN in primary care are not receiving adequate medical assessment and triaging. Those who did not receive appropriate medical assessment triage experienced a delay in diagnosis and treatment. As early diagnosis is associated with higher successful outcomes, proper medical assessments and triaging is extremely important.

Sands, 2007	Use of an exploratory descriptive design that had both quantitative (survey) and qualitative (interview) elements to assess mental health triaging in nursing practices.	Mental Health	Qualitative and quantitative study	160	Mental health triage nurses in Victoria.	Mental health triage nursing is a unique, highly specialized practice, that requires clinical experience and knowledge. Curricula needs to be developed that prepares nurses for mental health triaging. Education is vital in this field. The author proposed a mental health triage model.
Kindermann et al, 2017	Use of an individualized internet intervention, <i>ProYouth</i> , to reduce ED symptoms in individuals.	ED	Quantitative study	394	Mean age was 18.5 years, majority of participants were female (92.9%), mean BMI was 20.7, and the mean Weight Concerns Scale score was 56.3. Participants had varying levels of education.	Program utilization was associated with ED compensatory behaviour, including binge eating episodes and body dissatisfaction. <i>ProYouth</i> appears to be a promising way to approach early intervention programs addressing ED.

Summary of Reviewed Articles and Cost Effectiveness

The following table summarizes the articles reviewed for this literature review and their relevant findings regarding cost effectiveness community-based treatment for ED.

Author/Year	Intervention	Pathology	Study Type	Sample Size	Participant Characteristics	Relevant findings (patient outcomes, costs)
Byford et al. (2007)	Specialist outpatient treatment, which included CBT, parental counselling with the participant, dietary therapy and multi-modal feedback compared to: 1) General outpatient treatment (“Multidisciplinary individual and family-based approach with a dietary and pediatric liaison”) 2) Inpatient treatment (“multidisciplinary approach with the aim of normalizing eating, restoring healthy weight and facilitating	AN	Randomized controlled trial	167	Adolescents aged 12-18	Specialist outpatient treatment had a more favourable ICER, since it was more effective and less costly than the other interventions.

	psychological change”)					
Crow et al. (2009)	CBT delivered via face-to-face versus telemedicine	BN	Randomized controlled trial	128	Women with a DSM-IV diagnosis of BN (purging or non-purging subtype) or EDNOS fulfilling at least one of the following: (1) DSM-IV criteria for BN except binge eating/purging at a minimum frequency of once per week; or (2) DSM-IV criteria for BN with only subjective binge eating episodes.	Similar efficacy was reported for CBT delivered face-to-face and via telemedicine. However, CBT delivered via telemedicine was associated with a lower cost per abstinent subject.
Crow et al. (2013)	A two-armed trial assessing the efficacy of CBT with fluoxetine for treating BN, as compared to stepped-care	BN	Two-armed randomized trial	293	Women with purging or non purging BN per the DSM-IV	A stepped care approach to BN was more cost-effective and resulted in better clinical outcomes compared to traditional CBT. The cost per participant was \$12,146 USD for stepped-care and \$20,137 USD for CBT.

Egger et al. (2016)	Focal psychodynamic psychotherapy (FPT), enhanced CBT and general out-patient psychotherapy	AN	Randomized controlled trial	242	Adult women with a BMI between 15 and 18.5 kg/m2 and a primary diagnosis of AN or subsyndromal AN	FBT is likely more cost effective than CBT and general outpatient psychotherapy.
Kass et al. (2017)	A stepped care model, including online prevention and intervention, as well as referral to in-person care as needed, compared to standard care	ED in general	Theoretical model	1000 college students	N/A	A stepped care model, compared to standard care, would result in cost savings of \$13 862.54 USD. Fewer students would also require in-person psychotherapy.
Lynch et al. (2010)	CBT guided self help compared to treatment as usual (TAU) which included treatment from primary care providers, nutrition care providers, or self-referral to the specialty mental health department	BED	Randomized controlled trial	123	Health plan members (91.9% female, 96.7% white, and 3.3% Hispanic)	Individuals receiving TAU and CBT compared to TAU had better outcomes (lower binge free days) and lower total societal costs.

Discussion

This section provides an overview of the main findings of the literature review and is organized by four themes: improved patient outcomes, expanded social networks, use of triaging, and reduced service costs

Improved Patient Outcomes

Symptom Reduction

There is a body of evidence to suggest the efficacy of community-based treatments in reducing symptoms of ED. A 2015 study examining the effectiveness of the community-based eating disorder treatment, Evolve, focusing both on nutrition and psychoeducation found that all clients showed improved binge eating scale scores (BES) dropping from the severe range of 34-37 to the mild-moderate range of 4-17 (Jones, 2019). Furthermore, all clients were successfully discharged from Evolve after completing the 9-week program with no further treatment needed for BES. Another study examining the effectiveness of a guided self-help (GSH) community program in managing binge eating symptomatology showed a 40% reduction in binge-eating episodes (Traviss-Turner et al., 2018). Additionally, the implementation of components of community-based treatment such as triaging, stepped-care, group therapy, and collaborative family-based treatment have also resulted in symptom reduction.

In one study, Razzaque & Stockman (2016) studied an 'open-dialogue' approach, like other community-based treatment methods that have previously been described, in Finland. In this study, outcomes for first-episode psychosis treated with an open-dialogue resulted in milder or reduced symptoms and less chance of relapse. Also, more patients were studying, working, or job seeking, less were using antipsychotics, and more had a significantly less mean of hospital admissions days as compared to conventional treatments (14.3 compared to 116.9).

Multiple studies have supported the use of a stepped-care model in reducing ED symptoms. In 2011, Mitchell et al. conducted a Randomized Controlled Trial (RCT) that assessed the efficacy of manualized CBT therapy compared to a stepped-care approach for individuals with BN. At the 1 year follow up, they found that the stepped-care arm was superior to the manualized CBT in terms of reducing binge eating episodes ($P = 0.028$) and associated behaviours, including the use of laxatives, vomiting, diuretic abuse, and excessive exercise ($P = 0.027$). The results were consistent with findings from another RCT by Crow et al. (2013), which concluded that a stepped care approach was more effective in treating BN than solely CBT, with

abstinence rates of 26% and 18%, respectively. Similarly, in 2012, the Body Image Eating Disorders Treatment and Recovery Service (BETRS) in Victoria, Australia combined a stepped-care approach with a collaborative approach (engaging with the patient, family and bridging primary and specialist services) and patients reported significantly lowered ED symptoms (Eating Attitude Test (EAT-26) score -15, $p>0.001$) and improved ratings of quality of life (Quality of Life Enjoyment and Satisfaction Questionnaire (QLESQ-SF)+14, $p>0.001$) (Newton et al., 2013).

Two pilot studies using internet-based interventions both affirmed the use of stepped-care models in treating ED symptoms. The first, called ES[S]PIRIT, provided psychoeducation, supportive feedback, peer support, and professional online counselling as a preventative measure in reducing ED symptoms (Bauer et al., 2009). The study concluded that a stepped-care approach was both feasible and promising in reducing ED symptoms at various levels of intensity, and allowed for early intervention in severe cases; however, further refinement of techniques and research is required. The second study, an internet platform called *ProYouth*, enabled participants to adjust the level of support based on his/her needs. While the study concluded that more research was required, the results indicated that it was a favourable approach towards treating ED with a stepped-care model.

Improved Sense of Self

Studies suggest that community-based treatment and/or group treatments for ED show promise in improving patients' sense of self. In a study of 6 college-age women with BN (Proulx, 2006), participants completed an 8-week mindfulness-based treatment group program. It was hypothesized that because women with BN tend to struggle with issues of perfection, control, and extreme self-criticism (Richards, Hardman, & Berrett, 2007), a gentle mindful-based treatment offers an alternative lifestyle approach that becomes a 'lifelong practice unique to each person' (Proulx, 2006, p53). After completing the 8-week program, participants reported less emotional distress and improved ability to manage stress.

Another study by Hannon et al. (2017), explored the experiences of patients undergoing long-term community care using qualitative phenomenological analysis found that patients reported the ability to construct a better understanding of how their illness came to be, moving from self-criticism to self-acceptance. Patients spoke about the importance of being able to trace back and see where their ED behavior stemmed from, which was deemed an essential component of their recovery. Furthermore, patients reported recognizing the automatic thoughts and feelings of discomfort that accompanied treatment, and said that the community-based treatment facilitated their ability to accept and challenge said thoughts and feelings (Hannon et al., 2017).

Comorbidity Improvements

Not only does community-based treatment result in improved symptoms of ED, they have also shown to be successful at reducing common comorbidities such as measures of depression, anxiety, and other mood disorders. For example, a 12-week Guided self-help (GSH) program for BED found that participants reported significant reduction in ED psychopathology (Eating Disorder Evaluation Questionnaire (EDE-Q) -1.61, $p=0.001$), as well as depression (Patient Health Questionnaire (PHQ-9), -6.57, $p=0.001$) and anxiety (Generalized Anxiety Disorder Questionnaire (GAD-7) -4.77, $p=0.001$) symptomatology (Turner et al., 2018). A 2013 study reported similar results (Newton et al., 2013). Furthermore, a study examining the experiences of women undergoing mindfulness-based eating disorder treatment in a group using phenomenological analysis also noted reports of less emotional distress and improved ability to manage stress (Proulx, 2007).

Treatment Satisfaction

In addition to positive treatment outcomes, study participants have also reported feeling satisfied with community-based treatment options. For example, a multidisciplinary community intensive treatment service called the Anorexia Nervosa Intensive Treatment Team (ANITT) that combined both psychological and dietetic interventions reported high overall satisfaction ratings (i.e., mean overall satisfaction rating of 4.0 on a 6.0 Likert scale) and strong engagement from patients (Munro et al., 2014). Open text reflections also revealed patient descriptions of staff as supportive, caring, and genuine and valuing a holistic approach to both their emotional and psychological needs. Similarly, a study exploring the experiences of patients undergoing the same long-term community care using qualitative phenomenological analysis found that participants responded positively regarding their treatment experience (Hannon et al., 2017). Compared to inpatient care, participants described community treatment with a sense of safety and control and placed an emphasis on the collaborative, personalized, and flexible treatment plan that they were able to apply to their individual lives.

Expanded Social Networks

Expanded Social Networks and Reduced Feelings of Isolation

Community-based treatment programs are often conducted in a group setting, which can lead patients to develop social networks. Research has shown that this aspect of social support helps participants develop problem solving abilities, coping skills, and interpersonal communication to simulate what they would encounter outside of treatment (Proulx, 2006).

Indeed, participants in the multidisciplinary community-based treatment program, ANITT, reported the experience of being “held” or supported by a group environment, as well as feelings of interpersonal connection with others in their group. Participants reflected on the benefit of being a part of a community which, they said, felt like a “real world” experience where they would ultimately be practising the change they experience in treatment (Hannon et al., 2017). Similarly, clients who attended the Binge Eat (BE) Free program, a community-based ED service focusing on nutrition, psychoeducation, and emotional regulation, reported feelings of appreciation for the peer-support from group members. Clients of the BE Free program also reported initial feelings of social isolation at the start of the program which, they said, were lessened by the end of the 9-week period (Jones, 2019). The group setting was said to have provided a safe environment for group members to challenge their beliefs and support one another’s treatment progress. These findings reflect the sentiments reported in Linville et al.’s (2012) qualitative examination of recovered individuals’ perspectives of how social support, such as family, friends, and health-care professionals, influenced their ED recovery process.

Overall, the participants in this study emphasized the importance of social support in their recovery, specifically the need for sharing open and compassionate discussion about their disorders with close friends or family, as well as the need for the treatment environment to be free from judgement (Linville et al. 2012).

Increased Sense of Accountability

In a study by Tasca & Lampard (2012), participants undergoing group-treatment for ED’s were tested using a model to test for influence between patient relationships in the group and the urge to restrict. Preliminary research had predicted that patients in a group setting establish a similar bond to that of a therapist and client in an individual CBT session, also known as a ‘therapeutic alliance’. Tasca & Lampard (2012) confirmed this, citing that the stronger the internal commitment was within a group, the less likely patients were to restrict eating. Also, as one patient recovered, others followed suit.

The idea of an alliance within a group presents itself as a form of accountability. In a qualitative study that had documented community-based therapy for decades, patients noted that the group setting allowed the patients to feel like members of a community where their feelings were validated and they could be held accountable by each other (McGilley, 2006).

Use of Triaging

Although there has been less evidence-based research conducted on the efficacy of triaging, multiple papers have argued the theoretical importance of early identification and treatment for individuals with ED, highlighting the need for an efficient triage system for successful treatment outcomes (Treasure and Russell, 2011; Van Holle et al., 2008; Surgenor and Maguire, 2013). These papers are consistent with one retrospective cohort study conducted in 2019 by Homan et al., where they examined the medical assessment and triage of 41 pediatric patients with AN seen in primary care. Using the Society for Adolescent Health and Medicine as medical assessment and triage guidelines, they found that only 56% of patients received triage that was consistent with practice recommendations. Diagnosis and treatments occurred significantly earlier ($\mu = 4.3$ weeks) as compared to those that received triage that did not follow practice guidelines ($\mu = 14.9$ weeks) (Homan et al., 2019).

Reduced Service Costs

Cost savings are likely to be achieved by intervening at an earlier stage and matching the care that a patient receives to the severity of their condition (Deloitte Access Economics, 2020). These goals can be best achieved through stepped-care, which allows individuals with ED to receive specialized services according to the severity of their condition. Crow et al. (2013) conducted a randomized trial to determine the cost-effectiveness of stepped-care compared to CBT in treating patients with BN. In this study, the cost per patient was \$12,146 USD for stepped-care and \$20,317 USD for CBT. Further, stepped-care resulted in improved quality of life and reduced time costs for providers, patients, and families (Crow et al., 2013).

Online tools can also be effective in achieving cost-savings opportunities. For example, Kass et al. (2017) estimated that compared to standard care, a stepped-care model that includes online screening and treatment resulted in fewer people needing in-person psychotherapy and cost savings of \$13,862.54 USD for 1000 college students. Telemedicine CBT may also be more cost-effective than traditional forms of delivery when it is provided over a large geographic area (Crow et al., 2009). This is mainly due to the limited number of specialized care centres for ED and the low frequency with which these services are provided.

Finally, specialized care in general can also result in cost-efficiencies. Byford et al. (2007) conducted a randomized trial where individuals with AN were assigned to inpatient care, specialized outpatient care, or general outpatient care. Although the three groups did not show statistically significant differences, observed differences showed that specialized outpatient care was consistently less costly. The results of this study found that cost per patient was £26,797 for outpatient specialized care, compared

to £34,371 for general outpatient care and £40,520 for inpatient care. These differences were mainly due to length of time spent in hospital, suggesting that generalized outpatient care was less successful than specialized outpatient care in “maintaining young people in the community” (Byford et al., 2007).

Lynch et al. (2010) similarly reported that CBT compared to standard clinical care was more cost-effective and resulted in better clinical outcomes in treating recurrent binge eating. Although the cost differences in this study were not statistically significant, observed differences demonstrated lower costs to the healthcare system, patients, and other social services sectors. Additionally, Egger et al. (2016) found that FPT which focuses on a person’s life experiences, especially during childhood, influence their thoughts, feelings and behaviours, is likely more cost effective than CBT and general outpatient psychotherapy in treating AN. This finding supports the conclusion that specialized outpatient treatment is generally cost advantageous (Egger et al., 2016).

Conclusion

Overall, this study highlights promising evidence for community-based treatment as an alternative to costly and largely inaccessible specialized inpatient ED care in Canada. However, when researching the effectiveness of community-based and group-based treatments compared to conventional approaches (i.e., individual CBT), most clinical trials randomly assigned patients to groups. While this may be a common practice of clinical studies, practical applications may have different results, as a key feature of community-based and group-based treatments is the deliberate grouping of individuals with similar stages of EDs or life experiences.

Additionally, when determining the rates of remission for community-based treatment, it was difficult to determine whether relapse had occurred after treatment. This was due to the short-term nature of the studies being conducted. While some researchers had followed-up with patients several months later, most studies only conducted a symptom check at the end of their intervention. More research on the long-term effects of community-based treatment is required. For this reason, discussion on remission rates is limited. While current research discusses symptom reduction, we cannot be sure symptom reduction is equivalent to remission rates until research within longer periods is conducted.

Furthermore, while current research suggests that a triage model is important for successful patient outcomes, there is no clear best practice (Sands, 2007; Surgenor and Maguire, 2013). Only one study was identified that shows promise for a triage framework, proposing person and community as the main constituents of mental health triaging, followed by assessment, working diagnosis, prioritizing, and implementing (Sands, 2007). While this research provides a foundation for broader mental health triage models, further evidence-based research, specifically for EDs, is required.

Despite these limitations, our findings suggest that community-based treatments for ED demonstrate a comparable, and at times superior, ability to reduce ED symptoms as well as comorbidities such as anxiety and depression compared to conventional treatments. Furthermore, community-based treatments often employ a stepped-care approach and triage model which facilitates early intervention and promotes a cost-effective model of ED treatment. Additionally, participants and patients of community-based ED interventions report strong ratings of satisfaction with treatment because of its group therapy setting.

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