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Rapid Access Models for Substance Use Services: A Rapid Review

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Introduction

Substance use, substance use disorders and related mental health and physical health challenges exact an exorbitant health burden and cost to society. In 2017, substance use cost Canadians almost $46 billion, with alcohol and tobacco use accounting for about two-thirds of those costs. Globally, alcohol use is widely regarded as a leading risk factor for death and disability and accounts for a significant loss in global gross national product (GNP), a broad measure of a nation's total economic activity.

Despite these harms related to substance use among Canadian adults and youth, and the corresponding health burden and cost to society, the percentage of people accessing treatment and support from the specialized substance use sector is surprisingly low. And among those who do access services, a significant proportion report that their needs are unmet. Many Canadians, however, do access supports from other sectors of the health and social system. This fact presents an important opportunity and a strong rationale for integrating substance use treatment and supports in these other sectors to address the broad spectrum of risks and harms associated with substance use. This vision for an integrated and holistic system is a key recommendation in Canada's first national substance use treatment strategy and, specifically, in its tiered model that organizes a continuum of services and supports to correspond to the varying acuity, chronicity and complexity of substance use among Canadians.

Access to this continuum of substance use services and supports is a fundamental metric for gauging the quality of the system's response to these challenges and opportunities. The need to enhance service access is reflected by priorities and recommendations from recent provincial and territorial strategic plans across Canada, in-depth treatment system reviews, and reports from leading research and knowledge translation experts and organizations.

In response, there has been a proliferation of new models to facilitate access to substance use services and supports in several jurisdictions across Canada. Examples include Rapid Access to Addiction Medicine (RAAM) programs, youth service hubs, centralized or coordinated access models, and various models to integrate substance use services and supports in a range of healthcare settings where these problems are frequently encountered (e.g., primary care, emergency departments). Moreover, these models are being implemented at a time when many jurisdictions are undergoing significant health system transformations, while also developing additional system responses to prepare for a potential surge in demand for substance use services and supports as we emerge out of the COVID-19 pandemic. Though not the original intent of this review, reflecting on the extent to which these models are achieving the goal of increasing access to substance use services may also be helpful in responding to the pandemic, including a potential second wave.

The nature of these models and the research regarding their efficacy are the subject of this report.

Objectives

This rapid review was guided by the following two objectives:

1. Identify the core components of various rapid access models designed to facilitate access to and engagement in substance use treatment services; and

2. Identify the extent to which these rapid access models have resulted in improved access to services.

Method

Research literature for this rapid review was obtained through scholarly database searches, general Internet searches (Google), manual searches of reference lists of highly relevant documents, and, for a small number of documents, contact with a key expert. The amount of research literature available varied for the different rapid access models. For those few models that have been the focus of more research (i.e., SBIRT, youth service hubs), it was possible to rely on systematic reviews to address the objectives noted above.

Scope: Defining "Rapid Access"

To identify which models were most relevant to include in this review, a key challenge was to first operationalize the concept of access and, specifically, "rapid access." Access is a multi-dimensional characteristic of health systems, including those systems focused on treatment and support for challenges related to substance use. The many dimensions to access that can be variably influenced by different features of a rapid access model include:

- **Approachability:** People with healthcare needs can identify that services exist, that they can be reached, and that they have an impact on their health.
- **Acceptability:** Clients accept different aspects of a service and view them as adequate.
- **Availability and accommodation:** Healthcare services can be reached in a timely manner.
- **Affordability:** Clients have the ability to pay for services.
- **Appropriateness:** There is a fit between services and clients' needs and services are timely, effective and efficient in matching clients to services.

The concept of "rapid" access brings with it a more specific focus on the length of time it takes to receive a service. Similar to access more broadly, rapid access can be operationalized in different ways, each of which require different strategies and considerations. The more common interpretations of "rapid access" include speedier access to initial service contact than the norm (e.g., reduced waiting time compared to program- or sector-specific benchmarks); swifter access to a meaningful intervention after the first point of contact, including earlier access to services for those with lower levels of risk and severity that may be provided in settings outside of the specialized substance use sector; and rapid re-entry or transition to a treatment service or a service network, following receipt of services.

Two additional considerations were identified as relevant to models designed to enhance rapid access to substance use services and supports. The first pertains to the degree to which individuals recognize the need for support and are motivated to make the first contact with a service. This consideration points to the importance of engagement strategies such as outreach that are designed to bring more people in need into service. Secondly and relatedly, innovations to facilitate motivation and retention once a client is engaged in a service are critically important, since retention is a key indicator of treatment success.

The above definitions and related considerations led to the selection of five rapid access models, which reflect a "package" of mechanisms aimed at improving access, as operationalized above. These five models are:

- Hospital-affiliated models
- Mobile or assertive outreach models
- Screening, assessment, brief intervention and referral to treatment models
- Integrated youth services models
- Centralized and coordinated access models

Summary of Rapid Access Models

Hospital-affiliated Models

- Substance use disorder is a common presenting issue in hospitals and is associated with longer stays in care and high rates of repeat hospitalizations.
- Rapid access models have emerged in hospital settings to engage patients in substance use treatment following identification of a need. They typically facilitate access to addiction medicine services and pharmacotherapy, and offer support to help patients transition to community-based substance use services and other supports.
- Evaluations have found rapid access models in hospital settings to be successful in engaging and retaining patients in ongoing substance use treatment and in reducing emergency department (ED) visits, repeat ED visits and inpatient care. Early research in Ontario suggests they are cost-effective.
- Systematic reviews are needed before any conclusions can be drawn about the core components of rapid access models in hospital settings that are most responsible for positive impacts and whether these models represent a best practice along the continuum of care.
- More research is also needed about the impacts of these models on access for specific populations, including for the most vulnerable populations, and on other outcomes such as enhanced capacity to provide substance use services within the broader system of care.

Mobile or Assertive Outreach Models

- Outreach models deploy specialized mobile response clinicians or teams to the home or community locations of individuals at high-risk of substance use issues to engage them in treatment, services and supports.
- Outreach efforts can fall on a continuum from opportunistic to more assertive, with assertive community treatment (ACT) representing the most formalized, structured and proactive model of outreach.
- Standards in Canada for ACT teams supporting individuals with severe mental health issues include a requirement for expertise within the team to address concurrent substance use issues. In practice this capacity has been found to be variable.
- Two studies found that ACT teams with a special focus on substance use resulted in faster access to treatment services and higher retention in care compared to a more traditional approach to substance use service delivery that did not include outreach.

- Promising results were reported for mobile clinics that followed some but not all of the components of the formal ACT model with respect to engaging members of marginalized groups with substance use issues in treatment.
- More research is needed for mobile or assertive outreach models for individuals with substance use issues, including the extent to which these models facilitate *rapid* access to substance use services and supports.

Screening, Assessment, Brief Intervention and Referral to Treatment Models

- Screening, assessment, brief intervention and referral to treatment (SBIRT) offers a means to broaden the treatment base and entails two complementary goals. The first goal is to reach a higher percentage of people in need and, for many, at an earlier point in their personal trajectory of substance use and potential harm. The second goal is increased engagement in well-matched substance use interventions and referral to more specialized substance use services, as needed.
- With respect to the aim of SBIRT for increased identification and earlier engagement in services, the effectiveness and feasibility of SBIRT in primary care settings has been largely demonstrated in well-controlled research trials for individuals with mild to moderate substance use issues. However, there is question as to whether these results can be generalized to current primary care settings, given challenges with fidelity to and uptake of the service delivery model, as well as a range of barriers to implementation.
- No firm conclusions can be drawn about the impacts of SBIRT on improved access to, and engagement in, specialized substance use services for individuals with more acute or severe needs that exceed the expertise and capacity available in primary care settings. More clinical trials are needed that specifically evaluate the referral-to-treatment component of SBIRT as a primary outcome, as well as the impacts of SBIRT on access to services for special populations.
- Reflecting the poor uptake of SBIRT in primary care settings, some researchers have proposed that a chronic disease management model may be more appropriate and effective in identifying substance use issues, and providing early supports and access to a broader range of evidence-based services and supports available within the practice setting itself.

Integrated Youth Services Models

- Integrated Youth Services (IYS) is a pan-Canadian and international movement that aims to enhance engagement in and access to integrated and evidence-based services that are responsive to the unique needs and preferences of youth and their families.
- IYS models have generally been successful in engaging large numbers of young people in services, including youth from marginalized groups that have been traditionally underserved and youth who report they would not have otherwise accessed care in the absence of these services.
- Few evaluations of IYS models have focused on the extent to which IYS models are facilitating *rapid* access to services and supports. A small number of initiatives that offer low-barrier access mechanisms such as walk-in services and self-referral have reported challenges with wait times to service.
- While IYS models are guided by core principles and components, how these are operationalized vary considerably in practice and no single example yet constitutes best practice. A common

conclusion across the studies conducted to date is the need for more research, evaluation and performance measurement of IYS models, including the extent to which these models facilitate *rapid* access to more specialized substance use services and supports when needed.

Centralized and Coordinated Access Models

- Centralized and coordinated access models offer an efficient approach to service matching if implemented with standardized processes and tools and monitored with appropriate performance measurement indicators.
- It is challenging to summarize the evidence about centralized and coordinated access models given the various approaches and "active ingredients" across models, the wide variation in scope and community context, and the different methods used to evaluate them.
- Centralized and coordinated access models have strong potential to improve treatment systems through increased coordination and access to services. Many existing models have been structured to meet the specific preferences commonly voiced by clients and families, such as availability of one-stop shops and navigation supports. These features, however, have not been sufficiently evaluated from the perspective of clients and families. Centralized and coordinated access models do not necessarily yield better treatment outcomes. They also come with significant challenges to implementation and require strong leadership and partnerships, stakeholder buy-in and adequate resources.
- Implementation of centralized and coordinated access needs to be complemented by efforts to ensure the adequate capacity of the treatment and support system to provide evidence-based and effective services proportionate to the level of need. This capacity must also be of sufficient size and flexibility to respond to a surge in treatment seeking that centralized and coordinated access models may prompt.
- There is a need for focused evaluation of the required components of centralized and coordinated access models vis a vis members of marginalized populations such as those who experience homelessness, refugees and other newcomers to Canada, and those living in rural and remote regions.
- It is important to pay close attention to the needs of individuals with substance use issues and disorders with and without significant concurrent mental health problems, as many of these emerging models are located in mental health services with limited capacity or competence for assessment and treatment planning for people with substance use concerns.

Summary and Implications

The first objective of this review was to identify, based on available research literature, the core components of rapid access models for substance use treatment services. Meeting this objective was a challenge given the significant heterogeneity in the models themselves, their implementation context, populations served and measured outcomes. There are also critical gaps in the research with respect to gender and other population groups. Notwithstanding these challenges, a high-level perspective on the "critical ingredients" across rapid access models that improve access to substance use treatment services and supports includes the following core principles and features:

- Careful consideration of the target population to be served to **ensure that the full range of severity and complexity** of substance use concerns are being addressed from a population health perspective;

- **Flexibility** in the way in which people access services and supports (e.g., walk-in, telephone, online and appointment-based services);
- **Outreach capability**, especially for those with the most severe and complex challenges;
- **A focus on transition supports** and the overall **coordination of the network of services** surrounding the access focal point, including transitions that will support needs beyond the substance use concern itself, such as primary health care and significant psychosocial challenges;
- **Multi-disciplinary team capacity within the models**, for example, ensuring both substance use and mental health specialists in ACT teams, addiction medicine within access models in healthcare services, integrated teams in service hubs and so on;
- Inclusion of core principles and **evidence-based practices of screening, assessment and stepped care** so as to maximize opportunities for early intervention, as well as linkage to services that will contribute to optimal outcomes based on the initial assessment;
- Inclusion of **both access and outcome indicators** in performance measurement frameworks, with built-in quality improvement processes to continuously improve the program based on the population being served;
- **Active engagement of key stakeholders** in design, implementation and ongoing evaluation, including meaningful engagement of people with lived and living experience.

With respect to the second objective, the research evidence suggests that the rapid access models included in this review have either clearly demonstrated a positive impact on access to services (e.g., RAAM clinics and youth service hubs) or clearly have the potential to increase access (mobile or assertive outreach models). They also hold significant promise for engaging people in substance use services who might not otherwise seek assistance. There is also emerging evidence of the cost-effectiveness of some of these models (most notably RAAM clinics), if one factors in the positive impacts on reduced hospitalizations and emergency department use. However, there are lingering questions about their efficacy for specific populations, the relative importance of core components of specific initiatives and their ultimate benefits in terms of health outcomes and return-on-investment.

Whether any given rapid access models will be successful in engaging and connecting individuals with substance use problems to services and supports appropriate to their needs will always be limited by the extent to which those services and supports, and the competencies of the workforce to deliver them, are available in the broader continuum of care in the local community. Planning for the development and implementation of rapid access models will therefore require a systems approach that is grounded in a solid understanding of the *need* for a continuum of services that correspond to the varying risk, acuity, complexity and chronicity of substance use needs and harms for different populations in a given region, the *range and availability* of these services, the *competencies, training and supports* required to deliver them, and *existing barriers* to accessing them in a timely fashion.

Relatedly, it is not yet known how the broader substance use system of services and supports will be impacted over the long-term by the COVID-19 pandemic, particularly with respect to need and demand for services. Responding to the pandemic has led to important innovations in technology-assisted service delivery, innovations that are likely to remain within substance use treatment and support systems as they emerge out of the pandemic. These changes will have implications for planning models aimed at improving access to services and effectively addressing the unique levels of risk and acuity of needs of the different populations being served.

More focused research and evaluation on the impact of these models on improving rapid access to substance use services is needed. Where possible, research and evaluation also need to address questions related to treatment engagement and early intervention, as well as improved outcomes and cost efficiencies. Further, concerted efforts must be made to identify which components within multi-dimensional service delivery models are most responsible for improved access and for whom. The critical question of improved access "for whom" should prompt a health equity assessment of planning and program development initiatives. This question should also lead to a corresponding research and evaluation agenda to address impacts for specific populations, particularly for all genders, ethnic and cultural groups, and marginalized populations, and different levels of risk and acuity of substance use problems and concurrent disorders.

This review was limited to an analysis of the published literature. It is likely that consultations with experts and key stakeholders would contribute a more nuanced, perhaps jurisdiction-specific, perspective on rapid access models, including their impacts, implementation challenges and alignment with broader system planning. There would also be many issues to explore related to the increased use and sustainability of virtual service options, many of which were newly developed and implemented in response to the COVID-19 pandemic. In addition to their potential impact on access to services, this research should consider what virtual service options might be best viewed as adjuncts rather than alternatives to face-to-face service delivery; how the resulting digital information is integrated into client records and performance measurement systems; and, ultimately, their contribution to client and family outcomes.

1.0 Introduction

Substance use, substance use disorders and related mental health and physical health challenges exact an exorbitant health burden and cost to society. In 2017, substance use cost Canadians almost $46 billion,[1] with alcohol and tobacco use accounting for about two-thirds of those costs (Canadian Substance Use Costs and Harms Scientific Working Group, 2020). Globally, alcohol use is widely regarded as a leading risk factor for death and disability (GBD 2016 Alcohol Collaborators, 2018; Manthey et al., 2019) and accounts for a significant loss in global gross national product (GNP), a broad measure of a nation's total economic activity (Skolnik, 2015).

National, provincial/territorial and municipal jurisdictions struggle to manage this burden of health and related costs, while also providing the direct services and supports to those seeking assistance for at-risk substance use and substance use disorders and the many related comorbidities. Data from the most recent Canadian Community Health Survey — Mental Health (2012) show that 4.4% of the Canadian population 15 years of age and over met criteria for substance use disorders as defined by the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) with significant interprovincial variation (Palay et al., 2019). While prevalence rates are higher for substance use in general among males, the gender gap is closing (Statistics Canada, 2012).

Gender and substance use treatment

There are important gender differences for those accessing support for substance use problems. For example, overall, men are less likely than women to seek help from a healthcare professional for substance use concerns (Harris et al., 2016). Women, on the other hand, tend to have a faster trajectory from non-problematic substance use to hazardous use and problems related to substance use (Poole & Dell, 2005) and so typically present a more severe clinical profile with more medical, behavioural, psychological and social problems than men, despite a shorter and less pronounced substance use history. Pregnant and parenting women face unique barriers to accessing substance use treatment, including additional stigma, lack of childcare, limited financial resources, lack of transportation, limited family or social support, and fear of losing children (Canada FASD Research Network, 2014). These and other gender differences are critical to consider when planning the design and implementation of rapid access models.

A significant proportion of the population experiences a range of problems related to substance use below the threshold for defining a specific substance use disorder, or use alcohol or other substances at a level that puts them at risk of experiencing such problems. Based on an overall population health approach, Rush, Tremblay and Brown (2019) estimate that as much as 20% of the Canadian adult population is at risk of experiencing problems related to substance use, including those with DSM-defined substance use disorders. Prevalence estimates from these and other population surveys are known to be conservative since many populations are excluded from the surveys, including Indigenous people living on-reserve and people living in institutions such as hospitals and correctional facilities at the time of the survey. Further, a large body of research has established that a significant percentage of people who are experiencing substance use disorders experience concurrent mental disorders and vice versa (Health Canada, 2001). The overall degree, however, varies for different groups. For example, the overlap is much lower in the general population and much higher in clients of substance use services where research has shown that as many as 80% experience concurrent mental health disorders (Chan, Dennis, & Funk, 2008).

1 This cost excludes costs associated with inpatient hospitalization, day surgery and emergency departments in the province of Quebec. It is expected that this led to an underestimation of approximately $857 million or 1.9% of total cost.

Substance use disorders are also common among children and adolescents. For example, using data pooled through a meta-analytic strategy, Waddell, Shepherd, Schwartz and Barican (2014) estimated the prevalence at 2.4%. A Quebec-based study shows that including high risk and problematic substance use can bring the prevalence estimate to as high as 10% (Tremblay et al., 2019). Differences based on gender were not available in these reports.

COVID-19

Canadians' substance use has been significantly impacted by the COVID-19 pandemic. In a recent national poll commissioned by the Canadian Centre on Substance Use and Addiction, one in five Canadians reported that their alcohol consumption has increased, both in quantity and frequency, since they have been home more due to the pandemic (Canadian Centre on Substance Use and Addiction & NANOS Research, 2020). This impact is also reflected in rising liquor stores sales in provinces across Canada (Seglins & Ivany, 2020, April 7). These changes are consistent with findings from a recent systematic review that found evidence of an increase in alcohol consumption and withdrawal symptoms in the general public during and after pandemics, including COVID-19 (Rose et al., 2020).

COVID-19 has also worsened Canada's overdose epidemic. In May 2020, B.C. reported 170 overdose deaths, a record number in the province, and more than the 167 deaths due to COVID-19 in that same month. In Ontario, the number of overdose-related deaths during COVID-19 has increased by 25%; and Alberta has seen the number of opioid-related calls to emergency medical services more than double between March and May 2020 (Kapelos, 2020, June 14).

It is not yet known whether these changes in substance use patterns during the pandemic will increase the need for substance use treatment and supports over the long-term, but it has clearly amplified pre-existing gaps in the continuum of services and supports for those with a substance use disorder or experiencing the harms of substance use. Models that increase treatment access and engagement across a full spectrum of risk and problem severity, and include access to effective self-management tools, are more critical than ever. More research and population-level surveillance are needed to evaluate these evidence-based, rapid responses to pandemics from a treatment systems perspective (Rose et al., 2020).

Although the 12-month prevalence of DSM-defined substance use disorders is high — and substantially higher if one considers lifetime prevalence rates and others with less severe but distressing challenges — the percentage of people accessing treatment and support is surprisingly low (Kohn, Saxena, Levav, & Saraceno, 2004), particularly among men (Harris et al., 2016; Reavley, Cvetkovski, Jorm, & Lubman, 2010; see also sidebar), and even among those reporting quite severe challenges, including suicidal thoughts or plans and unmet needs (Pagura, Fotti, Katz, & Sareen, 2009; Sunderland & Findlay, 2013). Urbanoski, Inglis and Veldhuizen (2017) reported that only 11.5% of adult Canadians with substance use disorders accessed some formal helping service for their substance use challenges. Despite the lower rates of seeking help among men, the majority of publicly funded events for substance use treatment service were accessed by men in 2014–2015 in Canada, which reflects the higher prevalence rate of substance use disorder among men relative to women (McQuaid, Di Gioacchino, & National Treatment Indicators Working Group, 2017).

As much as 25% of the Canadian adult population with substance use disorders report unmet needs for support (Sunderland & Findlay, 2013). Even among sub-populations where substance use challenges are known to be more common — for example, among individuals who are homeless or vulnerably housed — help-seeking for a wide range of needs continues to be low (Palepu et al., 2013).

Adolescents also may be less likely than adults to feel they need help or to seek treatment on their own. Given their shorter histories of using drugs, as well as parental and broader community protection, such as from schools, adolescents may have experienced relatively few adverse

consequences from their drug use; their incentive to change or engage in treatment may correspond to the number of such consequences they have experienced (Breda & Heflinger, 2004). Also, adolescents may have more difficulty than adults seeing their own behaviour patterns, including the causes and consequences of their actions, with enough detachment to identify their need for help. Only 17% of youth between 12 to 17-years needing treatment in the United States actually receive substance use services (Substance Abuse and Mental Health Services Administration, 2019). This figure compares reasonably well with a Canadian study that showed that less than 25% of children and youth experiencing significant mental disorders, including substance use disorders, access specialized services (Waddell, McEwan, Shepherd, Offord, & Hua, 2005).

With respect to opioid use disorder specifically, the number of overdose deaths related to opioids has reached epidemic proportions in Canada. For example, more than 15,390 apparent deaths related to opioid use occurred between January 2016 and December 2019, as well as 19,377 hospitalizations for opioid-related poisoning. In 2019, there were more than 21,000 suspected opioid-related overdoses based on Emergency Medical Services data from nine of the 13 provinces and territories (Government of Canada, 2020). While the percentage of people in Canada with opioid use disorder who are engaged in treatment is not known at present, available date from the United States would suggest that the proportion is low. For example, Madden et al. (2018) highlight research showing that from 2000 to 2013, the estimated number of individuals with opioid use disorder in the United States receiving past-year substance use treatment was only 21% and only 15–20% receive medication-assisted treatment.[2]

Access to healthcare

Access is a complex notion and has been interpreted in different ways. The World Health Organization has defined access to healthcare as "the continuing and organized supply of care that is geographically, financially, culturally, and functionally within easy reach of the whole community. The care has to be appropriate and adequate in content and in amount to satisfy the needs of people and it has to be provided by methods acceptable to them" (1978, p. 58).

The College of Family Physicians of Canada defines access as the "extent to which an individual who needs care and services is able to receive them; more than having insurance coverage or the ability to pay for services; determined by the availability and acceptability of services, cultural appropriateness, location, hours of operation, transportation needs, costs and other factors" (2007).

Many factors contribute to low treatment coverage, including individuals' belief they can manage the situation on their own, stigma associated with seeking and receiving help and disclosing substance use challenges, and past negative experiences with seeking help (McQuaid et al., 2017; Urbanoski et al., 2017). Importantly, substance use services may be available in a geographic sense but not in sufficient supply or offer only a limited range of options, resulting in significant wait times, or are otherwise not accessible. Accessibility challenges may mean services are restricted to certain groups of people (e.g., males only, adults only); or the specific location or hours of service may present practical challenges such as transportation, childcare and cost. For Indigenous people, appropriate culture-based services may not be available or otherwise accessible (Urbanoski, 2017).

An important and reasonably consistent finding in the available research is that people with substance use challenges access a variety of services, including specialized services such as substance use withdrawal management and treatment programs and medical or psychiatric specialists, as well as more general services such as those offered by primary care physicians, psychologists and family counsellors (Cohen, Feinn, Arias, & Kranzler, 2007; Urbanoski et al., 2017). Hospital-based services, including emergency services, are frequently accessed by people with

2 Canadian data on coverage of treatment for opioid use disorder are not available, but are the subject of current research in Ontario.

substance use challenges, and use of these service is significantly higher for those with a concurrent disorder (Canadian Institute for Health Information, 2013; Kêdoté, Brousselle, & Champagne, 2008). As will be discussed below, these contacts with the medical system provide significant opportunities for identifying substance use issues, intervening earlier to address risks and harms, and providing referral to more specialized and intensive services when needed.

Technology and access to substance use services

Technology offers significant promise in expanding the reach of substance use services and improving access to them. Examples include web-based platforms to help identify substance use issues and support self-management in primary care settings; telemedicine for direct service delivery and consultations between service providers; and common electronic medical records to support information sharing across the circle of care for better coordination and integration of services.

Prior to the COVID-19 pandemic, Canada had yet to realize the full potential of technology within the broader healthcare system, particularly the use of telemedicine (Owens, 2018), although there were regions in the country where telemedicine uptake was more significant, such as in northern and rural regions of Ontario via the Ontario Telemedicine Network (O'Gorman, Hogenbirk, & Warry, 2016). There were, however, pockets of innovation emerging, including in the substance use sector. For example, telemedicine was beginning to make important inroads in the delivery of opioid agonist treatment with some evidence that it may even be more effective than in-person treatment in retaining individuals with opioid use disorder in care (Eibl et al., 2017). Further, Project ECHO (Extension for Community Healthcare Outcomes), a virtual distance education model implemented in both British Columbia and Ontario, has also been found to increase physician engagement in substance use treatment, particularly for opioid use disorders (Komaromy et al., 2016).

In response to the pandemic, many substance use treatment agencies across Canada quickly adopted technology to ensure continued delivery of substance use treatment and supports. The Canadian Research Initiative in Substance Misuse released national guidelines on the use of telemedicine in the delivery of substance use services, which included, for example, modifications to prescription rules to allow for virtual witnessing of dosing (Bruneau et al., 2020). It is not yet clear what the impacts of these changes, made from necessity, have had on the quality of service delivery and access to services. What is clear is that COVID-19 has pushed all Canadians toward virtual service delivery and, in so doing, has provided an opportunity to test our comfort and ability to adapt. It may also have opened the door to technological innovations that will improve access to substance use services long after the pandemic has been resolved. If that is the case, we will need to understand which population groups benefit from these innovations and why others may not. Questions such as these should ideally be considered in the context of a broader evaluation framework that also examines, for example, the acceptability, usability and efficacy of virtual service options as adjuncts rather than standalone tools to improve access and deliver care; how the resulting digital information is integrated into client records and performance measurement systems; and, ultimately, their contribution to client and family outcomes (Quintana & Torous, 2020).

It is also important to highlight that improvements to the accessibility of substance use services contribute to improvements in subsequent outcomes. Working with street-involved youth, DeBeck et al. (2016) examined the relationship between being unable to access substance use treatment services and injection drug initiation. Among 462 participants who were injection naïve at baseline, 97 (21%) initiated injection drug use over the study follow-up and 129 (28%) reported trying but being unable to access substance use services in the previous six months at some point during the study period. The most frequently reported reason for being unable to access treatment was being put on a waiting list. Further, the analysis showed that being unable to access treatment was associated with a more rapid rate of injection initiation. Butler and Swanton (2008) and many earlier studies (Ball & Ross, 1991; Greenfield, Brady, Besteman, & De Smet, 1996; Condelli, 1993; Hubbard & Jordan, 1989) also demonstrate that accessibility to treatment increases the likelihood that individuals with a substance use disorder will engage in and remain in treatment.

Barriers to timely access to appropriate substance use services is an ongoing issue across Canada. Over the last two decades, if not longer, improvements to accessibility of substance use services, including those for people with concurrent disorders, has been a common theme through major national reports, including by CCSA's National Treatment Strategy Working Group (2008) and the Mental Health Commission of Canada (2017), as well as in recent provincial and territorial strategic plans such as those from Manitoba (VIRGO Planning and Evaluation Consultants Inc., 2018), Newfoundland and Labrador (All-Party Committee on Mental Health and Addictions, 2017), Nova Scotia (Province of Nova Scotia, 2019), Ontario (Government of Ontario, 2011) and Saskatchewan (Stockdale Winder, 2014). Accessibility of services is now widely accepted as a key dimension of quality improvement and performance measurement frameworks (Urbanoski & Inglis, 2019).

In summary, despite the high prevalence of substance use disorders and harms related to substance use among Canadian adults and youth, and the corresponding health burden and cost to society, the percentage of people accessing treatment and support from the specialized substance use sector is low. And among those who do access services, a significant proportion report unmet need. Many Canadians do, however, access supports from other sectors of the health and social system. This fact presents a significant opportunity and a strong rationale for integrating substance use treatment and supports in these other sectors to address the broad spectrum of risks and harms associated with substance use. This vision for an integrated and holistic system is reflected as a key recommendation in the Canadian Centre on Substance Use and Addiction's national substance use treatment strategy (National Treatment Strategy Working Group, 2008) and, specifically, in the tiered model that organizes a continuum of services and supports to correspond to the varying acuity, chronicity and complexity of substance use among Canadians.

In response to these ongoing concerns about access, and reflecting the need for better integration within the broader health and social sector, there has been a proliferation of new models to facilitate rapid access to substance use services and supports in several jurisdictions across Canada. Examples include Rapid Access to Addiction Medicine (RAAM) programs, youth service hubs, centralized or coordinated access models, and various models to integrate substance use services and supports in healthcare contexts where these problems are frequently encountered (e.g., primary care, emergency departments). Moreover, these models are being implemented at a time when many jurisdictions are undergoing significant health system transformations, while also developing additional system responses to prepare for a potential surge in demand for substance use services and supports as we emerge out of the COVID-19 pandemic. Though not the original intent of this review, reflecting on the extent to which these models are achieving the goal of increasing access to substance use services may also be helpful in responding to COVID-19, including a potential second wave of the pandemic.

The nature of these models and the research regarding their efficacy are the subject of this report.

1.1 Objective of This Review

The objectives of this review are to identify and summarize the available research evidence about:

1. The core components of various rapid access models designed to facilitate access to and engagement in substance use treatment services; and
2. The extent to which these rapid access models have resulted in improved access to services.

This review is intended for a broad audience, including policy makers, system planners, service providers and researchers.

2.0 Method

2.1 Scope: Defining "Rapid Access"

To identify which models were most relevant to include in this review, a key challenge was to first operationalize the concept of access and, specifically, "rapid access." Access is a multi-dimensional characteristic of health systems, including those systems focused on treatment and support for challenges related to substance use. The many dimensions to access that can be variably influenced by different features of a rapid access model include (Levesque, Harris, & Russell, 2013):

- **Approachability:** People with healthcare needs can identify that services exist, that they can be reached, and that they can have an impact on their health; requires capacity to perceive need for care on the part of the client and, on the part of services, transparency and information about available treatments and supports, and outreach activities.
- **Acceptability:** Clients accept different aspects of a service and view them as adequate; influenced by personal, professional and social value, culture, gender and autonomy.
- **Availability and accommodation:** Healthcare services can be reached in a timely manner; availability is influenced by characteristics of facilities, community context, service providers and modes of delivery; clients require personal mobility, transportation, occupational flexibility and knowledge about services.
- **Affordability:** Client are able to pay for services; relates to the economic capacity of people to spend resources on services.
- **Appropriateness:** There is a fit between services and clients' needs and services are timely, effective and efficient in matching clients to services; requires the ability for clients to engage in decisions related to their treatment.

The concept of "rapid" access brings with it a more specific focus on the length of time it takes to receive a service. Similar to access more broadly, rapid access can be operationalized in different ways, each of which require different strategies and considerations. One common interpretation of rapid access is speedier access to services than the norm (e.g., reduced waiting time compared to program- or sector-specific benchmarks). This goal may be supported by a range of different strategies such as increasing the number of service providers in a community and integrating them into different settings; streamlining intake processes; and expanding service eligibility criteria.

"Rapid" can also mean swifter access to a meaningful intervention after the first point of contact. Such access could include earlier access to services for those with lower levels of severity that may be provided in settings outside of the specialized substance use sector, such as in primary care clinics, hospitals, schools and so on. This goal may be supported, for example, by innovations that proactively screen for substance use risk and related challenges and quickly link the individual to services based on explicit matching criteria. Rapid access can also mean easier re-entry or transition to a treatment service or a service network, following receipt of service. This interpretation points to the need for strategies that facilitate transitions, such as case management services.

Two additional considerations were identified as relevant to models designed to enhance rapid access to substance use services and supports. The first relates to the degree to which individuals recognize the need for support and are motivated to make the first contact with a service. This consideration points to the importance of engagement strategies such as outreach that are designed to bring more

people in need into service. Secondly and relatedly, innovations to facilitate motivation and retention once a client is engaged in a service is also critically important, since retention is a key indicator of treatment success (Hser, Evans, Huang, & Anglin, 2004; Zhang, Friedmann, & Gerstein, 2003).

Collaborative care and other forms of integrated service delivery in a variety of settings (e.g., primary care, mental health services, supportive housing, harm reduction services) also hold promise in improving access to substance use and other needed treatment and support services (Addiction and Mental Health Collaborative Project Steering Committee, 2015). However, because the body of literature in this area is quite broad and diverse, a decision was made to exclude these forms of integrated service delivery from the review.

The above definitions and related considerations led to the selection of five rapid access models, which reflect a "package" of mechanisms aimed at improving access, as operationalized above. These five models are:

- Hospital-affiliated models
- Mobile or assertive outreach models
- Screening, assessment, brief intervention and referral to treatment models
- Integrated youth services models
- Centralized and coordinated access models

2.2 Search Strategy

Research literature for this rapid review was obtained through scholarly database searches, general Internet searches (Google), manual searches of reference lists of highly relevant documents, and, for a small number of documents, contact with a key expert. The following scholarly databases were accessed: MEDLINE, Embase, CINAHL, PsycINFO, and Google Scholar. Examples of search terms include: "screening brief intervention referral", "mobile", "outreach", "integrated youth services", "youth service hubs", "rapid access", "assertive community treatment", "assertive outreach", combined with "addiction" or "substance use". Searches were limited to English language publications and those published in 2000 or later.

The amount of research literature available varied for the different rapid access models. It was possible to rely on systematic and meta-analytic reviews to summarize the literature for screening, brief intervention and referral to treatment (SBIRT), it being the most established and researched rapid access model. Systematic reviews were also available for the youth services hub model, although reflecting a smaller body of literature.

3.0 Rapid Access Models

3.1 Hospital-affiliated Models

Key Points

- Substance use disorder is a common presenting issue in hospitals and is associated with longer stays in care and high rates of repeat hospitalizations.
- Rapid access models have emerged in hospital settings to engage patients in substance use treatment following identification of a need. They typically facilitate access to addiction medicine services and pharmacotherapy, and offer support to help patients transition to community-based substance use services and other supports.
- Evaluations have found rapid access models in hospital settings to be successful in engaging and retaining patients in ongoing substance use treatment and in reducing emergency department (ED) visits, repeat ED visits and inpatient care. Early research in Ontario is suggests they are cost-effective.
- Systematic reviews are needed before any conclusions can be drawn about the key features of rapid access models in hospital settings that are most responsible for positive impacts and whether these models represent a best practice along the continuum of care.
- More research is also needed about the impacts of these models on access for specific populations, including for the most vulnerable populations, and on other outcomes such as enhanced capacity to provide substance use services within the broader system of care.

In 2018, more than 450 Canadians were hospitalized every day for alcohol and drug harms — more than for hospitalizations related to stroke and heart attack combined (Canadian Institute for Health Information, n.d.). Rates of hospitalization for harms caused by substance use appear to be on the rise. In 2018–2019, 505 per 100,000 Canadians were hospitalized, up from 477 per 100,000 in 2017–2018 (Canadian Institute for Health Information, n.d.). The rate of increase was larger for females (7%) than for males (5%), although males continue to account for about two out of every three hospital stays. Alcohol continues to contribute to more than half of hospital stays, but other substances are increasingly associated with hospitalization. Between 2017–2018 and 2018–2019, hospitalizations related to central nervous system stimulant use increased by 23%, cannabis use by 11% and cocaine use by 10%.

Among youth between 10 and 24 years of age, one out of every 20 hospital stays were substance-related (Canadian Institute for Health Information, 2019a). In contrast with adults, for whom males are more commonly hospitalized, girls account for two out of every three hospital stays (Canadian Institute for Health Information, 2019b).

Patients who use substances are also more likely to have frequent visits to emergency departments (EDs; Hann et al., 2020) and tend to have longer lengths of stay in this resource-intensive service (Brubacher et al., 2008; Hann et al., 2020). The Canadian Institute for Health Information (2020) reports that nearly one in 10 Canadians who visit the ED for help with mental health or substance use challenges or both have four visits a year. Having both a mental health and substance use issue accounts for almost half of frequent ED visits related to mental health and substance use, compared to 32% for mental health conditions only and 19% for substance use issues only. As with

hospitalizations, men are more likely than women to have frequent ED visits related to substance use; and girls are more likely than boys.

Hospitalizations and frequent ED use may be an indicator that individuals with substance use concerns are not getting access to the services or support they need in the community (Canadian Institute for Health Information, 2019c). Hospital and ED settings may therefore be important to engaging individuals in substance use treatment and supports at a point when they are more motivated to do so and to transition them to community-based treatment and supports.

Canadian researchers recently conducted a study to identify the potential need for an on-site rapid-access addiction clinic at an urban tertiary care trauma centre in the province of Alberta (Hann et al., 2020). They found that, over the 10-week period of the study, an average of 4.3 patients per day would have been referred to the rapid access addiction clinic from the ED, a significant number out of the 185 unique adult visits that the centre served daily, on average, in 2018. Because the study did not use a formal screening process for substance use disorders, the researchers highlight the likelihood that some eligible patients were missed and that this measure of need is an underestimation, pointing to a "growing public health issue" (p. 176).

This study confirmed the strong case for rapidly engaging patients in substance use treatment services while receiving care in hospital and ED settings. Unfortunately, these settings do not generally provide these services and they also have challenges connecting patients to substance use services following discharge (Hann et al., 2020). Rapid access models have emerged in response to this need and opportunity. In Canada, based on successful pilot work as part of the Mentoring, Education, and Clinical Tools for Addiction: Primary Care-Hospital Integration (META:PHI) initiative described below, Ontario has established 46 publicly funded Rapid Access to Addiction Medicine (RAAM) clinics. RAAM clinics have also been established in Manitoba (Government of Manitoba, 2018). The next section presents the available research evidence about rapid access models that have been implemented in both the United States. and Canada.

Evidence

Various rapid access models have been trialed in the United States and Canada. These models have ranged in scope, intensity of service, processes to facilitate access and service setting. O'Toole, Pollini, Ford and Bigelow (2007) conducted a non-randomized clinical trial to determine whether a day hospital intervention that integrated substance use treatment and medical care would reduce subsequent ED use, engagement in ambulatory care and rehospitalization. In addition to substance use services, the day hospital provided primary and specialty medical care and access to a range of allied health services. Patients enrolled in the study were assigned to either the day hospital intervention (n=63) or to usual care (n=327), with patients in both groups receiving referral to outpatient substance use treatment upon discharge. Patients in the day hospital intervention were significantly less likely to have three or more ED episodes and more likely to have one or more ambulatory care visits. The opposite results were found when patients who did not complete the program were included in the analysis. No gender analysis was reported.

A larger initiative was implemented in the state of Oregon to provide hospital-based addiction medicine consulting services to hospitals across the state. The Improving Addiction Care Team (IMPACT) includes services from addiction medicine physicians, social workers and peers with lived experience in recovery. Patients with a known or suspected substance use disorder are referred to IMPACT by inpatient medical and surgical providers and hospital social workers. The program is open to patients with any substance use disorder, excluding tobacco use disorders alone, regardless of readiness to change or interest in treatment. Patients have access to pharmacotherapy, behavioural

treatments and harm reduction services, as well as transitional care support and discharge planning facilitated by referral pathways to community-based care (Englander, Mahoney et al., 2019). Transitions are also supported by "in-reach" liaisons — community substance use treatment staff who perform in-hospital assessments to triage and coordinate care across systems (Englander et al., 2017).

In a state-wide evaluation, Englander, Dobbertin and colleagues (2019) found that IMPACT patients (n=208) engaged in substance use treatment following discharge more frequently than patients with similar substance use profiles who did not receive services from IMPACT (38.9% vs. 23.3%). No gender difference with respect to this outcome was found. The prevalence of polysubstance use in the patients in the study was high, making it difficult to explore the impacts of the program for discrete substance use disorders. Two groups were feasible to compare: (1) patients with any opioid use disorder and (2) patients with other substance use disorders, inclusive of alcohol use disorder and stimulant use disorders. Patients with opioid use disorder had greater odds of engaging in treatment than those with other substance use disorders. The researchers hypothesized that this difference may be due to greater uptake and effectiveness of medications for opioid use disorder compared with medications for other substance use disorders, particularly methamphetamine use disorder.

Koser, Weiner, Suzuki and Price (2019) described the impacts of the first year of operation of a substance use "bridge clinic" located close to an ED in Boston, Massachusetts. This clinic provides rapid and low-barrier access to initial treatment, including opioid agonist treatment using buprenorphine, with transition to longer-term care. Clinic staff include a medical provider who can prescribe pharmacotherapy, a resource specialist who connects patients to social services and recovery coaches. During the first year, three-quarters (75%) of the 325 patients referred to the clinic had at least one visit. Of these, 54% were actively engaged in clinic services, 35% were bridged to other facilities and 11% were lost to follow-up. Among a sample of 98 patients with service utilization data available for a six-month period preceding and following their referral to the clinic, ED visits and hospital admissions decreased by 45% and 37%, respectively. No gender analysis was reported.

Finally, Blanchette-Martin and colleagues (2016) described the treatment trajectory of patients in three hospitals in the province of Quebec who received a brief intervention and referral to treatment from an addiction liaison nurse (ALN). ALNs serve patients in EDs and other hospital departments; their roles include receiving service requests from hospital physicians, psychiatrists, nurses and social workers, connecting with the medical team, completing patient assessments, conducting brief motivational interventions and making referrals to the appropriate substance use disorder service. There is no formal screening process to be seen by an ALN. ALNs involved in the study were drawn from several health and social service professions and services, including nursing, psychology, social work and psychoeducation, and were expected to have expertise in substance use disorders, including withdrawal assessment, and strong knowledge of intervention services in their area. ALNs are employed by a local substance use treatment facility, a connection that supports their service coordination role, but work most of their time in the EDs of the hospitals participating in the study.

The study found strong engagement in ALN services and to a significant extent in specialized substance use services, especially for individuals with no previous substance use treatment history. Out of a total of (n=2,082) service requests, over two-thirds of which were for men, 90% received an ALN assessment, 78% received a referral to an addiction program, 50% attended a specialized addiction assessment and 41% participated in one or more treatment activities after specialized assessment. Importantly, of those who participated in the specialized addiction program, 88% had no active file in the centre, representing 44% of the initial ALN requests. The researchers highlighted varying efficacy among hospitals based on the particular organization of hospital services and the type of patients coming from the local neighbourhood.

Rapid access models focused exclusively on the treatment of opioid use disorder have also been tested in hospital and ED settings. D'Onofrio et al. (2015) conducted a randomized trial in the ED of a U.S. urban teaching hospital to evaluate the impacts of initiating opioid agonist treatment with buprenorphine in the ED, together with referral to primary care for 10-week follow-up. Following initiation, patients (n=114) received sufficient take-home daily doses until their scheduled appointment in the hospital's primary care centre, occurring within 72 hours. After ten weeks of office-based buprenorphine treatment, patients were then transferred for ongoing opioid agonist treatment with a community provider.

The buprenorphine study participants were compared to two other study groups in the ED: patients who received screening and referral to treatment (referral; n=104 patients) and patients who received screening, brief intervention and facilitated referral to community-based services (brief intervention; n=111 patients). Thirty days after randomization, 78% of patients in the buprenorphine group were engaged in addiction treatment compared to 37% and 45% in the referral and brief intervention groups, respectively. Patients in the buprenorphine group were also less likely to use inpatient addiction treatment. At the two-month assessment, the buprenorphine group continued to be engaged in formal addiction treatment at a significantly higher rate than the other two groups and to report significantly less illicit opioid use. These differences in outcomes did not persist at the six- and 12-month assessments. The gender of study participants was not reported.

A second study in Canada explored the impacts of a program offering buprenorphine/naloxone treatment for opioid use disorder that was initiated in the ED and then transitioned to community-based addiction services (Hu, Snider-Adler, Nijmeh, & Pyle, 2019). Eligible patients who consented to treatment received an initial dose of buprenorphine/naloxone and were discharged from the ED with up to three daily observed doses, a request to the pharmacy to provide take-home naloxone, and a faxed referral to the rapid access addiction clinic (RAAC). Patients were also advised to go to the RAAC for their first appointment the day following their discharge from the ED.

Of the 49 patients screened as eligible for the study, 88% (n=84) consented to participate in the program. Following discharge, 54% of patients referred for follow-up with an outpatient RAAC attended the initial appointment, typically within three days. Six months after ED discharge, 35% had ongoing buprenorphine/ naloxone treatment, 2.3% were successfully withdrawn off opioids, and 16% started and stopped buprenorphine/naloxone treatment. At three- and six-months after discharge from the ED, patients receiving ongoing treatment in the community had significantly fewer total ED visits compared to patients who either did not show up for outpatient follow-up or who started and stopped treatment. No gender analysis was reported.

As mentioned earlier, RAAM clinics have expanded in Ontario as part of the META:PHI initiative, which started in 2015. META:PHI supports the creation of integrated care pathways within healthcare systems. In these care pathways, patients presenting to any healthcare setting, including withdrawal management services, hospital, psychiatry and primary care, receive evidence-based substance use services. Upon discharge, they are connected to a RAAM clinic that they can access without a booked appointment or formal referral. There they receive brief counselling from an addiction specialist and are prescribed appropriate addiction medications. Social workers or nurses also provide case management support and links to community services. Once stabilized, patients are referred back to their primary care provider for long-term follow-up, but can access ongoing support from the RAAM clinic as needed (META:PHI, n.d.). Integration of services across the larger circle of care can also be supported by a shared electronic medical record and electronic consultation (Wiercigroch, Sheikh, & Hulme, 2020).

Early evaluation results of 14 patients served at one RAAM clinic showed significant impacts on service utilization. After three months of operation, ED visits decreased by 63%, use of withdrawal management services decreased by 97%, and inpatient treatment decreased by 80%. It was also estimated that the RAAM clinic resulted in a net total healthcare savings of approximately $71,000, factoring in the costs to run the clinic (Lillico, 2017). RAAM clinics were also found to significantly reduce wait times for addiction specialists, in some cases from eight months to less than three days (Health Quality Ontario, n.d.). Patients reported positive perceptions of care, including of staff and effectiveness of services (Lillico, 2017), and they reported that the patient-centred model reduced the stigma they experience (Health Quality Ontario, n.d.).

Corace et al. (2020) reported the results of a study exploring the impacts of an outpatient RAAM clinic implemented at a large tertiary mental health facility in Ottawa, Ontario. The RAAM clinic, called the Alcohol Medical Intervention Clinic (AMIC), has a mandate to reduce 30-day visits to the facility's ED, to improve access to care for people with alcohol problems, and to build capacity within the system to treat alcohol use disorders. AMIC is staffed with addiction medicine physicians, nurses, social workers, a system navigator, and clinical psychologists and psychiatrists who provide consultation services. Services include assessment, treatment (including medical withdrawal management), triage, transition to appropriate levels of care, and navigation supports to other treatment services and primary care.

Over the one-year period of the study, 60% (n=248) of the 411 unique patients who were referred to AMIC, the majority of whom were male, presented to services. Based on a review of the medical charts of the 194 patients who provided consent to participate in the study, 30-day visits and re-visits to the facility's ED were found to be reduced by 82%, total alcohol-related 30-day ED revisit rates by 8%, and total alcohol related ED visits by 10%. Transition and navigation services offered by the AMIC were also found to be effective. Approximately 36% of patients were transferred to different levels of withdrawal management services and 15% of patients were connected to other specialized substance use or concurrent disorder services offered within the hospital. Most AMIC patients (61%) were also connected to community services with support from the system navigator. No gender analysis was reported.

Most recently, Wiercigroch et al. (2020) reported on the demographic profile, referral patterns and short-term outcomes for patients attending a new META:PHI RAAM clinic in Toronto, Ontario. Over the first 26 weeks of the clinic's operations, 64 unique patients, the majority male, were served. More than half of these patients (55%) were referred by primary care providers, followed by EDs (30%) and a withdrawal management service (11%). Alcohol use disorder was the most common presenting issue (66%), followed by opioid use disorder (39%) and stimulant use disorder (20%). The clinic demonstrated high retention with 74% of patients with alcohol use disorder and 68% of patients with opioid use disorder retained in care over the study period. The clinic was also successful in engaging clients in evidence-based pharmacotherapy. Almost all (93%) of the patients with alcohol use disorder who were retained in care were prescribed medication (most commonly gabapentin and naltrexone) and most (65%) of the patients with opioid use disorder were prescribed buprenorphine. Almost two-thirds of patients with opioid use disorder who were retained in care remained on buprenorphine treatment at their most recent visit. No gender analysis was reported.

Summary

Substance use disorders are a common presenting issue in hospitals. That hospitalized patients with substance use disorders tend to have longer stays in care and high rates of repeat hospitalizations indicates that they may not be getting access to the services or the support they need in the community. Rapid access models that aim to engage hospital and ED patients in substance use

treatment have emerged in response to this need and opportunity. Ontario has established 46 RAAM clinics and they have also been established in Manitoba (Government of Manitoba, 2018).

The rapid access models described in the literature have a number of features in common and some important distinctions. These include:

- *Entry pathways:* All models offered rapid access to substance use services after a need was identified. Access was most commonly facilitated by referral from service providers working within hospitals and EDs. RAAM clinics in Ontario also accept self-referrals and referrals from services other than hospitals and EDs, including from primary care and withdrawal management services.
- *Addiction medicine:* Most of the rapid access models included in this review offered access to addiction medicine services and pharmacotherapy. This access is significant given that evidence-based medications for alcohol use disorders have been shown to be under-prescribed (Spithoff, Turner, Gomes, Martins, & Singh, 2017).
- *Transition supports:* All of the rapid access models included supports to help patients transition to community-based substance use services. The scope and intensity of these supports varied across the different models and included discharge planning, referrals and referral pathways, "in-reach" liaison workers and "bridging" medication prescriptions.

The rapid access models included in this review demonstrated positive impacts in the following areas:

- *Engagement in rapid access services:* In those studies that reported data for this outcome, the majority of patients referred to rapid access models engaged with the services.
- *Engagement and retention in ongoing substance use supports:* Clients who are successfully connected to rapid access models in hospital and ED settings tend to continue to engage in ongoing treatment, either within the model itself or through linkages with community-based services.
- *Reduction in use of resource-intensive services:* Several studies demonstrated significant reductions in ED visits, repeat ED visits, hospitalizations and inpatient care.

While systematic reviews of rapid access models are not yet available, precluding any conclusions about these services as a best practice in the continuum of care (Taha, 2018), the high rates of treatment engagement and retention are promising. More research is needed about the impacts of these models on specific populations, including the most vulnerable populations (Corace et al., 2020), and on more distal outcomes, such as enhanced capacity to provide substance use services within the broader system of care. More analysis is also needed about the cost-effectiveness of these models. Results from the RAAM models in Ontario suggest a positive return on investment given the moderate costs, the reduced demand and associated costs of ED visits, and positive impacts on harmful substance use (not discussed in this review; Corace et al., 2020).

3.2 Mobile or Assertive Outreach Models

Key Points

- Outreach models deploy specialized mobile response clinicians or teams to the home or community locations of individuals at high-risk of substance use issues to engage them in treatment, services and supports.
- Outreach efforts can fall on a continuum from opportunistic to more assertive, with assertive community treatment (ACT) representing the most formalized, structured and proactive model of outreach.
- Standards in Canada for ACT teams supporting individuals with severe mental health issues include a requirement for expertise within the team to address concurrent substance use issues. In practice this capacity has been found to be variable.
- Two studies that explored the impacts of ACT on treatment access and engagement for individuals with substance use issues found that ACT resulted in faster access to treatment services and higher retention in care compared to a more traditional approach to substance use service delivery that did not include outreach.
- A small number of studies evaluated the impact of mobile clinics that are more loosely organized around the ACT model. Promising results were reported with respect to engaging marginalized individuals with substance use issues in specialized treatment.
- More research is needed for mobile or assertive outreach models for individuals with substance use issues, including the extent to which these models facilitate *rapid* access to substance use services and supports.

Outreach models deploy specialized mobile response clinicians and teams to the home or community locations of high-risk populations to potentially motivate them to engage in treatment (Langabeer et al., 2020). Outreach efforts can fall on a continuum from opportunistic to more assertive, with ACT representing the most formalized, structured and proactive model of outreach. ACT was originally developed in the 1970s to support people with severe mental illness and co-occurring mental and substance use disorders in the community over long periods of time. Services have a comprehensive focus on health, material resources and coping skills, aim to engage patients in treatment, and prioritize low client caseloads to facilitate intensive support (Fincham-Campbell et al., 2018).

Practice standards in Canada, such as those in British Columbia (Ministry of Health Services, 2008) and Ontario (Ministry of Health and Long-Term Care, 2005), include a requirement for ACT teams focused on people with severe and persistent mental illness to include a substance use specialist who will conduct assessments for substance use issues and deliver services as appropriate. The capacity to meet this requirement for concurrent disorder capability may vary across teams. For example, one Ontario study exploring how well ACT teams met the province's program standards found particularly low compliance with the standard requiring teams to provide concurrent disorder services, including assessment, active treatment, motivational counselling and relapse prevention (Randall, Wakefield, & Richards, 2012).

More recently, there has been interest in applying the ACT model to specifically engage individuals with complex substance use concerns, especially those with poor engagement in treatment services. Drummond et al. (2017) identified effective elements of assertive outreach from studies conducted

in the United Kingdom. Based on their review, they developed and tested a structured ACT model for individuals with alcohol dependence that consisted of the following elements:

- A maximum caseload of 15 ACT patients per practitioner.
- Input from a multidisciplinary team, including psychiatrists and substance use specialists.
- Regular contact (minimum of once a week) with 50% of contacts occurring outside of the service settings either in the patients' home or neighbourhood and with short frequent contacts rather than long complex contacts encouraged.
- Assertive engagement with persistent and repeated attempts to contact and an emphasis on maintaining contact and building relationships.
- A focus on both health and social care needs, including accommodation, leisure, occupation, and physical and mental health.
- A flexible approach, focusing on the patient's goals even when these are peripheral to the alcohol dependence.
- Practitioners are explicit about their role both in care planning and in visits.
- An ethos of "going out of your way," where practitioners are encouraged to step outside of professional roles and "go the extra mile" for patients.
- Extended care provided for a prolonged period of one year.

Other forms of innovative outreach models have also emerged that employ mobile clinics, typically vans and recreational vehicles, either as an alternative to traditional office-based care or as a gateway to connect clients to these services. Mobile health clinics are not an innovation and have been widely implemented in the United States (Yu, Hill, Ricks, Bennet, & Oriol, 2017). A systematic review of mobile health units operating in the United States found that they are effective in reaching high-risk or stigmatized populations and are able to attract different sectors of society to engage in screenings for various illnesses. It also found evidence suggesting the model is cost-effective due to earlier engagement in health care, improved ability for clients to self-manage health conditions, reduced ED visits and hospital admissions, and improved quality of life (Yu et al., 2017). There is insufficient research data to draw any conclusions about the effectiveness of mobile health clinics or to identify the critical or core ingredients that specifically target populations with substance use issues, particularly given the significant variation in services offered, approach to service delivery and populations served (see more below).

Mobile health clinics are becoming more commonplace in Canada. Early in 2020, plans were announced to expand the Health for Good initiative, which provides essential primary medical care, mental health and substance use services, and related supports out of specially equipped clinics on wheels. Funded by Telus and delivered in partnership with local community agencies, these clinics are active in cities across Canada, including in Montreal, Vancouver, Victoria, Calgary, Edmonton, Ottawa, Waterloo Region and Halifax. The mobile health clinics are designed to address common barriers to accessing healthcare services and are also equipped with electronic medical record and wi-fi network technology to allow practitioners to collect and store health data, examine results over time and provide better continuity of care to patients who previously had undocumented medical histories. The program provides 20,000 patient interventions per year nationwide (Telus, 2020).

Evidence

A small number of studies were identified that investigated the impact of mobile and assertive community outreach on treatment access and engagement for individuals with substance use issues. These studies targeted different populations with substance use issues, including individuals who experience homelessness, individuals at high risk due to opioid use or injection drug use, individuals with alcohol use disorder, individuals with HIV/AIDS and female sex workers.

While a number of studies have evaluated individual components of ACT for the treatment of alcohol dependence with positive outcomes (Drummond et al., 2017), only a small number have evaluated the impacts of a more formal and comprehensive ACT model designed specifically to support individuals with substance use issues. Passetti, Jones, Chawla, Boland and Drummond (2008) used a non-randomized parallel cohort design to compare a flexible access clinic that employed ACT methods (n=188 participants) to a usual care clinic (n= 223 participants) for adults, mostly male, with alcohol dependence. The ACT service had the following characteristics: targeted clients with a history of disengagement from substance use services, small caseloads, operated proactively and assertively, flexible access to services in the community when needed, and a multidisciplinary team supported by a care coordinator. The flexible access clinic was found to be significantly more effective in engaging clients in timely services. Individuals referred to the ACT service were offered access to a first assessment on average five days after referral, nearly four weeks earlier than clients served by the usual care clinic. They also entered after care earlier. More clients in the ACT services were also retained in treatment, with one in four individuals entering after care, compared to one in seven clients of the usual care clinic. No gender analysis was reported.

This review identified only one randomized clinical trial that evaluated the impacts of ACT for individuals with substance use issues, a United Kingdom pilot reported by Drummond et al. (2017). A total of 94 participants with alcohol use dependence, the majority of whom were male, were randomized to either an ACT group or a treatment as usual group. The ACT intervention was guided by an intervention manual and included effective elements of assertive outreach from U.K. studies. At the 12-month follow-up period, 98% of the ACT clients were still in contact with the service, compared to 88% of the treatment as usual group. Compared to the treatment as usual group, ACT clients were found to be in contact with services for a significantly longer period of time, received a greater number of contacts during treatment, and used significantly more alcohol day care and outpatient services. At the six-month, but not the 12-month follow-up, ACT clients also had significantly fewer inpatient days and outpatient visits to non-alcohol-related services, and more visits to their primary care provider. No gender analysis was reported.

Other assertive outreach models that included some but not all elements of the ACT model have also shown promise in increasing access to and engagement in substance use services for high-risk and marginalized populations. Kuo et al. (2003) evaluated an opioid agonist treatment service that operated out of a mobile clinic. The service offered levomethadyl acetate hydrochloride (LAAM). Needle exchange programs referred clients who had expressed an interest in drug use treatment to this service. Eligible clients were non-randomly assigned to either the no-cost LAAM treatment program, which operated out of a 35-foot customized recreational vehicle, or a subsidized, conventional methadone maintenance program in a community- based hospital setting. Of the 163 mainly male clients referred to the LAAM treatment during the study period, 70% (n=114) accepted the LAAM referral and entered the program, a rate that exceeds the rate for persons referred from needle exchange programs to conventional, fixed-site methadone maintenance treatment programs. Nearly two-thirds of these individuals had never been enrolled in a non-detoxification drug treatment program before. There was an average lag time of four days between the referral and the initial

program appointment. Of the clients who enrolled in the program at least 90 days prior to the study's end, 84% (n=69) were actively enrolled in the treatment program for at least three months. No gender analysis was reported.

Fisk, Rakfeldt and McCormack (2006) conducted a study to describe the treatment trajectories of clients who participated in the Outreach and Engagement Project, which provides intensive, community-based clinical, case management and rehabilitative services to individuals who experience homelessness with one or more substance use or mental disorders, including concurrent disorders. Individuals eligible for the program also must have multiple needs, have no previous connection with the mental health or addiction system, and have experienced barriers to their ability to engage in or sustain involvement in substance use services. Outreach workers provided details about the referrals and subsequent treatment utilization of 119 program mainly male clients who were on their caseload during the study's two-week period. About two-thirds of these clients (61%, n=73) had a substance use disorder as a primary diagnosis. Of these, 41% successfully entered substance use treatment following referral. These clients were found to have a higher readiness for change than the clients who did not enter treatment.

Deering et al. (2010) reported on the impacts of a peer-based mobile service in Vancouver, B.C. for street-based female sex workers who use drugs. Services are delivered out of a van in the communities where female sex workers work, which provides a safe space for women to rest, eat and have refreshments during their shifts. Outreach staff also distribute prevention (e.g., condoms) and harm reduction (e.g., drug paraphernalia) resources and are a primary point of contact for support, peer interaction and referral to health, social support and drug treatment services. Over a period of 18 months, 242 female sex workers were recruited to complete a detailed questionnaire, administered at baseline and bi-annual follow-up visits. Over the study period, the mobile van reached a high proportion of female sex workers. In 2006, an average of about 1,500 women accessed the van per month. Female sex workers who were at higher risk for sexually transmitted infections and violence were more likely to access the service. Women who used the outreach service were also more likely to use inpatient addiction treatment and to receive services from an alcohol and drug counsellor, compared to female sex workers who did not use the service.

Langabeer et al. (2020) evaluated an outreach intervention to engage in treatment people who have recently experienced an opioid overdose. Potential clients of the service were identified either through the ED of an academic tertiary care hospital or through the local emergency medical services agency. Those who met a minimum threshold of measured readiness for change were entered into the study's surveillance system. An outreach team, consisting of a peer recovery coach and a licensed paramedic, were dispatched to the homes of individuals in the system. Those who consented to participate in the program underwent rapid opioid agonist therapy induction using buprenorphine, typically within 24 hours of being added to the surveillance system, and were supported to access ongoing, outpatient pharmacotherapy. Study participants were also encouraged to access three weekly counselling sessions, which were offered out of a university health science centre. The peer recovery coach and a social worker also helped clients find stable, free housing, employment and medical insurance, as needed. Of the 103 individuals who were screened as eligible for the study, 33% (n=34) elected to engage in the treatment program. Just over half of the clients were male and most had no health insurance and reported being homeless or in temporary housing. Thirty days after their program start date, 88% of participants (n=30) were still active in the treatment program and 56% (n=19) after 90 days. No gender analysis was reported.

Summary

ACT teams represent the most formalized, structured and proactive model of outreach. ACT teams are characterized by small clinician caseloads, regular, brief and assertive contacts, an intense, comprehensive focus on health and social care needs, and service delivery over an extended period of time. The ACT model was traditionally developed and is more commonly implemented for populations with severe and complex mental health issues, including concurrent substance use concerns. While program standards typically include a requirement for substance use expertise on ACT teams, there is some evidence in Ontario that this capacity varies. This gap is important to address given data showing that clients served by ACT teams who have a concurrent substance use issue are more likely to be hospitalized (Joannette, Lawson, Eastabrook, & Krupa, 2005), which suggests that their complex needs are not being adequately addressed.

Two studies were identified that explored the impacts of an ACT model specific to substance use on treatment access and engagement for individuals with substance use disorders. These studies found that the ACT service resulted in faster access to treatment services and better retention in care, compared to a more traditional approach that did not involve outreach. A small number of studies have evaluated the impact of mobile clinics that embody some but not all elements of the ACT model. While they have shown promising results with respect to engaging marginalized individuals with substance use issues in specialized treatment, it is not yet possible to draw any conclusions given the heterogeneity of the target populations analyzed by the studies. It is also not known whether these models facilitate more *rapid* access to these services.

3.3 Screening, Assessment, Brief Intervention and Referral to Treatment Models

Key Points

- Screening, assessment, brief intervention and referral to treatment (SBIRT) offers a means to broaden the treatment base and entails two complementary goals. The first goal is to reach a higher percentage of people in need and, for many, at an earlier point in their personal trajectory of substance use and potential harm. The second goal is increased engagement in well-matched substance use interventions and referral to more specialized substance use services, as needed.
- With respect to the aim of SBIRT for increased identification and earlier engagement in services, the effectiveness and feasibility of SBIRT in primary care settings has been largely demonstrated in highly controlled research trials for individuals with mild to moderate substance use issues. However, there is question as to whether these results can be generalized to current primary care settings, given challenges with fidelity to and uptake of the service delivery model, as well as a range of barriers to implementation.
- No firm conclusions can be drawn about the impacts of SBIRT on improved access to and engagement in specialized substance use services for individuals with more acute or severe needs that exceed the expertise and capacity available in primary care settings. More clinical trials are needed that specifically evaluate the referral-to-treatment component of SBIRT as a primary outcome, as well as the impacts of SBIRT on access to services for special populations.
- Reflecting the poor uptake of SBIRT in primary care settings, some researchers have proposed that a chronic disease management model may be more appropriate and effective in identifying substance use issues, and providing early supports and access to a broader range of evidence-based services and supports available within the practice setting itself.

Screening, assessment, brief intervention and referral to treatment (SBIRT) is a multi-component, structured intervention designed to reduce problematic or risky substance use. SBIRT represents a paradigm shift away from traditional substance use interventions that have focused on individuals with more severe substance use issues or who meet the criteria for substance use dependence (Substance Abuse and Mental Health Services Administration, 2013). SBIRT, in contrast, aims to screen all individuals presenting for services in a variety of healthcare settings, allowing professionals to opportunistically identify and address risky or problematic use, even if these individuals are not actively seeking an intervention or treatment (Substance Abuse and Mental Health Services Administration, 2013). While similar models have been developed for other populations such as university students (Denering & Spear, 2012), most research and systematic implementation efforts have focused on the primary care setting.

The rationale for SBIRT is strong, based largely on the fact that a significant number of people who span the spectrum of substance use risks and harms and who are in contact with a range of non-specialist services do not have their risks and harms identified. This approach to broadening the base of treatment entails two complementary goals. The first goal is to reach a higher percentage of people in need and, for many, at an earlier point in their personal trajectory of substance use and potential harm. The second goal is increased engagement in and delivery of substance use interventions of sufficient intensity and duration to achieve a positive, sustained outcome. This goal can involve referral to more specialized substance use services than can be provided in the practice setting itself (Blanchette et al., 2016). By offering SBIRT in high-volume medical settings such as primary care, EDs, hospitals and the health services of post-secondary institutions, patients with a wide variety of co-occurring physical and mental health problems can be reached and provided appropriate services and supports (Babor, Del Boca, & Bray, 2017). SBIRT is currently being scaled up in a variety of medical settings in the Unites States with the largest dissemination effort to date being led by the U.S. federal Substance Abuse and Mental Health Services Administration (Aldridge, Linford, & Bray, 2017). SBIRT is also promoted as an evidence-based practice for healthcare and allied health professionals in Canada (Canadian Centre on Substance Use and Addiction, 2020).

SBIRT involves three components. In the first component, screening is conducted to identify at-risk substance use and related problems using a brief, validated instrument (Substance Abuse and Mental Health Services Administration, 2013). The screening component of SBIRT has been broadly researched and several well-validated tools are available: for example, the GAIN-SS and the AUDIT for adults (Rush, 2015) and the CRAFT screening tool for adolescents (Beaton, Shubkin, & Chapman, 2016). Screening can also be undertaken in a less systematic way by increased vigilance for the signs and symptoms of substance use risks and harms (Health Canada, 2001) or by the use of one or two validated questions (Smith, Schmidt, Allensworth-Davies, & Saitz, 2010; Gerrity et al., 2004; Pilowsky & Wu, 2013).

In the second component, patients identified to be at risk of substance use problems are provided a brief intervention, delivered over one or more sessions, and typically focused on increasing patients' insight into and awareness of their substance use and the need for behavioural change (Substance Abuse and Mental Health Services Administration, 2013). The actual content of a brief intervention, however, is rarely evaluated, precluding an understanding of which features of a brief intervention or the counselling skills needed to deliver them are most associated with improved outcomes (McCambridge & Saitz, 2017).

In the final component of SBIRT, patients identified as needing more intensive treatment are referred to specialty substance use treatment providers. Relative to the other components of SBIRT, there is less guidance in the research literature about effective mechanisms to refer clients with more severe substance use issues to specialized care (Glass et al., 2015a). The few studies that do

provide details of the referral-to-treatment component report a range of mechanisms from passive information sharing about treatment options to implementing more active support to encourage help seeking (McCarmbidge & Saitz, 2017). Broader contextual factors also impact referral to treatment, including the degree to which SBIRT programs are integrated in the treatment continuum so patients can be connected to the least intensive level of care that suits their need (Babor et al., 2017).

Technology offers new possibilities for delivering SBIRT (see the sidebar, Technology and access to substance use services, in Section 1.0) through standalone or facilitated interventions (McCambridge & Saitz, 2017), and it may also help to engage more people if it addresses their preferences. Harris and Knight (2014) conducted a review of the burgeoning research that examines the feasibility and efficacy of computer- or other technology-based screening and brief intervention tools for alcohol use in medical settings. All the studies in the review demonstrated that technology-supported service delivery was feasible and acceptable among patients, but with methodological limitations and with few studies in primary care settings or involving pregnant women, adolescents, or diverse racial and ethnic groups. The review also noted that more research is needed on the effectiveness of technology-assisted SBIRT in reducing harmful alcohol use. More recently, Harris et al. (2016) found that, in a sample of 136 adolescents accessing routine care at three primary care clinics in the United States, substance use screening by computer was both a valid and time-efficient alternative to clinician-administered screening.

While there is not yet enough research evidence on the impacts of technology-assisted delivery of SBIRT, work is underway to fill this gap. In the U.S, a trial program called Promoting Access to Care Engagement is examining the impact of self-administered electronic screening for risk of substance use disorder, depression and anxiety in three large primary care clinics in northern California serving over 5,000 people with HIV (Satre et al., 2019). Screening results are incorporated into the patients' electronic health record and are viewable by clinical staff, including physicians and behavioural health specialists, masters-level licensed clinical social workers, marriage and family therapists, and doctoral-level psychologists with experience in behavioural interventions. Physicians review screening results and engage behavioural health specialist services, which include patient engagement, goal setting and motivational interviewing or brief cognitive behavioural therapy or both. There is no specific time limit for the behavioural health specialist intervention, but motivational interviewing and brief cognitive behavioural therapy can be effectively delivered in less than six sessions. The study will examine both implementation outcomes, such as screening and treatment rates, and effectiveness, such as evidence of substance use, mental health symptoms and HIV viral control.

Evidence

SBIRT has been evaluated in several settings, including primary care (O'Donnell et al., 2014), emergency, trauma and acute care services (Barata et al., 2017; Landy, Davey, Quintero, Pecora, & McShane, 2016), and general hospital wards, as well as with various populations, including women and pregnant women (Gebara, de Castro Bhona, Ronzani, Lourenço, & Noto, 2013), adolescents (Patton et al., 2014; Pitts & Shrier, 2014), and young adults in college (Fachini, Aliane, Martinez, & Furtado, 2012; Seigers & Carey, 2010). As noted earlier, most of the work has been conducted in healthcare settings. The majority of work to date focuses on alcohol use (O'Donnell et al., 2014), while an increasing number of studies address drugs other than alcohol (Young et al., 2014; Saitz et al., 2010).

Relevant to this review is the question of whether SBIRT is an effective means to improve access to and engagement in substance use services and supports in a variety of community services, beyond those that specialize in substance use treatment and support. From the research literature on the efficacy of SBIRT, it is clear there are a number of well-validated tools that can be used to identify

risky substance use in settings outside of the specialized substance use sector, including in primary care settings (Krist et al., 2020; O'Connor et al., 2018) — an important first step to service access and early identification and engagement. Well-controlled research trials have also shown it is possible to implement SBIRT to produce positive impacts on substance use outcomes for people with mild to moderate issues, most notably in primary care settings (Kaner et al., 2018).

Notwithstanding the positive research findings for increased identification and engagement within the primary care setting, there has been debate as to whether these findings can be generalized to current practice settings, given the significant variation in these studies with respect to the content of substance use supports offered, patient characteristics and the severity of substance use issues detected (McCambridge & Satiz, 2017). Researchers have also highlighted the poor uptake of this model in primary care settings for alcohol use disorder (Rehm et al., 2016), noting the barriers to effective implementation of SBIRT. In primary care, the barriers includes under-identification, limited intervention expertise and limits on clinic time (Satre et al., 2019), as well as physician remuneration structures that do not incentivize treatment of substance use issues (Childerhose, Atif, & Fairbank, 2019). Additional barriers for primary care settings to undertake SBIRT for drugs other than alcohol include the range of substances that could be involved, including polydrug use, the need for validated screening tools for these substances, and the likelihood of more severe drug use issues relative to the alcohol-using population (Saitz et al., 2010).

There is also a question about the extent to which SBIRT improves access to and use of specialized substance use services for those with more severe substance use issues who require more support than can be offered in the practice setting itself. To explore this question, Simioni, Cottencin and Rolland (2015) conducted a systematic review of randomized controlled trials of SBIRT in medical and surgical inpatient settings. The review found only five trials (n=1,113 patients with alcohol use disorder) that reported on treatment utilization and the heterogeneity among study groups precluded a meta-analysis. A qualitative synthesis of the studies found no evidence of that SBIRT had an impact on subsequent treatment utilization. Evidence suggested that post-discharge booster sessions might be beneficial, but more research was said to be needed to draw any conclusions. No gender analysis was reported.

Following closely on the heels of this review, Glass and colleagues (2015a) conducted a meta-analysis of randomized controlled trials of SBIRT interventions in general healthcare settings with adult and adolescent samples. To ensure generalizability of the findings, studies were excluded if the brief intervention was delivered by research clinicians or if receipt of alcohol-related care was in the same setting as the SBIRT intervention. Thirteen studies met the review's inclusion criteria and nine studies were meta-analyzed. The meta-analysis found no association between receipt of brief intervention and subsequent initiation of alcohol treatment. Samples with higher alcohol severity or recruited from more severe settings (e.g., inpatient medical settings) tended to have higher rates of service utilization than samples with lower alcohol severity or recruited from general healthcare settings. No gender analysis was reported.

Few randomized controlled trials have explored the extent to which the referral-to-treatment component of SBIRT is associated with engagement in specialized substance use services for individuals with more severe issues. In the meta-analysis described previously, only eight studies described efforts specific to referral and only six studies isolated these heterogeneous efforts to an intervention group. Beaton et al. (2016) also notes the "alarming" lack of studies examining the effectiveness of the referral-to-treatment process for adolescent populations.

A randomized control trial the results of which were published after these reviews (D'Onofrio et al., 2015) used a sample of 329 patients treated at an urban teaching hospital for opioid use

dependence to compare three types of intervention: (1) screening and referral to treatment (referral); (2) screening, brief intervention and facilitated referral to community-based treatment services (brief intervention); and (3) screening, brief intervention, ED-initiated treatment with buprenorphine/naloxone and referral to primary care for a 10-week follow-up (buprenorphine). Patients in the buprenorphine group were significantly more likely to be engaged in addiction treatment 30 days after the start of the study, compared to the referral and brief intervention groups (78%, 37% and 45%, respectively). No gender analysis was reported.

In addition to these randomized controlled trials, impacts of SBIRT on service utilization have been investigated in quasi-experimental studies and described in program evaluations. A study site participating in the SBIRT initiative of the U.S. federal Substance Abuse and Mental Health Services Administration described earlier investigated the feasibility and impacts of an SBIRT program in the ED of a large urban "safety-net hospital"[3] (Krupski et al., 2010). The mostly male patients were screened for alcohol and drug problems and provided brief intervention, brief treatment and referral to specialized substance treatment when appropriate. Hospital records were used to match patients with likely substance use disorders who received a brief intervention with similar ED patients who had not been screened. Individuals with a likely substance use disorder who received a brief intervention, regardless of subsequent participation in brief treatment, were significantly more likely to enter specialized substance use treatment in the subsequent year than those in the control group (33.8% versus 22.5%, respectively).

D'Onofrio and Degutis (2010) conducted a descriptive program evaluation of an SBIRT program in the United States that places health promotion advocates in the ED setting. Over a five-year period, the health promotion advocates screened 22,534 ED patients and over one-quarter (27.8%) of screened patients, the majority of whom were male, received a brief intervention. Of those patients referred to a specialized treatment facility, 54% had enrolled in a program. Patients who received a direct admission to a specialized treatment facility were 30 times more likely to enroll than those who were indirectly referred. No gender analysis was reported.

Pecoraro and colleagues (2012) described the impacts of a pilot SBIRT program offered to 415 mainly male patients admitted to a U.S. hospital. Patients identified as having hazardous or harmful alcohol consumption based on a standardized screening tool administered to all patients at admission received bedside assessment with motivational interviewing and facilitated referral to treatment by a patient engagement specialist. Forty-three percent of patients who participated in the SBIRT were subsequently admitted for substance use treatment. Further analysis of a small cohort of program participants also suggested that patients participating in the SBIRT program had reduced ED visits, increases in behavioural health and substance use treatment inpatient admissions, and increases in behavioural health and substance use treatment outpatient admissions. However, because the number of patients who were identified and approached for the SBIRT program was not recorded, it is not possible to rule out selection bias in accounting for the impacts on utilization of specialized substance use services. No gender analysis was reported.

As noted in Section 3.1, repeat or frequent hospitalization and ED visits may be an indicator of poor access to community-based services. A meta-analysis of 34 studies did not find evidence that SBIRT, delivered to adults in EDs, reduces subsequent hospitalizations or ED visits (Landy et al., 2016). No gender analysis was reported. A second systematic review of SBIRT delivered in ED settings noted one study that reported positive impacts on repeat ED visits, but only for SBIRT patients who were

3 Safety net hospitals are hospitals in the U.S. that organize and deliver a significant level of health care and other health-related services to patients with no insurance or with Medicaid (Sutton, Washington, Fingar, & Elixhauser, 2006).

successfully connected to specialized services in the community (Barata et al., 2017). No gender analysis was reported.

Summary

SBIRT offers a means to broaden the treatment base to identify and engage a higher percentage of people in need of substance use services and to both intervene earlier and provide interventions appropriate to the individuals level of risk and harm. By screening all individuals presenting for services in a variety of healthcare settings, professionals can opportunistically identify and address risky or problematic use, even if these individuals are not seeking an intervention or treatment.

There have been a number of controlled clinical trials showing that SBIRT is effective in identifying substance use issues and delivering brief interventions with positive impacts on substance use outcomes for individuals with mild to moderate issues, particularly in primary care settings and for alcohol use issues. Since SBIRT addresses the full spectrum of unhealthy substance use, it has the important outcome of connecting individuals with more severe substance use issues to higher levels of care. Few randomized controlled trials have investigated this potential impact and no conclusions can be drawn given the general lack of research and the heterogeneity of the referral-to-treatment component reported in the research. More clinical trials are clearly needed that evaluate referral to treatment as a primary outcome, that sufficiently explicate and track referral processes, and that consider the severity of substance use issues on program outcomes (Glass et al., 2015b).

We also need to know more about the relative weight of the different components of SBIRT as it is being implemented in different settings, the specific content of the components, SBIRT's longer term outcomes and cost effectiveness, its impacts on different populations, and the contextual factors impacting effectiveness in various settings (VIRGO Planning and Evaluation Consultants, Inc., 2018). There is an absence of studies reporting an analysis of potential gender differences in the impact of SBIRT on access to specialized services and optimal screening tools and brief interventions for Indigenous people in Canada have yet to be identified or developed (VIRGO Planning and Evaluation Consultants, Inc., 2018). Research underway to explore the promise of technology-assisted delivery of SBIRT will also be important.

Finally, while the effectiveness and feasibility of delivering SBIRT in primary care settings has been largely demonstrated in highly controlled research trials, there is some question as to whether these results can be generalized to the current Canadian practice settings, given challenges with fidelity to the service model and a range of implementation barriers that have resulted in poor uptake of the model. In response to these concerns, some researchers have proposed a further paradigm shift in primary care, whereby substance use is treated like any other chronic health condition (e.g., hypertension) with the provider conducting regular checks for substance use, providing advice for behavioural interventions in the case of risky use, and offering pharmacological support when needed (McCambridge & Saitz, 2017; Rehm et al., 2016). In other words, primary care providers would not necessarily conduct formal brief interventions themselves, but would still be accountable to focus on the treatment of the substance use disorder. This shift would be best supported by addressing misconceptions and prejudices about alcohol treatment among primary care physicians, as well as increasing capacity for the necessary therapeutic skills (Rehm et al., 2016).

3.4 Integrated Youth Services Models

Key Points

- Integrated Youth Services (IYS) is a pan-Canadian and international movement that aims to enhance engagement in and access to integrated and evidence-based services that are responsive to the unique needs and preferences of youth and their families.
- IYS models have generally been successful in engaging large numbers of young people in services, including youth from marginalized groups that have been traditionally underserved and youth who report they would not have otherwise accessed care in the absence of these services.
- Few evaluations of IYS models have focused on the extent to which IYS models are facilitating *rapid* access to services and supports. A small number of initiatives that offer low-barrier access mechanisms such as walk-in services and self-referral have reported challenges with wait times to service.
- While IYS models are guided by core principles and components, how these are operationalized vary considerably in practice and no single example yet constitutes best practice. A common conclusion across the studies conducted to date is the need for more research, evaluation and performance measurement of IYS models, including the extent to which these models facilitate *rapid* access to more specialized substance use services and supports when needed.

Integrated Youth Services (IYS), of which youth service hubs are a key component, is a pan-Canadian and international movement that aims to build effective, youth-focused and integrated services for mental health, substance use and related issues (Graham Boeckh Foundation, 2019). IYS models are meant to enhance access to and engage youth and their families in integrated and evidence-based services that respond to their needs and preferences (Halsall et al., 2019). As of early 2017, there were IYS initiatives in nine countries, including Canada (Hetrick et al., 2017), all developed in response to calls from youth and families, researchers and health system planners for a complete transformation of the healthcare system (Carver, Cappelli, & Davidson, 2015, Halsall et al., 2019). In 2018, the Government of Ontario announced a commitment to double the number of youth wellness hubs in the province (Government of Ontario, 2018), reflecting a recommendation made by the Mental Health and Addictions Leadership Advisory Council (2017), which was established in 2014 to provide the Ontario Minister of Health and Long-Term Care with strategic advice to build a comprehensive mental health and addictions system in Ontario.

Supported by the leadership and funding of the Graham Boeckh Foundation, several IYS projects are underway or being planned across Canada. Table 1 summarizes the most established programs.

Table 1. Youth service hubs in Canada

Foundry, British Columbia: Foundry is a province-wide network of integrated health and social service centres for young people aged 12–24. Foundry centres provide a one-stop shop for young people to access mental health care, substance use services, primary care, social services, and youth and family peer supports. Each centre is operated by a lead agency that brings together local partners, service providers, young people and caregivers. The Foundry network is made up of community-based health and social service centres, and online tools and resources (Foundry, n.d.).

ACCESS Open Minds, Pan-Canadian Research Network: ACCESS Open Minds is a national research and evaluation network that focuses on the design, delivery, evaluation and research of youth mental health services. Its mission is to generate new evidence about the impact of its efforts to transform services in diverse contexts (urban, rural and Indigenous) in Canada. The research network includes 16 communities across six provinces and one territory in Canada, including First Nations and Inuit communities, and brings together youth, families, care providers, policy makers, researchers and community organizations. Access Open Minds sites serve youth aged 11–25 and their families and have the following priorities: early identification, rapid access to care, removal of age-based (18 years) transition, delivery of a seamless service, access to high quality, appropriate, timely and evidence-informed interventions, and youth and family engagement in the design of services (Graham Boeckh Foundation, 2019).
YouthCAN IMPACT, Ontario: YouthCan IMPACT is a collaborative initiative of youth, families, community agencies, hospitals and primary care partners working together to improve the youth mental health and addiction system. Within this service model, integrated collaborative care teams deliver linked, evidence-informed services, including brief therapy, access to primary care, service navigation, dialectical behavioural therapy skills groups, youth family-focused e-health support, and peer mentorship and support. The services are all located in walk-in clinics that are youth friendly and community based. Youth with more severe problems may be fast-tracked to immediate medical and specialized mental health services (Henderson et al., 2017).
Youth Wellness Hubs Ontario: Youth Wellness Hubs Ontario provides rapid access to easily identifiable mental health and substance use services with walk-in, low-barrier services and clear service pathways. These services, co-created with youth and families, include evidence-based interventions matched to need and supported transitions to specialized services, when needed. Youth Wellness Hubs Ontario integrates mental health, substance use, primary care, vocational, housing and other support services into a one-stop shop model of care that is offered in a youth-friendly space and sites use common evaluation practices. There are currently 10 sites across Ontario (Youth Wellness Hubs Ontario, 2020).
Aire ouverte, Québec: Aire ouverte is a provincial IYS network in Quebec that offers resources, services and supports for young people aged 12–25. The services offered at sites are adapted to the specific needs of young people and include a variety of health and social services, such as mental health, sexual health and vocational support. Youth and families have been deeply involved in all stages of planning and implementing the Aire ouverte initiative. Three initial sites were chosen to demonstrate the model and provide lessons to inform its scale up across the province. Four additional sites have been announced and there are plans for further expansion (Graham Boeckh Foundation, 2019).
New Brunswick Integrated Services Delivery: The Government of New Brunswick has developed a child- and youth-centred integrated services delivery approach to improve services and programs for children and youth up to the age of 21. Services are available in schools and other community settings and are provided in places that are comfortable for children, youth and families. Services are provided by child and youth teams who also work to develop partnerships with community organizations and individuals committed to making a positive difference in the lives of children, youth and families. In schools, team members work closely with school-based supports to provide entry points for accessing services. These services are also available at any addiction and mental health services clinic (Government of New Brunswick, n.d.).

Although not yet well-defined and agreed upon in operational terms internationally (Halsall et al., 2019), IYS programs share common principles that guide their development and implementation. The core components presented in Table 2 have been identified and operationalized by Youth Wellness Hubs Ontario (n.d.) and are generally reflected by the models described above (Settipani et al., 2019). These components are also reflected in the World Health Organization's quality standards for adolescent friendly health services (2012).

Table 2. Core components of Youth Wellness Hubs Ontario

Integrated governance: Service sites engage in joint guidance around funding, sustainability plans, partner collaboration, data components (common metrics, data monitoring), as well as how best to share information with local partners.
Partner collaboration: Service providers partner with youth, families and other sectors to contribute to ongoing improvements in the IYS site.
Integrated location: Youth get everything they need under one roof through a comprehensive, one-stop shop model of care. Sites are designed to provide early identification services and rapid, seamless access to a continuum of high-quality mental health and substance use services in locations that are easily identifiable, low barrier and youth friendly.
Evidence-based or evidence-generating services: High-quality services and interventions, which have an individualized treatment approach, combine empirical research with expertise from clinicians and the experiences of youth and families, and known quality improvement processes are in place.
Youth engagement: An active and ongoing process to embed youth representation at all levels of planning, implementation and evaluation activities. Meaningful youth engagement ensures that youth are involved as co-creators in service design, governance, implementation efforts and evaluation processes, so that Youth Wellness Hubs Ontario's physical spaces are youth friendly.
Youth-centred and developmentally appropriate services: These services take into account the developmental stage of the young person as the needs and capabilities of youth vary and are susceptible to change during adolescence and early adulthood. They are highly convenient, non-stigmatizing, youth friendly and safe, with convenient locations and hours, and processes to ensure that youth are allowed to move in and out of services with minimal barriers.
Family engagement: Family members are engaged in the design, governance, implementation and evaluation processes to better meet the needs of their child or youth and the family.
Use of standardized measures and outcome evaluations: Service sites use standardized measures and outcome evaluations to unobtrusively collect information from all young people accessing services, as well as their caregivers. The only information collected is that which is needed to determine how to best support youth, ongoing system improvement and equitable care experiences. All measures can be used interactively with youth in the context of service delivery to help with self-reflection, goal setting and progress monitoring.
Brand adoption: Service sites use a consistent brand that the community can recognize. The brand includes visual elements and messages that convey the breadth of wellness services delivered by each site.

Organizational capacity, approach and culture operating with equity-based principles: Equity-based principles recognize that "different actions are required to achieve similar outcomes for different individuals or groups due to the uneven distribution of power, wealth, and other resources in society" (Canadian Mental Health Association Ontario, 2014, p. 7). All sites will complete a self-assessment to capture a snapshot of existing health equity skills, capacity and readiness in order to inform the development of a site-specific health equity strategy.
Equitable and inclusive access and physical space: Barriers to safe, welcoming and inclusive youth services sites, including both physical and non-physical environments, will be identified and removed. This is done in collaboration with youth and families.
Equity data use: The use of data, including local and regional population data and client socio-demographic information, to strengthen service provision.
Clinical and culturally specific services: Service sites will provide services that respect and respond to the health beliefs, practices, and cultural and linguistic needs of diverse young people. They will engage new partners to expand their network of culturally appropriate services in response to local needs.

A recent scoping review (Settipani et al., 2019) aimed to identify the key principles and characteristics of international IYS models of care. The review found considerable similarity around principles, but more variability as to the level of detail available about their implementation, thereby clouding clear direction about replication, evaluation and wide scale implementation.

Evidence

Evaluation is central to the IYS movement and reports on the impact of these models on access to specialized services are promising. An independent evaluation of the Australian headspace program, one of the largest and earliest international initiatives to transform the mental health and substance use service system for youth, suggests that the headspace service model is effective in providing a large number of young people, the majority, young women, an entry into the youth health and social service system. During a 12-month period in 2016–2017, headspace served over 80,000 young people in its centres, and 35,000 clients through online and telephone services (Hetrick et al., 2017).

The majority of clients accessing headspace services do so without a formal referral (74% in the 2013–2014 fiscal year). This feature of the service model is important as it can facilitate earlier help-seeking from young people who may be reluctant to visit their primary care provider simply to get a referral to headspace (Hilferty et al., 2015). The centres have also been successful in engaging young people from some marginalized groups, including those who identify as LGBTQ and youth who experience homelessness. As well, the proportion of Aboriginal or Torres Strait Islander clients served by headspace is double their representation in the general population. However, other young people from culturally and linguistically diverse backgrounds were found to be "starkly" under-represented as headspace clients (Hilferty et al., 2015).

Few headspace clients are formally referred to external services (between 3% and 5%). Those who are referred are most commonly referred to tertiary mental health services for children and young people, non-government, community youth services organizations providing non-clinical services, and housing and accommodation services. The evaluators concluded that this low rate of referral to external services is an indication of the success of headspace in providing comprehensive health

care that meets the multiple needs of young people by providing holistic care in a single location (Hilferty et al., 2015).

Other international IYS service models show similar results. Hetrick et al. (2017) conducted a review of evaluations of IYS initiatives and identified 18 services or networks of services, including the headspace program. There was considerable variation with respect to their target populations and services offered, and some core features were poorly defined or described, including, for example, the definition of a "timely first assessment." Twelve services reported having a focus on mental health, including substance use. These services were characterized as being a blend of primary and more specialized secondary health services. Services were largely described as having characteristics designed to address barriers to accessing care for youth and their families. Examples of these characteristics include offering walk-in sessions and self-referrals, having a central location or proximity to public transit, providing drop-in spaces and activities, and providing services for transition age youth. In particular, 11 of the service and service networks reported youth participation in decision making, leadership, service provision or service development. Such youth engagement has been shown to increase access to and effectiveness of services (Youth Wellness Hubs Ontario, n.d.), in part by enabling the design of services that mitigate the stigma associated with mental health and substance use issues (Halsall et al., 2019).

Similar to the headspace program, IYS services included in the Hetrick review reported large numbers of young people, more commonly girls than boys, accessing care and support, including clients from traditionally under-served populations. Clients generally reported high levels of satisfaction due to the perceived accessibility, acceptability and appropriateness of these services, although clients of the Australian headspace program reported less satisfaction with the hours of operation of services and long waiting lists. Researchers from the ACCESS Esprits ouverts (Open Minds) initiative in Quebec have also highlighted the challenges in engaging homeless youth, families and caregivers, and sustaining their involvement in care (Abdel-Baki et al., 2019).

More recently, Foundry reported results from its implementation of six integrated youth service centres and complementary online services in British Columbia. Overall, the evaluation showed that the model was successful in reaching youth in need of support. During a 15-month period in 2017–2018, Foundry centres served 4,783 youth and provided 35,791 service visits. A relatively large proportion of these youth had characteristics that increased their vulnerability to substance use and mental health concerns, such as being gay, lesbian or bisexual, identifying as Indigenous, or having insecure housing. Foundry's online platform, Foundrybc.ca, launched in early 2018, is also frequently accessed: there have been more than 34,000 new users since its launch and more than 47,000 visits, and almost 8,000 self-checks were assessed (Foundry, 2018).

The most common services requested and accessed across all Foundry centres were mental health and substance use, and the overwhelming majority of youth who were served accessed these services at least once. Primary care was also commonly accessed, making up one out of every four services delivered to youth. The services requested are noteworthy, given limited access to psychiatry and other specialized mental health services in the province, allowing for continuity of care for young people requiring ongoing psychiatric pharmacotherapy (Foundry, 2018).

Similar to the headspace program, while Foundry clients generally reported high levels of satisfaction with various aspects of the service, just under a quarter of clients reported lower satisfaction with wait times. In response to this concern, and due to the on-demand nature of service delivery for many of the services offered, such as walk-in counselling and some primary care services, Foundry centres are exploring ways to increase evening and weekend hours to support greater access (Foundry, 2018).

There is emerging evidence that integrated youth service models are successful in engaging youth in care who, in the absence of these services, may not otherwise seek support. Clients accessing the Youth One Stop Shops services in New Zealand reported that without them, they would not have accessed physical or mental health services (Hetrick et al., 2017). Nearly half (44%) of Foundry clients reported that they would not have sought support if Foundry services had not been available, and one in five (22%) would have turned to family or friends, rather than a professional service.

The evaluations of IYS models conducted to date are typical of health service evaluations in, for example, their use of case series design and lack of experimental groups. The results from more robust research is, however, on the horizon. Researchers engaged in the YouthIMPACT initiative (described above) are conducting a pragmatic randomized controlled trial to compare the effectiveness and cost-effectiveness of the integrated collaborative care team model to hospital-based outpatient treatment as usual for youth with mental and addiction challenges (Henderson et al., 2017).

Summary

IYS is a pan-Canadian and international movement that aims to enhance access to and engage youth and their families in integrated and evidence-based services that respond to their needs and preferences. IYS models are guided by core principles and components that are specifically designed to address known barriers to service access and engagement. These principles and components include youth involvement in developing, implementing and evaluating services, walk-in models of care and youth-friendly settings.

Evaluation is central to the IYS model and most initiatives include a focus on understanding the clients that are accessing services and the effectiveness and cost-effectiveness of the services provided. These evaluations have not generally employed an experimental design, however, which prevents comparing them to more traditional service delivery. One notable exception is the randomized controlled trial underway as part of the YouthCan IMPACT initiative.

These evaluations generally show that IYS models are engaging large numbers of young people in services, including young people from marginalized groups that have been traditionally underserved, and youth who would not otherwise have accessed care. A central question to this review, and one that cannot yet be answered from existing evaluation results, is the extent to which IYS models are facilitating *rapid* access to services. Certainly, IYS models that offer walk-in services are providing necessary infrastructure to support rapid access, but these initiatives report challenges with waiting lists. There is also variation across the models with respect to engaging specific populations such as homeless youth, and youth from culturally and linguistically diverse backgrounds.

While services following the IYS model are guided by core principles and components, how and the extent to which these are operationalized varies in practice, and no single example yet constitutes best practice (Hetrick et al., 2017). A common conclusion across the studies conducted to date is the need for more and ongoing research, evaluation and performance measurement, including in relation to impacts on access to services (Halsall et al., 2019; Foundry, 2018). An important research question relevant to this review is not only whether the IYS model is successful in engaging clients in services, but also how quickly the model can connect clients to services and supports.

3.5 Centralized and Coordinated Access Models

Key Points

- Centralized and coordinated access models offer an efficient approach to service matching if implemented with standardized processes and tools and monitored with appropriate performance measurement indicators.
- It is challenging to summarize the evidence about centralized and coordinated access models given the various approaches and "active ingredients" across models, the wide variation in scope and community context, and the different methods used to evaluate them.
- Centralized and coordinated access models have strong potential to improve treatment systems through increased coordination and access to services. Many existing models have been structured to meet the specific preferences commonly voiced by clients and families, such as availability of one-stop shops and navigation supports. These features, however, have not been sufficiently evaluated from the perspective of clients and families. Centralized and coordinated access models do not necessarily yield better treatment outcomes. They also come with significant challenges to implementation and require strong leadership and partnerships, stakeholder buy-in and adequate resources.
- Implementation of centralized and coordinated access needs to be complemented by efforts to ensure the adequate capacity of the treatment and support system to provide evidence-based and effective services proportionate to the level of need. This capacity must also be of sufficient size and flexibility to respond to a surge in treatment seeking that centralized and coordinated access models may prompt.
- There is a need for focused evaluation of the required components of centralized and coordinated access models vis a vis marginalized populations such as those who are homeless, refugees and other newcomers to Canada, and those living in rural and remote regions.
- It is important to pay close attention to the needs of individuals with substance use issues and disorders with and without significant concurrent mental health problems, as many of these emerging models are located in mental health services with limited capacity or competence for assessment and treatment planning for people with substance use concerns.

Provincial and territorial strategic plans (VIRGO Planning and Evaluation Consultants, Inc., 2018; Province of Nova Scotia, 2019), as well as focused reviews of substance use treatment systems (Rush, Kirkby, & Furlong, 2016) consistently report how challenging it is for people in need of support to navigate and access the treatment and service network. The challenge is compounded by the fact that clients must repeat their stories over and over again because information is not passed from one provider to another upon referral or formal transition across programs.

System-level models focused on these challenges have emerged. These models go beyond improvements that single service providers can make to their intake and access processes, as important as these are,[4] by working with the network of providers in the community. Two somewhat

4 Examples of quality improvement processes that a single provider might make to improve access include group instead of individual intake; self-completed assessments with worker support as needed, including opportunities for virtual assessments; extending hours of operation beyond the usual business hours; and providing walk-in services, for example, on certain days or hours to use appointments normally lost to no-shows. See also, Madden et al. (2018) for an excellent example of increasing capacity for opioid agonist treatment by shifting to an open- access model within one treatment centre.

different approaches aim to improve how people initiate contact with a service delivery network and are engaged in treatment and support appropriate to their needs. *Centralized access* typically describes a one-stop shop or a hub-and-spoke model where clients go through a central intake and assessment process after which they are referred to the level of care that fits their needs. The model offers a single, central location to access services. *Coordinated access*, in contrast, typically focuses on ensuring commonality in key intake, screening and assessment processes across participating service providers, as well as agreements on pathways and protocols for referral and transitions among the providers and beyond. The phrase "any door is the right door" conveys many elements of the coordinated access approach, especially when common tools and protocols are formalized.

Since the change efforts in developing these models are at the level of the overall system, rather than a single organization or program, a range of community development and health system design strategies can be drawn upon, including collective impact (Spark Policy Institute and ORS Impact, 2018), collaborative and stepped care (Richards, 2012), and substance use and mental health services integration (Rush & Nadeau, 2011). The general aim is to minimize the barriers people confront in locating and accessing the help they need. Stepped care is a particularly important system design principle within centralized and coordinated access models, since they aim to provide low-intensity treatment for most people and to apply mechanisms and resources to "step up" the intensity of treatments for those individuals with more severe or complex issues (Goldner, Bilsker, & Jenkins, 2016).

Centralized or coordinated access models have been implemented to reduce wait times; to facilitate more effective screening to support rapid triage referrals and reduce subsequent assessment time (Mohr & Bourne, 2004); to ensure that the right person arrives at the right place at the right time by using treatment matching and navigation supports; and to facilitate treatment retention and continuity of care (Canadian Medical Association, 2011).

Rush and Saini (2016) undertook a project to review the different ways in which coordinated and centralized access models for substance use and mental health services were being implemented across Ontario and elsewhere. They concluded that while there have been many versions of these approaches, due in large part to community context, the range of community partnerships involved, governance structures and scope, there are many common features. These common features include the following dimensions:

- **Access:** Mechanisms to support service navigation, such as clear and strategic messaging to both the general public and service providers about how to access the service, including the specific means of contact, which increasingly includes both web-based technology and direct walk-in services.
- **Intake:** Eligibility criteria and screening tools and processes that are clear, well-documented, low-threshold and transparent and that both "screen-in" based on the eligibility criteria and offer clear pathways to information and support for those who do not meet the eligibility criteria.
- **Assessment:** The use of common, validated assessment tools and procedures that complement the screening processes at intake and that match individual strengths and needs to available resources.
- **Assignment or referral:** Clear priorities, and transparent and consistent criteria and processes for referrals or authority for direct admission into required services. These processes may include informal or formalized approaches to stepped care.

- **System navigation:** Support in making transitions, including from the point of assessment to the next direct service, as well as facilitated opportunities to return for additional assessment, and treatment and support planning, if needed. System navigation may include the use of peer-support workers.
- **Data entry and sharing:** Infrastructure for the transfer of health information, including screening and assessment results and service outcomes, that facilitate transitions and minimize the need for the client and family members to repeat critical information for treatment and support planning and monitoring.
- **System change:** Ongoing communication and planning among the key community partners and the use of routinely collected process and outcome indicators to measure performance and make continuous improvements.

These commonalities notwithstanding, community needs and context will determine the specific features of the local model, including those related to scope of services such as inclusion of mental health and primary care, and coverage within or across the life span. Experience has shown that the broader the vision at the outset, the more design and implementation challenges must be mediated with respect to the core features (Rush & Furlong, 2017). The Rush and Saini review cited above revealed an absence of conclusive evidence on best practices in coordinated access system design, implementation and operation, as well as a lack of information about the effectiveness of these models in the Ontario context. Given these findings, the review recommended an evaluation of coordinated access models in Ontario, in conjunction with the creation of a provincial-level logic model to help guide the development of the evaluation plan and performance indicators.

An important feature of centralized or coordinated access models is coordination with "call centres" or "info lines" that provide information and referral services, with no screening, assessment or other clinical component, or with crisis services such as distress lines. Access to information and referral services are now further facilitated by technology, such as telephone and web-based solutions, and may even provide for automatic booking into treatment and support services, as is the case for ConnexOntario and relationships with some health regions of Ontario. Evaluation of the extent to which these services improve access to treatment and support, however, is challenged by the lack of information on whether people follow through with the information and referrals that are provided, and because users of these system are typically anonymous. However, evaluations typically show large numbers of calls or contacts to these services and significant numbers of requests for information fulfilled, as has been shown for ConnexOntario (Wighton, 2009).

With respect to distress lines or crisis services, it is essential that a centralized or coordinated access model provides safe and timely linkage to services for managing immediate crises (Rush & Furlong, 2017).That being said, crisis services themselves have been the focal point of centralized access models. The Georgia Crisis and Access Line is a statewide crisis service, providing a single point of entry to North Georgia Crisis Services, including mobile crisis, crisis stabilization units and so on, and a hotline where professional staff connect callers to appropriate services (Schuble, Graham, & Covington, 2010). The services of the Georgia Crisis and Access Line go beyond those of a hotline because it offers callers standardized, statewide access to a comprehensive and coordinated system of care by linking people to addiction and mental health treatment and other services, while providing emergency intervention when needed. It is another example of electronic scheduling with partner agencies showing the potential to significantly improve access to services as well as seamless transitions.

Centralized or coordinated access models may include service pathways formalized in a stepped care model. At the present time in Canada, this approach is best represented in Stepped Care 2.0, a systems model that encompasses both mental health and substance use services. Consistent with the principles of stepped care, Stepped Care 2.0 and its predecessors (O'Donohue & Draper, 2011) organize a system of services such that interventions of the lowest intensity warranted by the initial assessment are implemented first and then clients are either stepped up or down depending on their level of distress or need. Among its distinguishing features related to treatment access are:

- 24/7 web portal access to community service directories
- Navigation strategies
- Information about mental health in general
- Access to self-help tools
- Phone or text access to peer support or, if urgent, professional crisis counsellors
- The provision of same-day, single-session walk-in clinics that offer solutions immediately with minimal assessment and a fail-forward strategy to engage more in-depth assessment, if needed
- The use of a range of technologies including web- and mobile-based apps
- Ongoing outcome monitoring to signal the need for transitions to more or less intense interventions

Developed initially for a university student population (Cornish et al., 2017) and then enhanced to cover the general population and implemented in Newfoundland and Labrador (Mental Health Commission of Canada, 2019), Stepped Care 2.0 has been embedded in Health Canada's COVID-19 pandemic response vis a vis mental health and substance use (Cornish, 2020). Single session services, a key component of Stepped Care 2.0 directly targeting improvements in access to service, have been evaluated more for mental health challenges than for substance use, and also more from an outcome than an access perspective (Firth, Barkham, & Kellett, 2015; Ho, Yeung, Ng, & Chan, 2016). Initial evaluation in the college context showed notable improvements in service access such as increased attendance rates and decreased counsellor time per client. No gender analysis was reported. At the population level in Newfoundland and Labrador, the evaluation showed a reduction in provincial wait times, but it was not possible to attribute the reduction directly to elements of the program because of other concurrent provincial wait time initiatives. There was also positive qualitative information about improved access from the perspective of key stakeholders such as the e-mental health solutions diverting people from walk-ins and stepped care leaving more room for those needing intensive care (Mental Health Commission of Canada, 2019). The evaluation sample was predominantly women (82%) and was not representative of the Newfoundland and Labrador population. The evaluation showed some indications of success in improving access, while highlighting the need for more dedicated resources and evaluation, especially concerning implementation and related challenges.

Evidence

Considerable research on centralized access was undertaken in the United States in the 1990s and early 2000s, particularly on the role of central intake units (CIUs), which provide a single point of entry into the treatment system and were synonymous with centralized access at the time in the United States. This work, summarized by Rush and Saini (2016), includes considerable attention to both mental health and substance use services, including services to the homeless population.

Focusing here on the substance use-related work, one of the earliest reported efforts to develop centralized access was known as the "Target Cities" model. Common features across project sites included standardized assessment, physical health screening, use of a management information system to facilitate data collection and reporting functions, matching and referral of clients to appropriate treatment programs, and a centralized waiting list.[5] Sites differed in terms of implementation of the CIU, which no doubt contributed to mixed results.

Responding to the positively framed summary by Guydish and Claus (2002) and describing the experience of the Target Cities CIUs in Philadelphia specifically, Bencivengo (2001) concluded that such centralized services negatively affect the outcomes for substance treatment. Rapp and colleagues (2006) reported on barriers identified by mainly male clients seeking substance use treatment through a CIU and cited difficulties in admission processes, poor treatment availability and time conflict. Although not part of the federal Target Cities initiative per se, Rohrer and colleagues (1996) reported on the outcomes associated with a centralized intake and referral system for substance use treatment implemented in one part of Iowa as a cost-savings measure. They reported that clients who used the central intake and referral process were less likely to complete treatment.

In contrast to these negative reports on centralized intake, Scott, Sherman, Foss, Godley and Hristova (2002) found that the individuals who participated in case management services provided through centralized intake were more likely to show for treatment and receive referrals to non-substance use treatment services. This same research found that for the Target Cities Project in Chicago, participants in the CIU cohort demonstrated lower drug use and improved employment outcomes than participants in the pre-CIU cohort (Scott, Foss, & Sherman, 2003). Another study also found that referral to treatment from CIUs was associated with higher treatment completion rates, which were attributed to improved patient treatment matching (Wickizer et al., 1994). Another Target Cities site reported that central intake improved treatment outcomes related to legal problems when compared to patients who entered the treatment program directly (Barron, McFarland, & McCamant, 2002). Individuals, majority male, with a shorter wait after centralized assessment have also been reported to be more likely to attend an initial treatment appointment (Claus & Kindleberger, 2002). These Target Cities studies did not report analyses by gender.

In many respects, this work in the United States influenced developments in Ontario. In the 1980s and 1990s, the Addiction Research Foundation encouraged and directly supported the development of a significant number of "assessment and referral centres" with the aim of increasing access to substance use treatment via a centralized approach to assessment and treatment matching. Subsequent evaluation (Rush, Ellis, Allen, Graham, & Ogborne, 1995) showed the model was challenged by the lack of referral to non-residential treatment. This result was an early sign that efforts to improve access at a centralized point in the community do not necessarily translate into increased capacity for direct treatment and support. Indeed, more recent experiences in Ontario with some of the centralized access models for substance use and mental health suggest the system can get overwhelmed quickly with new calls and contacts due to promotion of the service in the community (Rush & Saini, 2016).

Following the descriptive report on centralized and coordinated access by Rush and Saini (2016), a more evaluative report was prepared (Rush, Turner, & MacCon, 2017). This report examined the impact of Ontario's coordinated access models on the mental health and substance use treatment and support system and factors associated with their success. Answering questions related to effectiveness was hampered by the lack of quantitative data related to indicators of treatment access, in large part because of the newness and evolving nature of most of the services. Qualitative

5 See Guydish & Claus (2002) for a description and summary of the U.S. federal Target Cities initiative.

feedback from stakeholders on community benefits was, however, mixed, with most feeling that the impact of coordinated access had not been overwhelmingly positive or negative. Service providers in particular expressed some skepticism, noting that while coordinated access services have been useful in some ways, they have not been successful in addressing the many factors that precipitated their evolution, including challenges with service navigation, screening and matching services to client needs, and decreasing wait times. The findings also spoke to implementation challenges, including those that coordinated access models have faced in adapting to and managing constraints within their local context. Examples include limitations in mandate, governance structures, opportunities for referral placement and information technology infrastructure. Regardless of perspective, there was a general sense that coordinated access was a work in progress at the time of the review, and multiple opportunities were noted that could enhance services and contribute to better outcomes for individuals with lived experience and for the mental health and addiction system. The review also noted several promising features of the existing models.

The hub-and-spoke model for enhancing accessibility to opioid agonist treatment in Vermont is a well-researched centralized access model (Brooklyn & Sigmon, 2017). Five regions of the state have designated hub clinics organized around an existing program with authority to prescribe and dispense buprenorphine along with methadone under existing licensing. Hub staff provide assessment and treatment placement with the spoke providers delivering the direct treatment. Entry points into the hubs are diverse and include hospitals and EDs (especially after an overdose reversal or medical treatment for injection-related diseases), residential programs, Department of Corrections institutions, and community mental health programs.

Patient transfers between hubs and spokes are bidirectional; for example, patients can be transferred from a spoke back to the hub if they destabilize in the treatment setting. The funding model also allows for provision in clients' homes of such services as comprehensive care management, care coordination, individual and family support, and referral to community services. A brief screening and assessment process, with a collection of validated tools, was developed that would offer an efficient means to assess patient substance use severity at treatment intake, identify challenges in various psychosocial domains, including legal issues, transportation, chronic pain and social support, and help physicians pair patients with the most appropriate care. The same assessment package has been incorporated into the intake assessment at all hubs and is often used as a triage tool by spoke providers.

A significant number of the core features of centralized access system have been incorporated in this hub and spoke model. Statewide adoption has been associated with substantial increases in the state's opioid use disorder treatment capacity, with Vermont now having the highest state-level capacity for treatment in the United States. There has also been a 64% increase in physicians waivered to prescribe buprenorphine, a 50% increase in patients served per waivered physician, and a robust bidirectional transfer of patients between hubs and spokes based upon clinical need. No gender analysis was reported.

Summary

It is challenging to summarize the evidence about centralized and coordinated access models given the various approaches and "active ingredients" across models, as well as wide variation in scope and community context. Research from healthcare systems in other countries, such as the United Sates, may not apply to the Canadian context. Studies have used varying performance measures for evaluation purposes and given differential priority to measures of access and complementary measures of health outcome. Importantly, we have learned that measures to improve access must be complemented with equal concern for the capacity and quality of the treatment and support

system to provide evidence-based services proportionate to the level of need. This capacity must be of sufficient size and flexibility to respond to a surge in treatment help-seeking that system changes to improve access may prompt.

Related to the above challenge, it is important to remember that both "access" and "outcomes" are critical elements of system-level quality and performance measurement frameworks (Urbanoski & Inglis, 2019) and they need to be targeted and measured in a balanced way. There is no point increasing indicators of access, such as increased coverage of the in-need population, reduced wait time, decreased screening and assessment time, and reduced client sessions required per counsellor, at the expense of improved health outcomes. This dilemma has been expressed clearly as the difference between "contact coverage," which refers to the percentage of people in need who are in contact with any helping resource, and "effective coverage," which is the percentage of people in need who receive a service or intervention of well-established effectiveness (De Silva et. al, 2014).

At present, it is fair to conclude that efforts to centralize and coordinate access to services have strong potential to improve treatment systems and increase access to services, with the cautionary note that these changes do not necessarily yield better treatment outcomes. This conclusion echoes that of the significant work done on centralized access models three decades ago (Guydish & Claus, 2002). Many existing models have also been structured to meet the specific preferences commonly voiced by clients and families, such as availability of one-stop shops and navigation supports. These features, however, have not been sufficiently evaluated from the perspective of clients and families.

Most research on these models notes significant implementation challenges, including system-level buy in and partnerships, and changes in traditional roles for many key staff (Mental Health Commission of Canada, 2019). Rush and Saini (2016) reported on the key elements of successful implementation of centralized and coordinated access models in Ontario, these being strong leadership, stakeholder buy-in and adequate resources. They also noted the importance of flexibility of the model to adapt to local circumstances and ongoing collaboration with key stakeholders. Commonly reported barriers to implementation included making the scope of the model too broad, underestimating needs and resources, and lack of understanding and collaboration among the engaged service providers.

Needs-based planning models may be helpful in estimating community needs for services at different levels of severity and in ensuring consideration for required capacity of different service pathways for people at low to moderate severity, as well as those with complex needs (Rush, Tremblay, & Brown, 2019; Rush & Furlong, 2017). There is a need for evaluation focused on the components of centralized and coordinated access models required for marginalized populations, such as those who are homeless and those living in rural and remote communities. There are also challenges with using these models to improve access to services for refugees and other newcomers to Canada with significant histories of trauma and culturally different mores about seeking help for substance use and mental health issues (VIRGO Planning and Evaluation Consultants, Inc., 2018).

The Rush and Saini review concluded that centralized and coordinated access mechanisms do not necessarily address the issue of capacity to handle a major increase in help-seeking in the system. They do, however, offer an efficient approach to service matching if implemented with standardized processes and tools, and monitored with appropriate performance measurement indicators. It is also important to pay close attention to the needs of individuals with substance use and addiction issues, with or without significant concurrent mental health problems, as many of these emerging models are located in mental health services with limited capacity and competence for assessment and treatment planning for people with substance use concerns.

4.0 Summary and Implications

4.1 Summary

Access to health care, including treatment and support for at-risk substance use and substance use disorders, is a fundamental metric for gauging the quality of a system of healthcare services. The importance of access is reflected in recent provincial and territorial strategic plans, in-depth treatment system reviews and reports from leading research and knowledge translation experts and organizations. A focus on access to services is especially important for substance use and related concerns, given the associated costs and burden to society, the prevalence of these concerns among adults and youth, and the low levels of help-seeking and use of services.

This review aimed to identify:

1. The core components of various rapid access models designed to facilitate access to and engagement in substance use treatment services; and
2. The extent to which these rapid access models have resulted in improved access to services.

While facing challenges in defining the scope of our review given the multiple dimensions of the concepts of "access" and "rapid access," we narrowed its focus to five broad, diverse models that variously address these multiple dimensions:

- Hospital-affiliated models
- Mobile or assertive outreach models
- Screening, assessment, brief intervention and referral to treatment models
- Integrated youth services models
- Centralized and coordinated access models

While this review attempts to present the components that are most commonly featured in the research literature, it was generally not possible to conclude, on the basis of evidence, the extent to which these components on their own or in combination are responsible for positive impacts on treatment access. The challenges in synthesizing the information included the following factors:

- Heterogeneity across and within the five broad rapid access models;
- Heterogeneity of implementation context, including community setting and availability of community-based services and the challenges of ensuring fidelity to the models when implemented in these contexts;
- Heterogeneity in populations served, ranging from those with severe issues (ACT programs) to those with less severe issues (SBIRT) and all levels of severity in between (youth service hubs and centralized and coordinated access);
- Variation in the interpretation and measurement of the success of an innovation, evidenced by the focus of many evaluations on treatment and support outcomes and less attention given to indicators related to access;
- Variation in the interpretation and measurement of access, including speed of access, increased coverage, treatment completion and transitions;

- Short duration of the majority of evaluation studies, which may not give enough time for broad systemic changes to result in measurable impacts.

Objective 1: Identify the core components of different rapid access models

Notwithstanding the limitations noted above in synthesizing the literature on rapid access models, a high-level perspective on the "critical ingredients" that improve access to substance use treatment services and supports includes the following core principles and features:

- Careful consideration of the target population to be served to **ensure that the full range of severity and complexity** of substance use concerns are being addressed from a population health perspective (e.g., youth service hubs, RAAM clinics, SBIRT, centralized and coordinated access services, including hub and spoke models);
- **Flexibility** in the way in which people access services and supports (e.g., walk-in, telephone, online and appointment-based services, such as in the youth service hubs, centralized and coordinated access models);
- **Outreach capability**, especially for those with the most severe and complex challenges (e.g., assertive outreach, mobile services);
- **A focus on transition supports** and the overall **coordination of the network of services** surrounding the access focal point, including transitions that will support needs beyond the substance use concern itself, such as primary health care and significant psychosocial challenges (e.g., hospital-affiliated models, including bridge clinics, youth service hubs, ACT teams);
- **Multi-disciplinary team capacity within the models**, for example, ensuring both substance use and mental health specialists in ACT teams, addiction medicine within access models in healthcare services, integrated teams in service hubs and so on;
- Inclusion of core principles and **evidence-based practices of screening, assessment and stepped care** so as to maximize opportunities for early intervention, as well as linkage to services that will contribute to optimal outcomes based on the initial assessment (e.g., hub and spoke, centralized and coordinated access);
- Inclusion of **both access and outcome indicators** in performance measurement frameworks, with built-in quality improvement processes to continuously improve the program based on the population being served (e.g., youth service hubs);
- **Active engagement of key stakeholders** in design, implementation and ongoing evaluation, including meaningful engagement of people with lived and living experience (e.g., youth service hubs, centralized and coordinated access models, assertive outreach).

Objective 2: Identify the extent to which rapid access models have resulted in improved access to services

There are varying levels of evidence about the impacts of each of the five models included in this review. Some rapid access models such as hospital-affiliated RAAM clinics and youth service hubs come with convincing evidence. Others have less convincing evidence, as, for example, the evidence for the ability of SBIRT to improve access to specialized services for those requiring more services and supports than can be provided within the practice setting.

The challenges to evaluation noted above must be taken into account in weighing the evidence, especially the almost universal concerns about the need for more resources and evaluation efforts aimed at implementation. In other instances, such as the recent emergence of Stepped Care 2.0 and mobile health clinics in Canada, more work is needed that is focused on effectiveness for people at risk of or experiencing substance use disorders, as well as on inclusion of outcome measures specific to access to services. Some components of some of the service delivery options within Stepped Care 2.0 are too new to reach any conclusions about them. Such components include online screening and assessment and web-based therapeutic interventions.

In sum and based on the available evidence, we would answer our second research question with a cautious "yes." Many of the strategies reviewed here have demonstrated an increase in access or have shown the potential to increase access. They also hold promise for engaging people in substance use services who might not otherwise seek assistance until their challenges become severe, thereby facilitating earlier engagement and intervention. Earlier intervention is a key focus of a systems approach aimed at broadening the base of treatment and support. Research to date leaves questions about the importance of core components of specific initiatives and their ultimate benefits in terms of outcomes and return-on-investment. Answers to these questions will require focused evaluation and implementation science. A concerted effort is also needed in future research and evaluation to ensure that initiatives to improve access to substance use services and supports are inclusive of those with the most severe and complex needs, including marginalized and vulnerable populations. There is also a significant gap in the research to date in understanding the effectiveness of different models for improving assess for people of all genders, despite the evidence about the impact of gender differences on need and help seeking. This gap in research also exists for other population groups, such as new Canadians, including refugees, Indigenous people, and people with minority sexual orientations or identities.

4.2 Implications for System Planning, Evaluation and Research

Rapid access models hold the promise of engaging and connecting individuals with substance use problems to a range of services and supports along a continuum corresponding to varying levels of risk, acuity, chronicity and complexity of substance use and resulting harms. The realization of that promise, however, will always be limited by the extent to which those services and supports, and the competencies of the workforce to deliver them, are available in the broader continuum of care in the community. Planning for the development and implementation of rapid access models will require a systems approach grounded in an understanding of the need for services for different populations in a given region, the *range and availability* of these services, the *competencies, training and supports* required to deliver them, and *existing barriers* to access.

It is not yet known how the broader substance use system of services and supports will be impacted over the long term by the COVID-19 pandemic, particularly with respect to need and demand for services. The pandemic has led to important learnings and innovations in technology-assisted service delivery, innovations that are likely to remain part of substance use treatment and support systems as they emerge out of the pandemic. These changes will have important implications for planning models aimed at improving access to and availability of services and addressing the unique levels of risk and acuity of needs of the different populations being served.

Another clear implication from this review is the need for more focused research and evaluation about the impact of models to improve access to substance use services. Where possible, research and evaluation need to address questions related to treatment engagement and early intervention,

as well as improved outcomes and cost efficiencies. Researchers also need to clearly unbundle the "access" construct in specifying their research and evaluation questions, especially the important distinction between more "rapid access" compared to normative performance, as distinct from more "engagement" or "earlier engagement" of people in evidence-based services.

Concerted effort must be made to identify which components within service delivery models are most responsible for improved access outcomes, as well as for whom. As above, this effort will be especially critical in the context of the rapid expansion of virtual, web- or mobile-based services, which will likely augment, rather than replace, in-person screening, assessment, treatment, case management and continuing care services. The critical question of improved access "for whom," including through technology-based innovations, should prompt a health equity assessment of planning and program development initiatives. It should also prompt a corresponding research and evaluation agenda to address a critical analytic gap with respect to impacts on specific populations, particularly for members of marginalized populations and for all genders, ethnic and cultural groups, and levels of acuity of substance use problems and concurrent disorders.

This review was limited to an analysis of the published literature. Consultations with experts and stakeholders would likely contribute a more nuanced, perhaps jurisdiction-specific, perspective on rapid access models, including their impacts, implementation challenges and alignment with broader system planning. Further research should also explore issues related to the increased use and sustainability of virtual service options, many of which were developed and implemented in response to the COVID-19 pandemic. In addition to their potential impact on access to services, this research should consider what virtual service options might be best viewed as adjuncts rather than alternatives to face-to-face service delivery; how the resulting digital information is integrated into client records and performance measurement systems; and, ultimately, the contribution of these options to client and family outcomes (Quintana & Torous, 2020).

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