



Ontario Centre of Excellence
for Child and Youth
Mental Health

Bringing People and Knowledge Together to Strengthen Care.

Pathways to care for youth with concurrent mental health and substance use disorders

April 2014

Prepared by:

Gillian K. Watson, MA, PhD candidate

Simon Fraser University

Charles Carter, MPPM, BA

Ontario Centre of Excellence for Child and Youth Mental Health

Ian Manion, PhD, CPsych

Ontario Centre of Excellence for Child and Youth Mental Health

www.excellenceforchildandyouth.ca



Acknowledgements

This policy-ready paper was initiated by the Ontario Centre of Excellence for Child and Youth Mental Health, and guided by input from policy makers at several Ontario Ministries and partners at the Centre for Addiction and Mental Health, the Canadian Centre on Substance Abuse and the Pine River Institute. We are grateful for the guidance of Ann Bowlby, Barry Finlay, Marian Mlakar, Pam Brown, Sandy Palinsky and Sheree Davis.

We received invaluable review and comment from experienced practitioners and researchers who are well grounded in the fields of substance abuse, mental health service and concurrent disorders. Our sincere thanks to:

Gloria Chaim, Deputy Clinical Director, Child, Youth and Family Services
Centre for Addiction and Mental Health

Heather Clark, Research and Policy Analyst
Canadian Centre on Substance Abuse

Karine Diedrich, National Priority Advisor
Canadian Centre on Substance Abuse

Laura Mills, Director Research and Evaluation
Pine River Institute

Rebecca Jesseman, Research and Policy Analyst
Canadian Centre on Substance Abuse

Rita Notarandrea, Deputy Chief Executive Officer
Canadian Centre on Substance Abuse



Table of contents

Executive summary	4
Introduction	8
Purpose	9
Methodology	10
Scope of the problem	11
Substance use among Canadian youth	11
Mental disorders and the development of concurrent disorders	12
Service access by youth with mental disorders and substance use disorders	14
Barriers to care for youth with concurrent disorders	14
Evidence-informed services for youth with concurrent disorders	16
Overview	16
Prevention and health promotion	17
Screening and early intervention for youth with concurrent disorders	17
Diagnostic assessment and treatment of concurrent disorders.....	18
Evidence-informed psychosocial interventions	19
Philosophy and practices that support pathways to care	21
Overarching philosophies: Adjusting attitudes and assumptions about youth with concurrent disorders	21
The continuum of abstinence to harm-reduction models	21
Stigma associated with substance use and externalizing behaviours.....	21
Confidentiality and consent to treatment.....	22
Models of service delivery for the treatment of youth with concurrent disorders	23
Service integration: Single-site integration	24
Multi-site integration (i.e. system-level integration).....	25
Conclusion	25
References	30
Appendix I: Definitions	41
Appendix II: Screening, assessment and treatment implications in various sectors	42
Appendix III: Models of collaborative care	46



Executive summary

Concurrent disorders is an umbrella term that describes the simultaneous existence of a mental disorder and substance use disorder. Conduct disorder (severe behaviour problems), attention-deficit/hyperactivity disorder, depression and anxiety disorders are the most prevalent mental disorders that co-occur with substance use disorders among youth (Armstrong & Costello, 2002). If left untreated, youth with concurrent disorders are at high-risk for a variety of unhealthy outcomes including crime, homelessness, risky sexual behaviour, school drop-out, damaged family relationships, multiple hospital visits and suicide. These youth often come into contact with multiple service systems throughout their lives including health care (e.g. emergency room, hospitalizations), justice, and social services (e.g. housing, financial assistance). This higher contact with services means that youth with concurrent disorders incur greater costs across systems (Cohen & Piquero, 2009).

Results from the Ontario Student Drug Use and Health Survey indicated that 13% of Grade 7-12 students had a substance use problem that would benefit from intervention, but only 1% of youth received treatment in the past year (Paglia-Boak, Adlaf, & Mann, 2011). Other studies estimate that 14-25% of children and adolescents are suffering from a mental health disorder at any given time (Boyle & Georgiadas, 2009; Waddell, Offord, Shepherd, Hua, & McEwan, 2002). Youth transitioning to adult mental health and substance abuse services have even higher rates of mental disorders (Pottick, Bilder, Vander Stoep, Warner, & Alvarez, 2008), as the onset of other serious mental disorders, such as psychosis, emerge in late adolescence and young adulthood (McGorry, Purcell, Goldstone, & Amminger, 2011).

Given the high rates of mental disorders and the high rates of substance use during adolescence and young adulthood, it is not surprising that there is significant risk for youth to develop co-occurring disorders. Canadian research estimates that 3% of youth ages 15-24 years old meet diagnostic criteria for a concurrent disorder (Cheung, Bennett, Bullock, Soberman, & Kozloff, 2010). This is a conservative estimate of potential longer-term negative outcomes, as it does not capture the high prevalence of youth in the early stages of substance use and psychiatric symptom development who do not meet diagnostic criteria (Paglia-Boak, Adlaf, & Mann, 2011).

The service needs of youth with concurrent disorders are complex and the necessity of individualized assessment and treatment plans makes a 'one-size-fits-all' approach impossible. Because of the complexity and diversity of needs, the majority of youth with concurrent disorders do not receive services. Attitudinal barriers exist that prevent youth from accessing services on their own accord. For example, youth often do not identify as having a problem requiring formal supports, or they feel they can deal with the problem on their own (Wu & Ringwalt, 2006). Those who do wish to access services often encounter systemic barriers that hinder the effectiveness of their recovery process. For instance, funding for mental health services and addictions services come from different Ministries in Ontario, thus situating them in separate sectors. The result is a lack of coordination and continuity of care between service providers (Bukstein & Horner, 2011), or problems with transitions between services such as from child to adult services. There is a strong rationale for policy-makers to support initiatives that improve services across sectors and settings to meet the needs of youth with concurrent disorders.

This paper focuses on youth aged 12-24 years old, and the recommendations are intended for policy-makers in Ontario. Although much of the supporting literature is focused on youth under 18, given the importance of the transition years



and the difficulty youth experience in transitioning to adult health services, it is important to consider how care pathways are applied for all youth. The table below summarizes the barriers youth experience that can compromise their ability to access care, with the corresponding recommendations to improve how services are structured and provided. Full recommendations can be found in the conclusion of this paper.

	Barrier	Recommendation
1.	Youth with concurrent disorders often do not see their substance use as problematic. They might not access treatment because they want to handle their problems independently, are skeptical about treatment, or feel stigmatized accessing services. High rates of trauma and maltreatment among youth with substance use disorders suggests that many of these youth may have negative expectations of relationships with adults.	Service providers can be challenged from the outset in engaging with youth and gaining their trust. The system should make access to screening and assessment accessible and safe, and all service providers should be trained in youth engagement . Service providers are encouraged to work collaboratively with youth to develop a treatment plan and to implement motivational enhancement strategies targeted to the youth's readiness for change. A harm reduction approach is recommended to engage youth in the treatment process.
2.	Those youth who are most impaired tend to receive the timeliest services, but there is often a significant delay between when concurrent disorders begin and when youth are screened and finally access treatment. Identification, screening and assessment do not consistently happen early or at key service locations.	Service systems require a population health approach by ensuring that <i>any door is the right door</i> . This requires the involvement of multiple sectors including primary health care, education, juvenile justice and specialized mental health and addictions services. Screening should be conducted for both mental health and substance use disorders in all service settings, with referral to appropriate services where necessary. Brief, cost effective screening instruments have been shown effective in Canada and can be used by a variety of practitioners.
3.	A lack of understanding of referral processes among service providers often requires youth to access multiple service providers before receiving the proper care.	Determining referral processes across sectors is a priority, along with clear definitions of the roles and responsibilities of each in the process. Inter-professional meetings across sectors are recommended as a way to establish collaborative relationships. Communities should develop protocols and clear clinical care pathways that function across service locations and sectors.
4.	Mental health and substance use disorders are often treated in separate settings, through separate sectors, which can lead to service providers feeling confused as to who is responsible for treating youth with concurrent disorders. In addition, mental health services often require that a client's substance use be	Substance use disorders should not be exclusionary criteria for mental health services. Better outcomes are achieved when there is coordination and integration of mental health and addictions services to address both issues concurrently. Mental health and substance use disorders should be treated simultaneously in a coordinated and integrated manner.



	managed prior to engaging in mental health treatment, thus making substance use an exclusionary criterion for accessing mental health services.	
5.	Integrated treatment approaches that simultaneously address mental health and substance use disorders are limited because of the lack of clinicians who are trained and experienced to screen, assess and provide integrated interventions. This is in part due to a lack of knowledge among mental health clinicians and addictions counsellors, discomfort talking about alcohol and drug use by mental health clinicians, and differing understandings of abstinence and harm reduction.	A combination of single-site programs with fully integrated mental health and substance abuse treatment (i.e. specialized concurrent disorders programs) and multi-site coordinated programs (where individuals see addictions counsellors and mental health clinicians in separate but closely coordinated settings) are recommended. To support multi-site coordination, mental health and addictions counsellors require training and support on concurrent disorders, screening, and evidence-informed treatments. For training to be effective, it must be intensive and include on-going support, coaching and consultation. For multi-site coordinated programs, clarity of roles along the clinical pathway and referral and exit protocols are key. The topic of concurrent disorders should also be incorporated into professional university and college programs responsible for training and certifying direct service providers.
6.	Although collaboration across sectors is recommended, little research exists on how to best implement integrated, multi-site collaboration.	Local task forces should plan cross-sectoral, coordinated clinical pathways and multi-site care integration at the community level. Local implementation activities should be rigorously evaluated to demonstrate what works in Ontario and what the key components are of services for youth with concurrent disorders. Common evaluation templates and measures should be used across communities for comparison of sites and to aggregate data provincially.
7.	Those with complex concurrent disorders often have difficulty staying engaged in treatment.	Intensive case management and Wraparound ¹ services are recommended for high-risk youth and those with established and severe concurrent disorders, and should include a key worker dedicated to coordinating services to ensure ongoing engagement in treatment. The availability of single-site, integrated concurrent disorders services will reduce the problem of requiring youth to attend multiple appointments in multiple settings. Family involvement in services is associated with improved outcomes. Grounding services in family engagement and youth engagement best practices can improve client retention and engagement.

¹ Wraparound requires a team approach to planning and involves multiple providers so that the complete range of services “wraparound” the client. The services are individualized, family-driven, strengths-based, culturally competent, and community oriented (Burchard, Bruns, & Burchard, 2002).



The Ministry of Children and Youth Services [Draft Child and Youth Mental Health Service Framework](#) outlines consistent expectations for the delivery of child and youth mental health services in Ontario, including core services, the importance of pathways to care, and key processes. Our summary recommendations, which are expanded upon in the paper, align with the framework:

- 1) Service providers in Ontario, across education, health, mental health and other service provision locations, should be part of an integrated continuum of services and supports that ranges from prevention to intensive intervention depending on the profile and needs of youth.
- 2) All programs should be evidence-informed and evaluated to ensure effectiveness and accountability.
- 3) A pathway to care for youth with concurrent disorders should include the following principles:
 - 1) Youth should be able to enter the pathway to care through schools, primary care, hospitals, mental health facilities, addictions treatment settings, child welfare and/or juvenile justice.
 - 2) Once youth have accessed a service, all service providers should be competent to screen and identify youths' level of need, without having to refer them to another service to do so.
 - 3) Results of the screening should inform the next step in the process. Individuals should be cared for within the current service or referred to the appropriate treatment that matches their needs. Individuals should be referred to the following:
 - a. Primary care physician: when symptom severity of mental disorder and substance use are low.
 - b. Addictions specialist: when addictions symptoms are moderate to severe and mental disorder symptom severity is low.
 - c. Mental health specialist: when mental health symptoms are moderate to severe and addictions symptoms are low.
 - d. Integrated treatment approach: when individuals have a moderate to severe mental disorder and substance use symptoms.

System changes and culture shifts at agencies and among service providers will require dedicated leadership. To train and sustain this level of competency among addictions and mental health workers and to develop integrated and coordinated services, the full support of team leaders and senior management at the community planning and provincial policy tables is essential. As Hides, Elkins and colleagues (2007) wrote regarding developing basic competency among addictions workers, "change will not occur if the service does not articulate this process as a priority and a core service issue" (p. 365-366).



Introduction

Concurrent disorders is the preferred term used in Ontario to describe the simultaneous existence of a mental disorder and substance use disorder. For the purposes of this paper, *youth* refers to those aged 12-24. Research findings in this paper are drawn from Canada and other jurisdictions, but the implications and policy recommendations are tailored for policy-makers in Ontario who shape the services that youth with concurrent disorders receive in a variety of settings and sectors.

Both mental health problems and substance use occur on a spectrum. Concurrent disorders can be defined narrowly as involving a formal diagnosis of a mental disorder and substance use disorder, but the term is also used to define the co-occurrence of problems at levels that have not generated a clinical diagnosis. The range of problems and intensities is broad, which requires a continuum of evidence-informed screening, assessment, prevention, promotion, and treatment services.

Canadian research estimates that 3.2% of youth ages 15-24 years old meet criteria for a concurrent disorder (Cheung, Bennett, Bullock, Soberman, & Kozloff, 2010). This is a conservative estimate, as it does not include youth in the early stages of substance use and mental health symptom development but do not meet diagnostic criteria (Paglia-Boak, Adlaf, & Mann, 2011). Conduct disorder, attention-deficit/hyperactivity disorder, depression and anxiety disorders are among the most prevalent mental health disorders comorbid with SUDs (Armstrong & Costello, 2002). Given the diverse range of interacting disorders, the service needs of youth with concurrent disorders are complex and require individualized assessment and treatment plans, making a 'one-size fits all' approach impossible.

Beyond the complex nature of concurrent disorders contributing to service difficulties, many youth do not receive services because of other factors. For example, youth often do not identify as having a problem requiring formal supports, or they feel equipped to deal with the problem on their own (Wu & Ringwalt, 2006). Additionally, those who *do* wish to access services often encounter systemic barriers that hinder the effectiveness of their recovery process. For instance, funding for youth mental health services and addictions services come from different Ministries in Ontario, thus situating them in separate sectors. The result is a lack of coordination and continuity of care between service providers (Bukstein & Horner, 2011), or problems with transitions between services such as from child to adult services. In addition, a substance use disorder is often an exclusionary criterion for accessing mental health services (Libby & Riggs, 2008).

The consequences of youth not receiving appropriate services are considerable. If left untreated, youth with concurrent disorders are at risk for a variety of unhealthy outcomes such as involvement with crime, homelessness, school drop-out, risky sexual behaviour (Deas & Thomas, 2001) and suicide (Esposito-Smythers & Spirito, 2004). From a public health perspective, the costs associated with not treating a young person with a concurrent disorder are extensive. These youth often come into contact with multiple service systems throughout their lives including health care (e.g. emergency room, hospitalizations), justice, and social services (e.g. housing, financial assistance).



Purpose

The issue of youth with concurrent disorders has garnered the attention of researchers and advocates across Canada in recent years, and has highlighted the need to strengthen systems that serve these youth and their families. Several recent reports summarized essential practices, scanned the service landscape in Ontario and provided the foundation for this policy-ready paper. Suggested resources include:

- *Concurrent Substance Use and Mental Disorders in Adolescents: A Review of the Literature on Current Science and Practice* (Adair, 2009), submitted to The Alberta Centre for Child, Family and Community Research
- *Evidence On-Tap: Understanding service delivery needs of youth with concurrent disorders* (Cheung et al., 2010), by the Centre for Addiction and Mental Health (CAMH), with a particular focus on policy relevant findings
- *Concurrent Disorder Services in Ontario: An Environmental Scan*, by Addictions and Mental Health Ontario and the Canadian Mental Health Association (2013)

This policy-ready paper aims to answer the question: ***What system-level and service-level changes would potentially improve coordinated, effective service delivery across sectors for youth who are presenting with concurrent disorders?*** Specifically, we:

- 1) Outline the essential ingredients of evidence-informed services for youth with concurrent disorders based on the research literature, while highlighting potential pathways to care (e.g. access points);
- 2) Review the literature on models of service delivery for youth with concurrent disorders;
- 3) Describe existing models of integrated/coordinated services (i.e. methods of providing coordinated treatment plans) for youth with concurrent disorders; and
- 4) Propose recommendations to improve service delivery for youth with concurrent disorders in Ontario.

This topic is situated among several of the priorities outlined by Ontario's ten year mental health and addictions plan *Open Minds, Healthy Minds: Ontario's Comprehensive Mental Health and Addictions Strategy (2011)*. The strategy is a shared responsibility between the Ministries of Health and Long-Term Care, Education, Children and Youth Services, and Training Colleges and Universities. The plan targets efforts to close the critical service gaps for vulnerable children and youth "who have complex mental health needs requiring specialized care" (p. 23). The plan emphasizes the importance of integrating services and improving "coordination across Ministries and sectors" (p. 25).

Improving care for youth with concurrent disorders aligns with the current priorities of the Government of Ontario's mental health and addictions strategy. Considering the complexity of youth with concurrent disorders, and their need for complex and multi-sector support that is well coordinated, activities delivered within the strategy should specifically target this special population. *Moving on Mental Health: A system that makes sense for children and youth* (2012) includes as a priority the development of pathways to care between mental health services and key access points such as schools, hospitals and primary care. The goal is to provide "transparent pathways [that] facilitate earlier identification and more rapid, streamlined access to service, which leads to better outcomes" (p. 14).

The Ministry of Children and Youth Services has built upon *Moving on Mental Health* by producing a *Child and Youth Mental Health Service Framework* (September, 2013). This framework highlights the Ministry's commitment to



establishing clear pathways to care for children, youth and families. Importantly, the framework includes the perspective of our most important stakeholders and notes that clear pathways could help mitigate the frustration felt by families that have found that “finding their way to care and through the service system is one of the chief flaws in the current system” (p. 7). By improving pathways to care, there is potential to reduce the time between identifying a concern and receiving help, which can be critical in producing positive outcomes. It is essential that the needs of youth with concurrent disorders are addressed during system transformation and that the newly established lead agencies participate in creating pathways to care for this complex group.

This policy-ready paper is a resource for policy-makers involved in the provision of services for youth presenting with concurrent mental health and substance use problems, and serves as a bridge to bring together service users, service providers and policy-makers from multiple Ministries. In this paper the term ‘policy-maker’ encompasses the terms ‘service planner’ and ‘decision-maker’ and refers to those individuals who make legislative, administrative or clinical decisions in organizations or government.

Methodology

The scope of this paper was established through an inter-ministerial consultation meeting with representatives from the Ministries of Children and Youth Services, Health and Long-Term Care, and Education, along with partners from the Canadian Centre on Substance Abuse. Based on our dialogue, as well as follow up conversation to refine the research focus, *pathways to care for youth with concurrent disorders* was determined as the clearest policy priority and therefore was chosen as the central topic of the paper.

We synthesized research on topics that stakeholders identified as relevant, including normative versus problematic substance use, pathways to clinical care, evidence-informed treatments, and collaboration across sectors. Where information specific to youth with concurrent disorders was not available, we drew on research from other populations, including adults with concurrent disorders; youth with complex, comorbid mental health problems; and youth with substance use disorders alone. In addition, literature on public health perspectives either specific to children or adult mental health was reviewed where relevant.

We put a focus on screening, assessment and treatment practices for youth with a mental disorder who are engaging in problematic substance use, and youth with a substance use disorder who are demonstrating signs of mental health problems. Substance use prevention and mental health promotion are not within the scope of this current project. The recommendations in this paper are informed by findings from a non-systematic, selective review of the peer-reviewed literature and grey literature, including research from community-based and clinical populations. Primary searches were conducted in PsycInfo and PubMed. Grey literature was searched for in Google Scholar and Google, as well as on CCSA and CAMH websites. Canadian research was prioritized if possible, but studies from other countries (e.g. United States, Australia) were reviewed and included where relevant.

The focus is on youth aged 12-24 years old. The particular age range in the literature, however, varied depending on the study reviewed, and research involving adolescents 12-18 years old was more common than research on transition age youth (those who are 18-24 years old). While there are gaps in the literature specific to transition aged youth, since



youth making the transition from child and youth services to adult health services have higher rates of mental disorders, we decided that the scope of the paper should be inclusive of ages 12-24.

Scope of the problem

Substance use among Canadian youth

Substance use occurs on a continuum ranging from first use and experimentation to a diagnosable substance use disorder (SUD). The multiple levels of substance use have been defined by Knight (1997) as:

- Experimentation (i.e. first use, use with peers in a social context)
- Regular use or social use (i.e., use on a regular basis in social situations)
- Problem use or misuse such as compensatory use (e.g. use to change a negative mood) or hedonistic use (e.g. use with the purpose to feel good or to experience something new)
- Substance use disorder (SUD) occurs when youth become clinically impaired as a result of their substance use and meet diagnostic DSM-IV criteria.

Substance use among Canadian youth is common. The majority have at least tried alcohol or marijuana by the time they have completed high school (Leatherdale & Burkhalter, 2012). Results from the Ontario Student Drug Use and Health Survey (OSDUHS; Paglia-Boak, Adlaf, & Mann, 2011) indicate that alcohol is the most common substance consumed, with over half (55%) of youth in grade 7-12 reporting use in the past year. OSDUHS data show that illicit or prescription drug use is also widespread, with over a third (37%) of grade 7-12 students reported use in the past year. Marijuana (22%) and prescription pain killers (e.g. codeine, Percocet) for non-medical purposes (14%) are most commonly used. These prevalence rates underestimate the extent of the problem as they do not take into account youth who are not attending school (e.g. homeless youth, youth in correctional facilities, and youth on First Nations reserves), who have higher documented rates of substance use than the general population (Kirst, Frederick, & Erickson, 2011; Canadian Centre on Substance Abuse, 2007).

Youth typically first use alcohol or marijuana when they are 15 years old (Health Canada, 2012). Over the course of adolescence, the rates of alcohol and drug use steadily increase but the majority of youth who use substances as adolescents decrease their use over time without requiring intervention. For instance, 17.4% of grade 7 students reported alcohol use in the past year compared to 78% of grade 12 students (Paglia-Boak, Adlaf, & Mann, 2011). Substance use then peaks in young adulthood and begins to decline after they reach their mid-20s (Chen & Jacobson, 2012). Substance use becomes problematic when it progresses to misuse or the development of a substance use disorder.

U.S. population studies suggest that approximately 11% of adolescents (aged 13-18 years) meet criteria for a substance use disorder (Merikangas et al., 2010). Although consuming substances has negative consequences on the developing adolescent brain (Lubman et al., 2008), the level of risk varies depending on the youth's age as well as frequency and context of use.



The progression from experimental substance use to developing a disorder is complex and multi-faceted. However, research indicates that early age of onset of alcohol or drug use increases the risk of progressing from experimental use to abuse or dependence (Bukstein et al., 2005; Hingston & Zha, 2009). Studies have found that alcohol dependence rates in young adulthood were 2 to 4 times higher for those who began drinking by age 14 compared to those who began drinking after age 20 (Grant & Dawson, 1997; Hingston, Heeren, & Winter, 2006).

Based on the importance of age in the development of SUDs, the National Institute on Alcohol Abuse and Alcoholism (2011) uses age and frequency of alcohol consumption as a rough estimate of risk, regardless of reason or context for use. For instance, the “highest risk” cut off points in number of days of drinking in the *past year* is: one day for age 11; six days for ages 12 to 15; 12 days for age 16; 24 days for age 17; and 52 days for age 18. These risk assessments suggest that not all youth engaging in substance use require targeted intervention, although a complete spectrum of prevention and education is required.

Spotlight on Canada: The National Youth Screening Project (Henderson and Chaim, 2013)

The National Youth Screening Project, led by researchers from Centre for Addiction and Mental Health, used the GAIN Short Screener to screen for substance abuse and mental disorders in agencies from nine sectors: addictions; child welfare; education; family services; health services; housing, outreach and support; justice; mental health; and social services. Among the findings from 1,305 Canadian youth aged 12-24 years:

- 41% screened positive for co-occurring substance use and mental health disorders
- 47% of youth endorsed having considered suicide
- 41% of males and 60% of females had trauma related distress

Mental disorders and the development of concurrent disorders

There are multiple ways a concurrent disorder can develop. Even though mental disorders typically precede the onset of a substance use disorder, some youth develop a SUD first. For instance, substance use, in particular marijuana use, increases the risk of developing psychosis for those with existing genetic vulnerability (Hall & Degenhardt, 2000). The relationship between substance use and mental disorders is complex and varies depending on the individual and the disorder combination. For some individuals substance use exacerbates mental health symptoms, while for others substance use minimizes or masks the presentation of an underlying mental disorder.

Mental health disorders can be organized by whether they are considered internalizing or externalizing (Chan, Dennis, & Funk, 2008). Internalizing disorders include depression, anxiety, somatic disorder, and post-traumatic stress. Externalizing disorders include attention-deficit/hyperactivity, conduct and other impulse control disorders. It is commonly stated that one in five Canadians will suffer from a mental disorder in any given year (Mental Health Commission of Canada, 2012), with the majority of those disorders starting in childhood or adolescence (Kessler et al., 2005). Epidemiological studies estimate that 14-25% percent of children and adolescents are suffering from a mental disorder at any given time (Boyle & Georgiadas, 2009; Waddell, Offord, Shepherd, Hua, & McEwan, 2002). Youth making the transition from child and youth services to adult health services have even higher rates of mental disorders (Pottick,



Bilder, Vander Stoep, Warner, & Alvarez, 2008), as the onset of other serious mental disorders, such as psychosis, emerge in late adolescence and young adulthood (McGorry, Purcell, Goldstone, & Amminger, 2011).

The presentation of mental disorders is often complex since the presence of simultaneous (co-occurring/comorbid) mental health disorders is common among youth. A large, population based U.S. study found that as many as 40% percent of adolescents with a mental health disorder met criteria for at least two distinct disorders (Merikangas et al., 2010). Comorbidity among adults is also the norm, as more than 50% of adults with a mental health disorder meet criteria for more than one diagnosis in a given year (Kessler et al., 2011).

Given the high rates of mental disorders combined with the high rates of substance use during adolescence and young adulthood, it is not surprising that there is significant comorbidity among mental disorders and SUDs. In fact, of those youth with a SUD in the community, the majority (60%) have a mental disorder such as conduct disorder (46%), depression (19%), or anxiety disorder (17%; Armstrong & Costello, 2002). Research on clinical populations (youth who accessed treatment for SUD) indicate even higher prevalence rates of mental health disorders, as well as high incidences of traumatic stress (Chan, Dennis, & Funk, 2008).

There are gender specific patterns of difference in internalizing and externalizing conditions among youth, although they are not necessarily specific to SUDs. Among community and clinical populations, females with SUDs tend to have higher rates of internalizing problems than males with SUDs (O'Neil, Conner, & Kendall, 2011). The National Comorbidity Study in the U.S., found that a large scale survey involving youth aged 13-18 years females were twice as likely as males to experience unipolar mood disorders, females were more likely to experience anxiety disorders, in particular post-traumatic stress disorder, and three times as many males as females were diagnosed with ADHD (Merikangas, 2010). Earlier work by Lewinsohn and colleagues (1998) similarly found that even as early as age six females are much more likely than males to experience anxiety disorders.

Community research has demonstrated that for youth with concurrent disorders, the mental disorder typically precedes the onset of substance use and the development of a SUD (Armstrong & Costello, 2002). Specifically, if untreated, externalizing disorders such as ADHD (Wilens et al., 2011) and conduct disorder (Fergusson, Boden, & Horwood, 2008) independently act as risk factors for later SUDs. However, the relationship between internalizing disorders and SUDs is less conclusive. Although most research findings indicate that internalizing disorders are a risk factor for SUDs, and often precede SUDs (Hussong, Jones, Stein, Baucom, & Boeding, 2011; O'Neil et al., 2011), some suggest that the onset of depression occurs after the SUD (Costello, Erkanli, Federman, & Angold, 1999).

Various models have been proposed to explain the reason mental disorders tend to precede the onset of SUD in those with concurrent disorders. Common theories speculate that substance use is initiated as a way to "self-medicate" or cope with emotional distress (Weiss & Mirin, 1985) or attention problems (Wilens et al., 2007). Further, the same risk factors (e.g. family history, individual personality variables, environmental factors and traumatic events) can influence the onset of both mental illness and SUD (Goodwin, Fergusson, & Horwood, 2004; Hawkins, 2009). Family history variables (e.g. parental substance use, history of psychopathology) influence the genetic vulnerability of developing mental illness or SUD in youth. Individual personality variables associated with the development of externalizing disorders and SUD include sensation seeking and impulsive behaviour (Castellanos-Ryan, Rubia, & Conrod, 2011). In addition, common environmental factors that increase the risk of both mental illness and SUD include limited parental



supervision or neglect (Clark, Thatcher, & Maisto, 2005) and traumatic events such as abuse or significant losses (Kilpatrick et al., 2000; Blumenthal et al., 2008). Therefore, mental illness doesn't necessarily cause a SUD, but rather a youth may experience risk factors that increase vulnerability to developing multiple disorders.

Due to the high level of individual differences among youth presenting with concurrent disorders, comprehensive assessments are required for treatment planning. Timely interventions that take into account the mental disorder and SUD, as well as their interaction, are essential to decrease symptoms and prevent a chronic course of impairment into young adulthood. The fact that youth can experience a substance use disorder or mental health disorder first, when developing a concurrent disorder, illustrates the need for collaborative care. Rather than treat them as two aspects of a disorder, it is essential that mental health and addictions services provide complex and coordinated support and service.

Service access by youth with mental disorders and substance use disorders

Service utilization among adolescents with mental disorders is limited. It is estimated that only one in six who require intervention access mental health services in Ontario (Offord, Boyle, Fleming, Munroe Blum, & Rae Grant, 1989). Youth with SUDs access services even less frequently. In the U.S., only about 10% of youth with a SUD access treatment (Dennis, Chan, & Funk, 2006; Wu & Ringwalt, 2006). In Canada, results from OSDHUS indicated that 13% of grade 7-12 students may have had a substance use problem requiring treatment, but only 1% of youth received services in the past year (Paglia-Boak, Adlaf, & Mann, 2011). Additionally, there is often a significant delay between the onset of substance use disorders and accessing treatment, with only the very severely impaired youth receiving timely services (Wu & Ringwalt, 2006).

The presence of more than one mental health disorder increases the likelihood that a youth will access treatment (Rohde, Clarke, Lewinsohn, Seeley, & Kaufman, 2001). Although research evidence points to the benefits of early intervention programs, limited availability of such programs and limited early identification means that youth's problems must be "severe enough" to access intensive treatment programs or must come into contact with other systems, such as juvenile justice, before they receive services (Sterling, Weisner, Hinman, & Parthasarathy, 2010). In addition, wait lists for mental health services are often longest for those with less severe symptoms (Kowaleski, McLennan, & McGrath, 2011), which delays access to services until youth have more severe symptoms.

Unfortunately, even when youth do receive services, those with the most complex mental health and substance use disorders have the most difficulty staying engaged in treatment (Dierker, Nargiso, Wiseman, & Hoff, 2001). In addition, for youth who have received substance use treatment, those with concurrent mental disorders are at greater risk for relapse than those with substance use disorders alone (Grella, Hser, Joshi, & Rounds-Bryant, 2001; Cornelius et al., 2004). This reinforces the need for case management, deliberate use of youth engagement strategies in mental health organizations, and the importance of key workers or caregivers to advocate for youth.

Barriers to care for youth with concurrent disorders

Because of the particularly low rates of service utilization among youth with SUDs, researchers have attempted to identify relevant barriers to accessing services. When youth with SUDs were interviewed, attitudinal barriers were commonly reported. Most often, youth did not see their substance use as problematic (Wu & Ringwalt, 2006). In addition, the high rates of child maltreatment among youth with substance use disorders (Kilpatrick et al., 2000) suggest



that youth may have negative expectations of relationships with adult figures. These findings provide insight into the challenges service providers may experience when attempting to engage youth with SUDs. Service providers need to understand and work with a young person's level of motivation to receive treatment, as many youth do not necessarily see their substance use as problematic. The manner in which service providers approach youth with SUDs is also crucial. Since youth do not typically seek treatment and prefer to handle it themselves, service providers must deliver services in a manner that fosters youths' autonomy. This can be achieved through collaboratively working with youth as opposed to requiring them to follow a prescribed and rigid treatment plan. For youth with historically negative relationships with adults, some skepticism about treatment is understandable, and expectations of the course of treatment and the nature of the therapeutic relationship should be made transparent to the youth.

Spotlight: Ontario's Youth Services System Review

Health Canada's Drug Treatment Funding Program supported the "Youth Services System Review," (Chaim, Henderson, & Brownlie, 2013) at the Centre for Addiction and Mental Health.

Information from multiple informants (e.g. youth, addictions service providers) was summarized to describe the state of substance use services for youth aged 12 to 24 years old in Ontario.

Participants noted multiple barriers to receiving treatment including, "regional gaps in services, limited awareness of available services and how to access them, age limits restricting eligibility, practical barriers including lack of transportation and hours of operation, and long wait times that discourage access and disrupt treatment" (p. 9).

In addition to attitudinal barriers, aspects of the structure of the service system make it challenging for youth with concurrent disorders to find and connect with the right services for their needs. In Ontario, the Ministry of Health and Long-Term Care (MOHLTC) and the Ministry of Children and Youth Services (MCYS) fund services for youth with SUDs and mental health concerns respectively. There are exceptions, with the emergence of specialty concurrent disorders services (e.g. CAMH Youth Concurrent Disorders Inpatient/Outpatient services, funded by the MOHLTC).

Providing services for youth with concurrent disorders in separate sectors can lead to inadequate, inefficient care due to poor identification and screening of youths' full diagnostic profiles and lack of coordination or continuity of care between service providers (Bukstein & Horner, 2010). Many youth have found that mental health services are not available to them in times of need, because they require youth to be abstinent from all substances or to receive treatment for their SUD before they can receive mental health services (Libby & Riggs, 2008).

Research has shown that mental health clinicians are not always skillful at identifying and managing SUDs in youth (King, Gaines, Lambert, Summerfelt, & Bickman, 2000). Often, child and youth mental health services do not adequately screen for substance use disorders for multiple reasons, including a lack of knowledge in the area, uncertainty of which next steps to take (e.g. what treatment to provide and/or what other service providers to consult) and discomfort related to talking about alcohol and drug use (Christie, Stella, Dubar, Pulford, & Wheeler, 2013; Skinner, Roche, Freeman, & McKinnon, 2009). In addition, attitudes that stigmatize youth with SUDs have been related to a decreased willingness to provide interventions (Amaral-Sabadini, Saitz, & Souza-Formigoni, 2010). These issues are likely not unique to the children's mental health system.



Clinicians and researchers have noted the importance of practitioners being competent to screen, assess and intervene when appropriate for those with concurrent disorders. Somers (2008) states, “substance use and other mental disorders are now generally regarded as mutually intertwined, and limiting one’s practice in one area to the exclusion of the other is regarded as being of diminishing value to both patients and other service providers” (p. 141). However, limited training for service providers (i.e. mental health clinicians, primary care physicians, addictions treatment clinicians) is a significant barrier to providing comprehensive care (Bukstein & Horner, 2010).

Research in the field of adult concurrent disorders identifies additional system-level barriers including separate funding allocations, different professional certificates, services in both sectors existing in “survival mode” and a lack of resources to serve those less severely impaired, and stigma toward clients who engage in high-risk behaviour and use substances (Rush & Nadeau, 2011).

The following sections outline the current state of the literature on the continuum of evidence-based services for youth with concurrent disorders, with implications for addressing service and system level challenges that youth encounter in accessing services. This review is followed by a discussion on models of integrated services systems.

Evidence-informed services for youth with concurrent disorders

Overview

An ideal public health system includes a continuum of health promotion, prevention (universal and targeted), early intervention, and effective treatment in order to lessen the burden of mental illness and SUDs in communities (Waddell, McEwan, Shepherd, Offord, & Hua, 2005). The Mental Health Commission of Canada’s report *Evergreen: A Child and Youth Mental Health Framework for Canada* emphasizes the importance of providing a continuum of services with varying levels of intensity based on need, and it reinforces the importance of embedding research and evaluation in services to ensure efficacy, safety and value (Kutcher & McLuckie, 2010).

Within the adult literature, the “tiered model” (National Treatment Strategy Working Group, 2008) is commonly referenced as a way of conceptualizing the various levels of services that should be available to individuals with concurrent disorders. Several provinces in Canada have designed their mental health and addictions services based on the tiered model, and this could provide conceptual guidance for an integrated and coordinated service system for youth in Ontario (Rush, 2010).

The higher tier levels correspond to more specialized services that match the population with the most complex and severe symptoms. The relatively small proportion of specialized services indicates that the majority of individuals should ideally be treated at less intensive services that match their reduced level of symptom development (Rush & Nadeau, 2011). Thus, one of the achievements of the tiered models is that it emphasizes the importance of the system expanding beyond specialized services for those with severe SUDs or concurrent disorders. Instead, it highlights the importance of a population health perspective which requires including other systems of services (e.g. primary health care and the education sector for youth).



Over time, revisions of the tiered model have shifted it away from having specific services within the tiers to having functions within the tiers. This allows more flexibility for one particular service to offer a number of functions at multiple tier levels. In other words, this approach prevents service providers from constantly referring youth to other services because their service is solely a “Tier 3” service, for example. In addition, it is not expected that a youth will only require one level of services, but rather youth will transition from and to various levels of care depending on how their needs evolve and shift over time.

Prevention and health promotion

Prevention and health promotion are needed to decrease the incidence of concurrent disorders. There are no specific concurrent disorders prevention programs, although efforts to prevent mental illness or substance use on their own would theoretically contribute to preventing youth from developing concurrent disorders (Adair, 2009). Since high quality reports on substance use and mental health prevention programs already exist, we did not conduct a literature review on this topic. For example, to access information summarizing evidence-based substance use prevention programs, *Preventing Substance Abuse in Children and Youth (2010)* by the Simon Fraser University Children’s Health Policy Centre is recommended. In addition, the Evidence On Tap paper written with an Ontario focus, *Evidence On Tap: Understanding service delivery needs for youth with concurrent disorders (2010)*, provides an excellent review of school-based prevention programs. A thorough summary of research on prevention programs can be found in Adair’s 2009 report, *Concurrent Substance Use and Mental Disorders in Adolescents: Review of the Literature on Current Science and Practice*.

Current prevention efforts include the Canadian Centre on Substance Abuse (CCSA) Drug Prevention Strategy for Canada’s Youth. This 5-year initiative is intended to reduce drug use by Canadian youth between the ages of 10 and 24 years old. It involves stakeholders from across the country in all provinces and territories and is funded through the federal government’s National Anti-Drug Strategy. *Building on Our Strengths: Canadian Standards for School-based Youth Substance Abuse Prevention* is a resource document for the development, delivery and evaluation of school-based substance abuse prevention initiatives. It forms part of the CCSA’s National Standards portfolio which addresses prevention standards for schools and communities and guidelines for family programs.

Screening and early intervention for youth with concurrent disorders

The process of screening refers to using established evidence-based tools (typically brief questionnaires) to identify whether youth have or are at risk of developing a disorder, but does not involve establishing a diagnosis. The purpose of screening is to connect the youth with the appropriate level of service based on level of need (i.e. symptom severity). Therefore, to be beneficial, screening initiatives must be followed by a process of connecting youth to the appropriate services (Lubman, Hides, & Elkins, 2008). For this procedure to be effective, there must be a variety of timely service options available including assessment, early intervention and intensive treatment, to match the individual’s level of need.

Over the past decade there has been a surge of research investigating the evidence for Screening, Brief Intervention, and Referral to Treatment (SBIRT) initiatives for youth substance use. The SBIRT protocol draws from public health principles by developing services for the population at large rather than focusing solely on the most severely impaired



(Babor et al., 2007). SBIRT involves providing brief intervention (for those screened as low-moderate risk) and referral for treatment (for those screened as high risk) based on the results of administering a universal screening tool. Brief interventions are time-limited and typically use motivational interviewing (MI) techniques, which are an evidence-based practice that help youth self-evaluate the consequences and potential impact of their substance use in a non-confrontational manner (Naar-King & Suarez, 2011).

The use of SBIRT in various settings may be a promising way to address the lack of intervention services for youth during the early stages of symptom development. SBIRT could potentially increase service utilization, as initiatives rely on service providers identifying youth in need rather than waiting for them to actively access support (Mitchell, Gryczynski, O'Grady, & Schwartz, 2013). Service systems that commonly see young people (e.g. primary care physicians, schools) have the potential to play an important role in identification and brief intervention (Mitchell et al., 2013). To maximize the identification and subsequent access to services for youth with concurrent disorders, there must be multiple "correct" pathways to receiving care that leads to linkage to the appropriate services based on level of need (Rush & Nadeau, 2011). This highlights the established concept in addictions services, that "any door is the right door" (National Treatment Strategy Working Group, 2008).

There is evidence on the effectiveness of SBIRT to decrease alcohol use in adult populations (e.g. Bertholet, Daeppen, Wietlisbach, Felming, & Burnand, 2005), but the evidence on SBIRT among adolescents is less conclusive. A systematic review of the existing research on brief interventions for non-medical psychoactive drug use among adolescent and adult population is currently underway by the Canadian Centre on Substance Abuse (Young et al., 2012). This may help to inform service providers in Ontario of the importance of early screening and how to collaborate with others at key parts of the service pathway.

Diagnostic assessment and treatment of concurrent disorders

Youth who are screened as being high-risk for having a mental illness or substance use disorder should receive a comprehensive diagnostic assessment conducted by trained professionals (Bukstein et al., 2005). Youth may need to be referred to a specialized service for treatment, and research on concurrent disorders emphasizes the importance of service contracts that describe the referral process as a formal collaboration (Rush & Nadeau, 2011). Unfortunately, the SBIRT research to date has not focused on the referral to treatment component of the process (Mitchell et al., 2013).

A comprehensive assessment includes a clinical interview about the history of presenting concerns and uses standardized self-report measures of the priority area (e.g. depression, SUD). Clinicians recommend using a timeline approach (i.e. an interview focused on the sequence and timing of significant events as well as the onset and progression of symptoms) to more fully understand the relationship between comorbid psychopathology and substance use to assist in formulating diagnoses and treatment plan (Bukstein et al., 2005).

When assessing for both mental disorders and SUD, the four quadrant model (Substance Abuse and Mental Health Administration [SAMHSA], 2003) is a simple way of assessing the client's service priorities. It illustrates the range and severity of concurrent disorders and helps service providers organize services to best meet the needs of the client. Once a youth has been identified as at-risk, assessed and their full mental health and substance use disorder profile is understood, an individualized treatment plan that involves evidence-informed approaches can be developed.



Evidence-informed psychosocial interventions

Treatments for concurrent disorders have not been researched as thoroughly among youth populations as they have been in adult populations. A research report by the Simon Fraser University Children’s Health Policy Centre, *Treating Concurrent Substance Use and Mental Disorders among Children and Youth* (2007) reviewed the literature and summarized evidence-informed treatments for youth with substance use and co-occurring anxiety, depression or behaviour problems (Schwartz, Garland, Harrison, & Waddell, 2007). Their findings are in the table below.

Disorder combination	Evidence-based treatment recommendation
Substance use disorder (SUD) alone	<p>Many systematic reviews (Dunn & Deroo, & Rivara, 2001; Tait & Hulse, 2003) have consistently shown that <u>motivational interviewing</u> has significantly reduced alcohol and drug use.</p> <p>Several <u>family-based approaches</u> including Ecologically-based Family Therapy (EBFT; Slesnick & Prestopnik, 2005), Functional Family Therapy (FFT) (Waldron, Slesnick, Brody, Turner, & Peterson, 2001), and Multisystemic Therapy (MST; Henggeler, Clingempell, Brondino, & Pickrel, 2002) all reduced youth’s drug and alcohol use</p>
Concurrent conduct disorder and SUD	<p>For youth who have conduct disorder and substance use disorder concurrently, treatment should be modeled after <u>Multisystemic Therapy (MST)</u>. There was also some evidence for CBT to treat both conduct disorder and substance use disorders. Evidence has consistently shown that group treatments for youth with conduct disorder and substance use disorders are <i>harmful</i> and should be avoided.</p>
Concurrent depression or anxiety and SUD	<p>For youth with a concurrent internalizing (anxiety or depression) and substance use disorder, no single intervention effectively treated both concurrently. However, the review completed by the Children’s Health Policy Centre suggested that there are ways to effectively treat these disorders individually. For example, <u>Cognitive behavioural therapy (CBT)</u> for anxiety and depression combined with <u>family based approaches</u> or <u>motivational interviewing</u> to treat substance use disorders was recommended. This review did not make suggestions on the order of treatment, but rather noted the importance of combining treatment modalities to target both the SUD and mental disorder.</p>

It is essential to deliver evidence-informed programs using an implementation framework that is informed by the perspectives of families and youth, and that interventions involve caregivers if possible. Knowing what works and receiving training on an evidence-informed practice or program is not sufficient to actually achieve the outcomes that



previous evaluations indicate are possible. A program that has been shown to improve mental health outcomes for children and youth but that is poorly implemented will not achieve successful outcomes (Fixsen et al, 2005).

For youth with combinations of disorders that do not yet have an established evidence-informed treatment, empirically supported treatment components can be used (Suarez et al., 2012). It is vital in these cases to implement evaluation to understand which treatment components are associated with positive outcomes for complex youth with concurrent disorders.

Although there are established evidence-based approaches for youth with concurrent disorders for some disorder combinations, not all services in Ontario are implementing these. In order to advance the knowledge of evidence-informed treatments, program evaluation is paramount. Within the youth addictions services in Ontario, an opportunity currently exists to better understand the state of practice. Researchers from Pine River Institute are leading a project that aims to increase the capacity for individual programs to conduct meaningful, effective, and useful outcome-oriented evaluation. The agencies involved will devise and pilot a framework for evaluation that resonates with clients and their families, staff, and other program stakeholders.

Spotlight: Pine River Institute

Pine River Institute (PRI) is a long-term residential treatment milieu with a wilderness component, family therapy, and aftercare for teens who have addiction and related mental health issues. PRI is dedicated to evaluation of client-oriented outcomes to inform treatment and to broaden their impact through knowledge exchange. This dedication to evaluation spurred their goal of engaging other youth addiction programs in evaluative practice. PRI and ten other agencies will gather information from clients, families, and staff about what is important to measure in order to demonstrate successful treatment. This information will be synthesized into a framework that will be implemented across 11 agencies. What these agencies learn from the pilot will be included in resource materials that will be available to other agencies across the province. This project is funded by the Ontario Trillium Foundation, the Ontario Centre of Excellence for Child and Youth Mental Health, and Addictions Ontario.



Philosophy and practices that support pathways to care

To support positive outcomes, youth with concurrent disorders require the involvement of multiple service sectors to screen, provide early intervention, assess and treat. See Appendix II for the role of various sectors in an integrated tiered system.

Ontario lacks an established or conventional pathway to care for youth with concurrent disorders and the system needs “every door to be the right door”. In other words, multiple sectors need to be prepared to accept clients at different access points. Researchers and clinicians working in the field of concurrent disorders have described essential components for service sectors to collaboratively work together. The following summarizes the necessary elements of a systems approach to service delivery for youth with concurrent disorders.

Overarching philosophies: Adjusting attitudes and assumptions about youth with concurrent disorders

When designing clinical pathways or integrated treatment approaches, researchers have emphasized the importance of delineating the overarching philosophy of the treatment offered (Muñoz-Solomando, & Williams, 2007). In particular, an understanding of the similarities and differences in values, theoretical orientation and approach to treatment of all relevant service systems is important in order to work collaboratively.

The continuum of abstinence to harm-reduction models

Any program’s philosophy influences the method of treatment provided. For instance, programs may state goals that tend toward abstinence, whereas others take a harm-reduction stance without requiring no-use. In Ontario, treatments for youth have primarily been abstinence-based. Evidence consistently demonstrates that purely abstinence-based programs for adolescents are ineffective in reducing substance use and abuse (Marlatt & Witkiewitz, 2002), while harm reduction strategies are more effective (Toumbourour et al., 2007; Poulin, 2006).

Without agreement around overarching philosophies among clinicians, youth receive confusing messages that can be detrimental to their recovery. Where one program may provide support to a youth to help them deal with their alcohol use while also working on mental health issues arising from a history of trauma, another program might require total abstinence from alcohol use before they are eligible for help. For example, in the education sector, The Safe Schools Act states that students are to be suspended if they are intoxicated on school grounds or are caught with alcohol or drugs on the school campus. This demonstrates a philosophical approach to substance use that may affect the youth’s trajectory; it could be used by some as an opportunity for screening and intervention, or it may be a step towards expulsion.

Stigma associated with substance use and externalizing behaviours:

Education about concurrent disorders with an emphasis on understanding the function of substance use in the context of mental health would put service providers in a better position to believe they can assist young people. Increased knowledge can help service providers develop comfort with openly discussing substance use with youth in a non-judgmental manner.

Educators, clinicians and primary healthcare providers are compassionate and caring individuals who are interested in improving the lives of young people. Still, there is stigma and discrimination against youth who are engaging in



problematic, disruptive behaviour or substance use (Heflinger & Hinshaw, 2010). Stigma is experienced at micro levels, such as a lack of understanding or not knowing how to respond or what to do on the part of professionals, or at the macro level, such as the Safe Schools Act.

A common misconception is that youth who have a SUD are simply choosing to use alcohol or drugs and therefore it is up to them to change their behaviour (Corrigan, Kuwabara, & O'Shaughnessy, 2009). This assumption may lead service providers to believe youth do not require intervention. Indeed, researchers have found that stigma among mental health providers has impacted their willingness to provide services (Flanagan, Corrigan, & Davidson, 2010). It is important for all educators and clinicians working with youth to acknowledge and challenge their own biases and assumptions about youth who are acting out or engaging in substance use. Formal training should be provided that addresses this stigma and that systematically challenges biases and assumptions, but change in policy is also required, for instance in how the Safe Schools Act deals with youth with substance use disorders.

Confidentiality and consent to treatment

Consent procedures can greatly impact youth's willingness to engage in treatment. For instance, if a youth is required to have consent from their parents, they may be less likely to accept services, which could contribute to harmful outcomes for the untreated youth. For youth being served across multiple sectors, consent procedures can be confusing because standards of consent and confidentiality vary depending on the context or setting that the individual accesses. For instance, youth accessing mental health services through the Ministry of Health and Long-Term Care do not have a strict age of consent cut-off, as youth are able to provide their own consent to treatment, even at younger ages if they have been deemed to have the capacity to do so (Health Care Consent Act, 1996). Youth accessing services under the Ministry of Children and Youth Services are able to consent independently to treatment when they are 12-years-old and deemed capable (Child and Family Services Act, 1990). However, youth receiving services from providers in education settings are often required to have parental consent before receiving an intervention (Ministry of Education, 2012). This raises concerns around the usefulness of screening procedures carried out in school settings by those working under the Ministry of Education legislation, because youth might not disclose essential contextual information about their particular needs for fear of their parents finding out.

Even if youth are able to consent to treatment independently, parents and family members have a potentially critical role in the youth's treatment. Involving families and caregivers is often recommended to decrease youth substance use and is associated with better outcomes. However, in some instances, a youth's circumstances may make involving families in treatment harmful to the youth (e.g. in situations where the disclosure of substance use could increase the risk of abuse or maltreatment). An assessment of safety and risk of immediate danger should be conducted with the youth when discussing family involvement. Therefore, where appropriate, service providers are encouraged to work with the youth to disclose their substance use to their parents, to support family involvement in executing treatment plans (Bukstein et al., 2005).

Confidentiality and consent to treatment are essential components of services addressing mental health and/or SUDs among youth. Given the sometimes illegal nature of substance use, along with the anticipated negative consequences of people finding out about these behaviours, confidentiality is often a concern for youth with a SUD. A full and open



discussion about the nature of the service, including the limits of confidentiality, is necessary for youth to be truthful in disclosing their concerns related to their mental health and substance use (Bukstein et al., 2005).

Models of service delivery for the treatment of youth with concurrent disorders

Once it is established that a youth requires intensive intervention for both their mental health and SUD, a treatment plan, including the role of various service providers is necessary. Three primary models of service delivery for individuals with concurrent disorders exist (Drake, Mercer-McFadden, Mueser, McHugo, & Bond, 1998; Drake, Mueser, Brunette, & McHugo, 2004; Drake, O'Neal, & Wallach, 2008):

- 1) **Sequential/serial treatment:** Youth receives treatment for either the mental health disorder or the SUD first. After successfully receiving treatment for one disorder, they are believed to be prepared to receive treatment for the other.

Limitations: There are many difficulties with this approach, including delayed treatment, the conditions are often inter-related and should not be treated in isolation, and clients experience frustration at feeling “bounced around” and may drop out (Capital Health, 2011; Drake et al., 1998). Clinical research shows poorer outcomes when mental disorders and SUD are treated separately (Volkow, 2004).

- 2) **Parallel treatment:** Youth receives treatment for both their mental health and substance use disorder at the same time from different services, primarily in isolation of each other, without coordination between clinicians.

Limitations: Treatments are typically delivered in isolation and potentially with differing treatment philosophies. Service providers are unsure of how to effectively collaborate and communicate with each other to ensure effective intervention.

- 3) **Integrated treatment:** A single treatment plan takes into account both the mental health disorder and SUD. There are two types of integrated treatment. a) *single-site*, specialized concurrent disorders treatment, where the same provider or inter-professional team offers treatment for both the mental health concern and SUD. b) *multi-site integration*, where a client receives intervention for their mental health problem and SUD at different sites, with a cohesive treatment approach requiring collaboration and coordination among service providers.

Limitations: Multi-site integrated treatment approaches require collaboration and communication, with well-designed and implemented structures and administrative supports. There are a limited number of single-site services that provide this type of integrated treatment and are therefore not accessible to the majority of youth with concurrent disorders.

Integrated, single-site treatment models in adult populations have been found to be effective at reducing symptoms for those with concurrent SUDs and serious mental disorders such as schizophrenia (Drake, O'Neal, & Wallach, 2008). In addition, research involving adults has demonstrated equivalent outcomes for individuals using either single site or multi-site integration models, suggesting that both are viable options (Rosenheck, Resnick, & Morissey, 2008). However,



there is little research that compares the effectiveness of sequential, parallel and integrated service models. Instead, it is often assumed that integrated treatment approaches are more effective based on the poor treatment outcomes for clients who receive services in separate sectors (Drake et al., 1998). Even less research exists in youth populations that compares the differing impact of sequential treatment, parallel treatment and integrated treatment approaches on the individual's symptom levels. Nonetheless, researchers and clinicians strongly recommend both single and multi-site integrated treatment as the preferred approaches (e.g. Bukstein & Horner, 2010; Hawkins, 2009; Libby & Riggs, 2008).

The importance of integrated treatment models has caused a surge of initiatives aimed at increasing the number of clinicians competent in the area of concurrent disorders (Minkoff, 2000). The Comprehensive Continuous Integrated System of Care (CCISC: Minkoff & Cline, 2004) has been implemented in several states in the U.S. and involves the entire system undergoing a transformation to ensure that every service provider is competent in the area of concurrent disorders. Little research exists, however, on the effectiveness of the CCISC model on the outcome of the individual client. In addition, the CCISC model was designed for the adult system in the United States and does not include important considerations for working in the youth system.

Service integration: Single-site integration

Single-site integration involves service and program level considerations. The Best Practices Guidelines for Concurrent Mental Health and Substance Use Disorders (Health Canada, 2002) for adults outlines the definition of program-level integration as:

“mental health treatment and substance abuse treatments are brought together by the same clinicians/support workers, or team of clinicians/support workers, in the same program, to ensure that the individual receives a consistent explanation of illness/problems and a coherent prescription for treatment rather than a contradictory set of messages from different providers” (p.vii).

Spotlight: The Centre for Addiction and Mental Health

CAMH provides several programs in a Youth Addiction and Concurrent Disorders Service: an in-patient Concurrent Youth Unit for ages 14-18; two day treatment programs, including a Section 23 classroom and treatment, for ages 14-18 and 16-21; and out-patient individual, group and family services for ages 14-24. Outpatient services are available for youth who are suffering from an addiction with or without a diagnosed concurrent mental health problem and uses a harm reduction approach. The Inpatient Unit is the first in Canada specific to serving adolescents with concurrent disorders. Services offered are individualized based on the client's needs, but often include medical withdrawal management, as well as individual, group, and family therapy components. Once youth complete the inpatient program, outpatient aftercare services are offered. The day treatment programs can function as step-up or step-down to the inpatient or outpatient services.

Specialized, single-site integrated treatment settings are recommended when the service is available in a community. However, because single-site integrated treatment programs are rare and do not have the capacity to provide services



for the entire population in need, multi-site integrated treatment strategies are essential. The following section outlines potential models or evidence-informed components to broader integration at the system-level, beyond specialized mental health and substance use treatment programs.

Multi-site integration (i.e. system-level integration)

The Best Practices Guidelines for Concurrent Mental Health and Substance Use Disorders (Health Canada, 2002) for adults outlines the definition of system-level integration as:

“...the development of enduring linkages between service providers or treatment units within a system, or across multiple systems, to facilitate the provision of service to individuals at the local level. Mental health treatment and substance abuse treatment are therefore brought together by two or more clinicians/support workers working for different treatment units or service providers. Various coordination and collaborative arrangements are used to develop and implement an integrated treatment plan” (p. vii)

Research in this area is limited for youth concurrent disorder services. However, research involving case management (e.g. Wraparound services) for youth with severe mental health difficulties and research with adults on models of collaborative care do provide some evidence for the effectiveness of multi-system services. See **Appendix III** for elaboration of the evidence.

Conclusion

Youth with concurrent mental health and substance use disorders are an underserved population (Dennis, Chan, & Funk, 2006). Even though having multiple mental health disorders increases the chance of accessing services, youth with concurrent disorders experience many barriers that prevent them from receiving adequate care. If left untreated, youth with concurrent disorders are at risk for many harmful and costly outcomes including suicidality, homelessness, school dropout, and involvement in crime (Deas & Thomas, 2001; Esposito-Smythers & Spirito, 2004).

The term “pathways to care” implies that there is a specific sequence of events that is considered evidence-informed and most effective for youth with concurrent disorders. Youth with concurrent disorders are a diverse group of individuals with a multitude of needs and “every door is the right door” is imperative to ensuring that youth are not turned away from services because of their complex mental health presentation.

A pathway to care for youth with concurrent disorders should include the following principles:

- 1) Youth should be able to enter the pathway to care through schools, child welfare, primary care, hospitals, mental health facilities, addictions treatment settings, and/or juvenile justice.
- 2) Once youth have accessed a service, all service providers should be competent to screen and identify youths’ level of need, without having to refer them to another service to do so.
- 3) Results of the screening should inform the next step in the process. Individuals should be cared for within the current service or referred to the appropriate treatment that matches their needs (based on the four quadrant model). Individuals should be referred to the following:



- a. Primary care physician: when symptom severity of mental disorder and substance use are low.
- b. Addictions specialist: when addictions symptoms are moderate to severe, and mental disorder symptom severity is low.
- c. Mental health specialist: when mental health symptoms are moderate to severe, and addictions symptoms are low.
- d. Integrated treatment approach: when individuals have moderate to severe mental disorder and substance use symptoms.

Specialized, single-site integrated treatment settings are recommended when the service is available in a community. However, because single-site integrated treatment programs are rare and do not have the capacity to provide services for the entire population in need, multi-site integrated treatment strategies are essential. To improve the accessibility of multi-site treatment approaches, intensive case management or Wraparound services are needed for those with severe substance use and mental health symptoms. Case management ensures that vulnerable youth with multiple needs have a key worker to coordinate and arrange services, which makes integration more successful.

Beyond the use of case management, little is documented on how to effectively collaborate among mental health and addictions service providers to ensure proper care. However, collaborative care models offer a starting point for deciding on the level of collaboration or coordination necessary for service providers. Research underlines the importance of establishing and maintaining relationships across sectors to improve provision of appropriate service.

The following changes are recommended to increase effectiveness of care for youth with concurrent disorders:

Prevention:

- 1) **School-based substance use prevention programs during early adolescence are recommended.** Research consistently shows that early substance use is a risk factor for later substance abuse. Although few youth use substances before age 14, those that do are at high risk. Prevention should start earlier to address early risk factors and enhance protective factors. These may include targeted approaches for at risk groups.

Evidence-based substance use prevention programs have been extensively reviewed and can be found in *Evidence on Tap: Understanding Service Delivery Needs for Youth with Concurrent Disorders* (2010). Such prevention programs could also be applied to preventing concurrent disorders. Canadian Centre on Substance Abuse resources provide an evidence-informed process for prevention including a needs assessment, planning, implementation, evaluation and continuous improvement.

Treatment:

- 1) Although mental disorders typically precede SUDs in those with concurrent disorders, the interaction between the two can cause varying presentations. For some youth, effectively treating either a mental health or substance use problem can help prevent the development of a concurrent disorder. There is no evidence base that supports the requirement that one disorder to be treated prior to another among the youth population. Thus **treatment plans should be individually developed based on a youth's level of motivation, severity of symptoms, and not necessarily be based on the etiology of symptom development.**



- 2) There is no research evidence to support the use of sequential service delivery models. Instead, research points towards the use of integrated treatment that takes into account both the mental disorder and substance use. This does not suggest that all service providers should be able to independently provide care for youth with concurrent disorders. Service providers should be able to provide care based on their competencies, and involve other services and required expertise per agency protocols. There should be protocols regarding who to consult with based on certain kinds of presentation. **Substance use should not be used as an exclusionary criterion within mental health services.**
- 3) Prior to accessing treatment, youth often have perceptions of treatment that may limit their engagement in services. For example, youth may feel that they would like to handle their substance use independently, or may be fearful of the process. Working collaboratively with youth in designing treatment goals fosters their developing sense of independence, and increases the chance that they will engage in treatment. **Flexible, client-centered care is essential to improve engagement and utilization of services.**
- 4) Youth should not have to be abstinent in order to access services. Turning youth away from services because of their substance use increases the likelihood that they will go untreated. **A harm reduction approach to substance use is recommended in all settings.**
- 5) **Evidence-based treatments that are specific to each youth need to be available.**
 - a. For youth with conduct disorder and SUDs – Multisystemic therapy (MST) or individual cognitive behavioral therapy (CBT) should be implemented.
 - b. For youth with depression or anxiety disorders and SUDs – Group and individual therapy in the form of cognitive behavioural therapy (CBT) along with either motivational interviewing or family therapy are recommended to occur simultaneously.

Given the complexity of concurrent disorders, it is understandable that evidence-based treatments do not exist for all disorder combinations. In light of the limited evidence-based treatments, existing programs should invest in program evaluation to increase knowledge on effectiveness.

Training:

- 1) Training can increase mental health clinician's comfort and skill level in discussing substance use by decreasing misperceptions and stigma. Training must be appropriately extensive, on-going, and on-the-job. One-day workshops are insufficient for sustaining clinician's knowledge and comfort level in working with youth with substance use and concurrent disorders.

Within the first year of agencies training their staff, all mental health clinicians who work with youth should be competent at screening for substance use, as well as providing a brief intervention (motivational interviewing) to assess for and increase level of motivation for decreasing substance use and setting appropriate goals to increase safety and decrease risk of harm.

All addictions counsellors should have training on administering and implementing mental health screening tools into their practice, and be able to refer to mental health supports as needed.



Mental health and addictions workers will require more thorough and standardized training on screening, assessment and intervention for youth with concurrent disorders.

Screening:

- 1) **Every youth accessing mental health services or addictions services should be screened for concurrent disorders.** Brief, low or no cost tools such as the GAIN-SS that screen for both SUD and mental health disorders can be used across settings, sectors and disciplines.
- 2) **Screening, brief intervention, and referral to treatment (SBIRT) procedures** in primary care, emergency departments, housing and shelter, youth justice and schools have the potential to increase service utilization at early stages of symptom presentation. However, limited research exists on how to best implement all parts of a SBIRT model. Instead, there is good evidence supporting the use of screening, mixed evidence supporting the use of brief interventions in different settings, and little research on referral to treatment procedures. At this point, the following are recommended in various settings:
 - a. Primary healthcare: Screening for concurrent disorders should be regularly implemented in primary care settings for youth. Specific to substance use, pilot studies investigating the implementation of brief interventions, utilizing motivational interviewing strategies, are strongly suggested prior to widespread brief intervention training of physicians. Primary care physicians should have a reasonable knowledge of mental health and addictions services in their communities in order to refer if necessary.
 - b. Emergency departments: Screening for concurrent disorders should be regularly implemented in emergency departments for youth. Evidence on brief interventions is limited thus far. Emergency rooms should be set up to refer youth to appropriate services based on the screening results.
 - c. Schools: Explicit consent and confidentiality procedures are essential for mental health and substance use services in schools. More research needs to be conducted on the effectiveness of universal screening and brief intervention prior to recommending them for implementation in schools. However, if youth are to reach out for help within the school context, it is imperative that educators and guidance counsellors have the proper resources and tools to support that individual to access care. Taking into account the common attitudinal barriers to care among youth with SUDs, every opportunity to engage a youth should be taken with great care. There is opportunity for schools to partner with community agencies to learn, refer, collaborate and provide direct service within the school.

Collaboration:

- 3) **Determining referral processes across sectors is a priority.** Beyond the use of the four quadrant model, little research exists on the best methods to determine how to execute effective referral processes. The CAMH Service Collaborative Initiatives are an opportunity to learn more about this important area.
- 4) **Bringing service providers across sectors together to discuss screening processes within communities across Ontario is recommended.** Discussions about screening for concurrent disorders have been shown to be a viable starting point for integrating treatment across service sectors (Somers, 2008). Collaborating on the topic of screening enhances knowledge of the extent of need and increases service provider's motivation to collaborate. The National Youth Screening Project and Ontario Youth Screening



Project have demonstrated this point, and serve as models of how to facilitate such conversations in Ontario.

- 5) **Network task forces comprising service providers from different sectors may help to facilitate change.** Networks across sectors are recommended to create the environment for philosophical collaboration required to work together, and family members and youth should be involved as key partners in network building and decision making.
- 6) **Families and caregivers should be involved as partners in determining changes to policy and practice, provincially and locally.** Decision-makers and direct service providers should consult with family and youth representatives in shaping screening, assessment, referral and intervention practices.

Evaluation:

- 7) **Evaluation should be mandated for all Ministry-funded initiatives.** Evaluate different types of treatment integration when implemented, and apply a common evaluation framework and measures for comparison across communities and to aggregate data provincially. Collaborations to conduct evaluation are more powerful in ensuring that platforms for evaluation will be meaningful, useful and relevant to the various stakeholders involved in treating youth with concurrent disorders. The evaluation initiative being led by the Pine River Institute serves as a model for a provincial evaluation collaborative, and the CAMH National Youth Screening Project also has important lessons that can be applied within Ontario.

Conclusion:

Youth with concurrent mental health and substance use disorders are a complex group, at risk for a variety of unhealthy outcomes, but the child and youth mental health system is poised to meet their needs. *Moving on Mental Health: A system that makes sense for children and youth* and the MCYS system transformation that is underway provide opportunities to consolidate mental health system strengths, develop coordinated care pathways, implement evidence-informed practices and programs, and ensure that youth receive the services they need.

As system transformation moves forward, the service system should adopt a population health approach based on the concepts of the tiered model. It is essential that system changes emphasize early intervention efforts rather than designing a system that is set up only to serve those with the most severe symptoms. A population health approach requires multiple sectors to become involved, and does not solely rely on specialized services. To maximize the identification and subsequent access to services for youth with concurrent disorders, there must be multiple “correct” pathways to receiving care that leads to linkages to the appropriate services based on level of need (Rush & Nadeau, 2011). This highlights the established concept in addictions services, that “**any door is the right door**” (National Treatment Strategy Working Group, 2008).



References

- Adair, C. (2009). Concurrent substance use and mental disorders in adolescents: A review of the literature on current science and practice. Calgary, AB.
- Addictions and Mental Health Ontario, Canadian Mental Health Association. (2013). Concurrent Disorder Services in Ontario: An Environmental Scan. Accessed on December 31, 2013 at http://ontario.cmha.ca/public_policy/concurrent-disorder-services-in-ontario-an-environmental-scan/#.UscOONJDua8
- Amaral-Sabadini, M. B., Saitz, R., & Souza-Formigoni, M. L. (2010). Do attitudes about unhealthy alcohol and other drug (AOD) use impact primary care professionals' readiness to implement AOD-related preventive care? *Drug and Alcohol Review*, 29, 655-661.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual for mental disorders: Fourth Edition – Text Revision*. Washington, DC: American Psychiatric Association.
- American Psychiatric Association. (2013). *DSM 5*. American Psychiatric Association.
- Armstrong, T. D., & Costello, E. J. (2002). Community studies on adolescent substance use, abuse, or dependence and psychiatric comorbidity. *Journal of Consulting and Clinical Psychology*, 70, 1224-1239.
- Babor, T. F., de la Fuente, J. R., Saunders, J., & Grant, M. (1992). *The Alcohol Use Disorders Identification Test: Guidelines for use in primary health care (WHO Publication No. 92.4)*. World Health Organization, Geneva, Switzerland.
- Babor, T. F., McRee, B. G., Kassebaum, P. A., Grimaldi, P. L., Ahmed, K., & Bray, J. (2007). Screening, Brief Intervention, and Referral to Treatment (SBIRT): Toward a public health approach to the management of substance abuse. *Substance Abuse*, 28, 7-30.
- Barnett, N. P., Monti, P. M., Cherpitel, C., Bendtsen, P., Borges, G., Colby, S. M. et al. (2003). Identification and brief treatment of alcohol problems with medical patients: An international perspective. *Alcoholism: Clinical and Experimental Research*, 27, 262-270.
- Bender, K., Kapp, S. & Hahn, S. A. (2011). Are case management services associated with increased utilization of adolescent mental health treatment? *Children and Youth Services Review*, 33, 134-138.
- Bernstein, E., Edwards, E., Dorfman, D., Heeren, T., Bliss, C., & Bernstein, J. (2009). Screening and brief intervention to reduce marijuana use among youth and young adults in a pediatric emergency department. *Academic Emergency Medicine*, 16, 1174-1185.
- Bernstein, J., Heeren, T., Edward, E., Dorfman, D., Bliss, C., Winter, M. et al. (2010). A brief motivational interview in a pediatric emergency department, plus 10-day telephone follow-up, increases attempts to quit drinking among youth and young adults who screen positive for problematic drinking. *Academic Emergency Medicine*, 17, 890-902.



- Bertholet, N., Daeppen, J. B., Wietlisbach, V., Fleming, M., & Burnand, B. (2005). Reduction of alcohol consumption by brief alcohol intervention in primary care: Systematic review and meta-analysis. *Archives of Internal Medicine*, 165, 986-995.
- Blumenthal, H., Blanchard, L., Feldner, M. T., Babson, K. A., Leen-Feldner, E. W. & Dixon, L. (2008). Traumatic event exposure, posttraumatic stress, and substance use among youth: A critical review of the empirical literature. *Current Psychiatry Reviews*, 4, 228-254.
- Boyle, M. H. & Georgiadas, K. (2009). Perspectives on child psychiatric disorder in Canada. In J. Cairney & D. Streiner (Eds.), *Mental disorders in Canada: An epidemiological perspective* (pp. 205-226). Toronto, ON: University of Toronto Press.
- Bruns, E. J., Rast, J., Walker, J. S., Peterson, C. R. & Bosworth, J. (2006). Spreadsheets, service providers, and the statehouse: Using data and the wraparound process to reform systems for children and Families. *American Journal of Community Psychology*, 38, 201-212.
- Bukstein, O. G., & the Work Group on Quality Issues. (2005). Practice parameter for the assessment and treatment of children and adolescents with substance use disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 44, 609-621.
- Bukstein, O. G., & Horner, M. S. (2010). Management of the adolescent with substance use disorders and comorbid psychopathology. *Child and Adolescent Psychiatric Clinics of North America*, 19, 609-623.
- Burchard, J. D., Bruns, E. J., & Burchard, S. N. (2002). The wraparound approach. In B. J. Burns & K. Hoagwood (Eds.), *Community treatment for youth: Evidence-based interventions for severe and behavioral disorders* (pp. 69-90). New York, NY: Oxford University Press.
- Canadian Centre on Substance Abuse. (2007). *Substance Abuse in Canada: Youth in Focus*. Ottawa, ON: Canadian Centre on Substance Abuse.
- Canadian Centre on Substance Abuse. (2013). *Systems Approach Workbook: Integrating Substance Use and Mental Health Systems*. Ottawa, ON: Canadian Centre on Substance Abuse.
- Capital Health. (2011). *Concurrent Disorders Framework: Addiction Prevention and Treatment Services and the Mental Health Program*. Halifax, NS: Author.
- Carney, M. M., & Buttell, F. (2003). Reducing juvenile recidivism: Evaluating the wraparound services model. *Research on Social Work Practice*, 13, 551-568.
- Castellanos-Ryan, N., Rubia, K., & Conrod, P.J. (2011). Response inhibition and reward response bias mediate the predictive relationships between impulsivity and sensation seeking and common and unique variance in conduct disorder and substance misuse. *Alcoholism: Clinical & Experimental Research*, 35, 140-155.
- Chaim, G., Henderson, J., & Brownlie, E. (2013). *Youth Services System Review: A review of the continuum of Ontario services addressing substance use available to youth age 12-24 years*. Toronto, ON: Centre for Addiction and Mental Health.



- Chan, Y. F., Dennis, M. L., & Funk, R. R. (2008). Prevalence and comorbidity of major internalizing and externalizing problems among adolescents and adults presenting to substance abuse treatment. *Journal of Substance Abuse Treatment, 34*, 14-24.
- Chen, P., & Jacobson, K. C. (2012). Developmental trajectories of substance use from early adolescence to young adulthood: Gender and racial/ethnic differences. *Journal of Adolescent Health, 50*, 154-163.
- Cheung, A., Bennett, K., Bullock, H., Soberman, H., & Kozloff, N. (2010). Evidence on Tap: Understanding service delivery needs for youth with concurrent disorders. A report prepared for the Ontario Ministry of Health and Long Term Care.
- Christie, G., Black, S., Dunbar, L., Pulford, J. & Wheeler, A. (2013). Attitudes, skills and knowledge change in child and adolescent mental health workers following AOD screening and brief intervention training. *International Journal of Mental Health and Addictions, 11*, 232-246.
- Clark, D. B., Lynch, K. G., Donovan, J. E., & Block, G. D. (2001). Health problems in adolescents with alcohol use disorders: Self-report, liver injury, and physical examination findings and correlates. *Alcoholism: Clinical and Experimental Research, 25*, 1350-1359.
- Clark, D. B., Thatcher, D. L., & Maisto, S. A. (2005). Supervisory neglect and adolescent alcohol use disorders: Effects on AUD onset and treatment outcomes. *Addictive Behaviors, 30*, 1737-1750.
- Cohen, M. A., & Piquero, A. R. (2009). New evidence on the monetary value of saving a high risk youth. *Journal of Quantitative Criminology, 25*, 25-49.
- Concurrent Disorders Ontario Network. (2005). Concurrent Disorders Policy Framework.
- Cornelius, J. R., Maisto, S. A., Martin, C. S., Bukstein, O. G., Salloum, I. M., Daley, D. C., et al. (2004). Major depression associated with earlier alcohol relapse in treated teens with AUD. *Addictive Behaviors, 29*, 1035-1038.
- Corrigan, P. W., Kuwabara, S. A. & O'Shaughnessy, J. (2009). The public stigma of mental illness and drug addiction: Findings from a stratified random sample. *Journal of Social Work, 9*, 139-147.
- Costello, E. J., Erkanli, A., Federman, E. & Angold, A. (1999). Development of psychiatric comorbidity with substance abuse in adolescents: Effects of timing and sex. *Journal of Clinical Child Psychology, 28*, 298-311.
- Craven, M., & Bland, R. (2006). Better practices in mental health care: An analysis of the evidence base. Mississauga, ON: Canadian Collaborative Mental Health Initiative.
- Currie, C. L., & Wild, T. C. (2012). Adolescent use of prescription drugs to get high in Canada. *Canadian Journal of Psychiatry, 57*, 745-751.
- D'Amico, E., Miles, J. N., Stern, S., & Meredith, L. S. (2008). Brief motivational interviewing for teens at risk of substance use consequences: A randomized pilot study in a primary care clinic. *Journal of Substance Abuse Treatment, 35*, 53-61.



- Deas, D., & Thomas, S. E. (2001). An overview of controlled studies of adolescent substance abuse treatment. *American Journal on Addictions*, 10, 178-189.
- Dembo, R., Schmeidler, J., Pacheco, K., Cooper, S., & Williams, L. W. (1997). The relationships between youth's identified substance use, mental health or other problems at a juvenile assessment center and their referrals to needed services. *Journal of Child and Adolescent Substance Abuse*, 6, 23-54.
- Dennis, M. L., Chan, Y. F., & Funk, R. R. (2006). Development and validation of the GAIN Short Screener (GSS) for internalizing, externalizing and substance use disorders and crime/violence problems among adolescents and adults. *American Journal on Addictions*, 15, 80-91
- Dierker, L., Nargiso, J., Wiseman, R., & Hoff, D. (2001). Factors predicting attrition within a community initiated system of care. *Journal of Child and Family Studies*, 10, 367-383.
- Drake, R. E., Mercer-McFadden, C., Mueser, K. T., McHugo, G. J., & Bond, G. R. (1998). Review of integrated mental health and substance abuse treatment for patients with dual disorders. *Schizophrenia Bulletin*, 24, 589-608.
- Drake, R. E., Mueser, K. T., Brunette, M., & McHugo, G. J. (2004). A review of treatment for people with severe mental illness and co-occurring substance use disorder. *Psychiatric Rehabilitation Journal*, 27, 360-374.
- Drake, R. E., O'Neal, E. L., & Wallach, M. A. (2008). A systematic review of psychosocial research on psychosocial intervention for people with co-occurring severe mental and substance use disorders. *Journal of Substance Abuse Treatment*, 34, 123-138.
- Dunn, C., Derro, L., & Rivara, F. P. (2001). The use of brief interventions adapted from motivational interviewing across behavioral domains: a systematic review. *Addiction*, 96, 1725-1742.
- Ehmann, T., Yager J. & Hanson, L. (2004). Early Psychosis: A Review of the Treatment Literature. A Research Report Prepared for the British Columbia Ministry of Children and Family Development. Children's Mental Health Policy Research Program, University of British Columbia.
- Esposito-Smythers, C., & Spirito, A. (2004). Adolescent substance use and suicidal behavior: A review with implications for treatment research. *Alcoholism: Clinical and Experimental Research*, 28, 775-885.
- Evans, M. E., Banks, S. M., Huz, S., & McNulty, T. L. (1994). Initial hospitalization and community tenure outcomes of intensive case management for children and youth with serious emotional disturbance. *Journal of Child and Family Studies*, 3, 225-234.
- Evans, M. E., Armstrong, M. I., & Kuppinger, A. D. (1996). Family-centered intensive case management: A step toward understanding individualized care. *Journal of Child and Family Studies*, 5, 55-65.
- Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2008). The developmental antecedents of illicit drug use: Evidence from a 25-year longitudinal study. *Drug and Alcohol Dependence*, 96, 165-177.



- Fixsen, D. L., Naoom, S.F., Blase, K.A., Friedman, R.M., & Wallace, F. (2005). Implementation research. A Synthesis of the literature. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHL Publication #231).
- Flanagan, E., Corrigan, P., & Davidson, L. (2010). Mechanisms of stigma in mental health settings. *Comprehensive Psychiatry*, 51, p. e4.
- Flexhaug, M., Noyes, S., & Phillips, R. (2012). Integrated models of primary care and mental health & substance use care in the community: Literature review and guiding document. Victoria, BC: BC Ministry of Health.
- Goodwin, R. D., Fergusson, D. M., & Horwood, L. J. (2004). Association between anxiety disorders and substance use disorders among young persons: Results of a 21-year longitudinal study. *Journal of Psychiatric Research*, 38, 295-304.
- Goti, J., Diaz, R., Servano, L., Gonzalez, C., Calvo, R., Gual, A., & Castro, J. (2010). Brief intervention in substance-use among adolescent psychiatric patients: A randomized controlled trial. *European Child and Adolescent Psychiatry*, 19, 503-511.
- Government of Ontario. (2011). Ontario's Comprehensive Mental Health and Addictions Strategy: Open Minds, Healthy Minds. Toronto, ON: Queen's Printer for Ontario.
- Grant, B. F. & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiological Survey. *Journal of Substance Abuse*, 9, 103-110.
- Gray, K. M., Upadhyaya, H. P., Deas, D., & Brady, K. T. (2006). Advances in diagnosis of adolescent substance abuse. *Adolescent Medicine Clinics*, 17, 411-425.
- Grella, C. E., Hser, Y. I., Joshi, V., & Rounds-Bryant, J. (2001). Drug treatment outcomes for adolescents with comorbid mental and substance use disorders. *The Journal of Nervous and Mental Disease*, 189, 384-92.
- Gretton, H. M. & Clift, R. J. W. (2011). The mental health needs of incarcerated youth in British Columbia, Canada. *International Journal of Law and Psychiatry*, 34, 109-115.
- Grimes, K.E., Kapunan, P.E., & Mullin, B. (2006). Children's health services in a "system of care": patterns of mental health, primary and specialty use. *Public Health Report*, 121, 311-23.
- Grimes, K., & Mullin, B. (2006). MHSPY: A children's health initiative for maintaining at-risk youth in the community. *Journal of Behavioural Health Services and Research*, 33, 196-212.
- Hall, W., & Degenhardt, L. (2000). Cannabis use and psychosis: A review of clinical and epidemiological evidence. *Australian and New Zealand Journal of Psychiatry*, 34, 26-34.
- Hawkins, E. H. (2009). A tale of two systems: Co-occurring mental health and substance abuse disorders treatment for adolescents. *Annual Review of Psychology*, 60, 197-227.



- Health Canada. (2002). Best practices: Concurrent mental health and substance use disorders. Ottawa, ON: Health Canada.
- Health Canada. (2012). Canadian Alcohol and Drug Use Monitoring Survey (CADUMS). Health Canada Drug and Alcohol Use Statistics. Retrieved December 30, 2013, from http://www.hc-sc.gc.ca/hc-ps/drugs-drogués/stat/_2011/summary-sommaire-eng.php.
- Heflinger, C. A. & Hinshaw, S. P. (2010). Stigma in child and adolescent mental health services research: Understanding professional and institutional stigmatization of youth with mental health problems and their families. *Administration and Policy in Mental Health and Mental Health Services Research*, 37, 61-70.
- Henderson, J., Chaim, G. (2013). National Youth Screening Project. Centre for Addiction and Mental Health. Retrieved December 30, 2013, from <http://eenet.ca/wp-content/uploads/2013/06/NYSP-Report-FINAL-copy-full-PDF.pdf>
- Henggler, S. W., Clingempell, W. G., Brondino, M. J. & Pickrel, S. G. (2002). Four-year follow-up of multisystemic therapy with substance-abusing and substance-dependent juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 868-874.
- Hides, L., Elkins, K., Catania, L. S., Mathias, S., Kay-Lambkin, F., & Lubman, D. I. (2007). Feasibility and outcomes of an innovative cognitive-behavioural skill training programme for co-occurring disorders in the youth alcohol and other drug (AOD) sector. *Drug & Alcohol Review*, 26, 517-523.
- Hides, L., Lubman, D. I., Elkins, K., Catania, L. S. & Rogers, N. (2007). Feasibility and acceptability of a mental health screening tool and training programme in the youth alcohol and other drug (AOD) sector. *Drug & Alcohol Review*, 26, 509-515.
- Hingson, R. W., Heeren, T., & Winter, M. R. (2006). Age at drinking onset and alcohol dependence: Age at onset, duration and severity. *Archives of Pediatrics and Adolescent Medicine*, 160, 739-746.
- Hingson, R. W., & Zha, W. (2009). Age of drinking onset, alcohol use disorders, frequent heavy drinking, and unintentionally injuring one-self and others after drinking. *Pediatrics*, 123, 1477-1484.
- Hussong, A. M., Jones, D. J., Stein, G. L., Baucom, D. H., & Boeding, S. (2011). An internalizing pathway to alcohol use and disorders. *Psychology of Addictive Behaviors*, 25, 390-404.
- Kates, N., Mazowita, G., Lemire, F., Jayabarathan, A., Bland, R., Selby, P., et al. (2011). *The Evolution of Collaborative Mental Health Care in Canada: A Shared Vision for the Future*. Ottawa, ON: Canadian Psychiatric Association.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry*, 62, 593-602.
- Kessler, R. C., Ormel, J., Petukhova, M., McLaughlin, K. A., Green, J. G., Russo, L. J., ... & Ustun, T. B. (2011). Development of lifetime comorbidity in the World Health Organization world mental health surveys. *Archives of general psychiatry*, 68(1), 90.



- Kilpatrick, D. G., Acierno, R., Saunders, B., Resnick, H. S., Best, C. L. & Schnurr, P. P. (2000). Risk factors for adolescent substance abuse and dependence: Data from a national sample. *Journal of Consulting and Clinical Psychology*, 68, 19-30.
- King, R. D., Gaines, L. S., Lambert, W. E., Summerfelt, T. W., & Bickman, L. (2000). The co-occurrence of psychiatric and substance use diagnoses in adolescents in difference service systems: Frequency, recognition, cost, and outcomes. *The Journal of Behavioral Health Services & Research*, 27, 417-430.
- Kirst, M., Frederick, T., & Erickson, P. G. (2011). Concurrent mental health and substance use problems among street-involved youth. *International Journal of Mental Health and Addiction*, 9, 543-553.
- Kowalewski, K., McLennan, J. D., & McGrath, P. J. (2011). A preliminary investigation of wait times for child and adolescent mental health services in Canada. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 20, 112-119
- Knight, J. R. (1997). Adolescent substance use: Screening, assessment, and intervention in medical office practice. *Contemporary Pediatrics*, 14, 45-72.
- Knight, J. R., Sherritt, L., Shrier, L. A., Harris, S. K., & Chang, G. (2002). Validity of the CRAFFT substance abuse screening test among adolescent clinic patients. *Archives of Pediatrics and Adolescent Medicine*, 156, 607-614.
- Kutcher, S., & McLuckie, A. for the Child and Youth Advisory Committee, Mental Health Commission of Canada. (2010). *Evergreen: A Child and Youth Mental Health Framework for Canada*. Calgary, AB: Mental Health Commission of Canada.
- Leatherdale, S. T., & Burkhalter, R. (2012). The substance use profile of Canadian youth: Exploring the prevalence of alcohol, drug and tobacco use by gender and grade. *Addictive Behaviors*, 37, 318-322.
- Lewinsohn, P. M., Gotlib, I. H., Lewinsohn, M., Seeley, J. R., & Allen, N. B. (1998). Gender differences in anxiety disorders and anxiety symptoms in adolescents. *Journal of abnormal psychology*, 107(1), 109.
- Libby, A. M. & Riggs, P. D. (2008). Integrated substance use and mental health services for adolescents: Challenges and opportunities. In Y. Kaminer & O. G. Bukstein (Eds.), *Adolescent substance abuse: Psychiatric comorbidity and high-risk behaviors* (pp. 435-452). New York, NY: Routledge, Taylor and Francis Group.
- Lubman, D. I., Yucel, M., Harding, C., Dan, B., Damry, N., Fonteyne, C. et al. (2008). Adolescent substance use and the developing brain. *Letters to the Editor. Developmental Medicine & Child Neurology*, 50, 76-80.
- Lubman, D., Hides, L. & Elkins, K. (2008). Developing integrated models of care within the youth Alcohol and Other Drug sector. *Australasian Psychiatry*, 16, 363-366.
- Marlatt, G. A., & Witkiewitz, K. (2002). Harm reduction approaches to alcohol use: Health promotion, prevention and treatment. *Addictive Behaviours*, 27, 867-886.
- McCambridge, J. & Strang, J. (2005). Deterioration over time in effect of motivational interviewing in reducing drug consumption and related risk among young people. *Addiction*, 100, 470-478.



- McGorry, P. D., Purcell, R., Goldstone, S., & Amminger, G. R. (2011). Age of onset and timing of treatment for mental and substance use disorders: Implications for preventive intervention strategies and models of care. *Current Opinion in Psychiatry*, 24, 301-306.
- McKeown, A., Matheson, C., & Bond, C. (2003). A qualitative study of GP's attitudes to drug misusers and drug misuse services in primary care. *Family Practice*, 20, 120-125.
- Mental Health Commission of Canada. (2012). *Changing directions, changing lives: The mental health strategy for Canada*. Calgary, AB: Author.
- Merikangas, K. R., He, J., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L. et al. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the National Comorbidity Survey Replication – Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, 49, 980-989.
- Ministry of Children and Youth Services. (November, 2012). *Moving on Mental Health – a system that makes sense for children and youth*. Presentation at the Children's Mental Health Ontario 40th Anniversary Conference, Toronto, Ontario.
- Ministry of Children and Youth Services. (2013). *Child and Youth Mental Health Service Framework*. Toronto, ON: Author.
- Ministry of Education (Ontario) (2012). *The Education Act*. Government of Ontario.
- Minkoff, K. (2006). What is integration? Part I. *Journal of Dual Diagnosis*, 2, 133-145.
- Minkoff, K. & Cline, C. C. (2004). Developing welcome systems for individuals with co-occurring disorders: The role of the comprehensive continuous integrated system of care model. *Journal of Dual Diagnosis*, 1, 65-89.
- Mitchell, S., G., Gryczynski, J., Gonzales, A., Moseley, A., Peterson, T., O'Grady, K. E., & Schwartz, R. P. (2012). Screening, brief intervention, and referral to treatment (SBIRT) for substance use in a school-based program: Services and outcomes. *The American Journal on Addiction*, 21, S5-S13.
- Mitchell, S. G., Gryczynski, J., O'Grady, K. E. & Schwartz, R. P. (2013). SBIRT for adolescent drug and alcohol use: Current status and future directions. *Journal of Substance Abuse Treatment*, 44, 463-472.
- Muñoz-Solomando, A. & Williams, R. J. W. (2007). Care pathways for young people who misuse substances: Using the evidence to design services. *Current Opinion in Psychiatry*, 20, 330-336.
- Naar-King, S. & Suarez, M. (2011). *Motivational Interviewing with Adolescents and Youth Adults*. New York, NY: Guilford Press.
- National Institute on Alcohol Abuse and Alcoholism. (2011). *Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide*.
- National Treatment Strategy Working Group (2008). *A systems approach to substance use in Canada: Recommendations for a national treatment strategy*. Ottawa: National Framework for Action to Reduce the Harms Associated with Alcohol and Other Drugs and Substance in Canada.



- Offord, D. R., Boyle, M. H., Fleming, J. E., Munroe Blum, H., & Rae Grant, N. I. (1989). Ontario Child Health Study: Summary of selected results. *Canadian Journal of Psychiatry*, 34, 483-491.
- O'Neil, K. A., Conner, B. T., & Kendall, P. C. (2011). Internalizing disorders and substance use disorders in youth: Comorbidity, risk, temporal order, and implications for intervention. *Clinical Psychology Review*, 31, 104-112.
- Paglia-Boak, A., Adlaf, E. M., & Mann, R. E. (2011). Drug Use among Ontario Students, 1977-2011. OSDUHS Highlights (CAMH Research Document Series No. 33). Toronto, ON: CAMH.
- Pilowsky, D. J., & Wu, L.-T. (2013). Screening instruments for substance use and brief interventions targeting adolescents in primary care: A literature review. *Addictive Behaviors*, 38, 2146-2153.
- Pottick, K. J., Bilder, S., Vander Stoep, A., Warner, L. A., & Alvarez, M. F. (2008). US Patterns of mental health service utilization for transition-age youth and young adults. *The Journal of Behavioral Health Services and Research*, 35, 373-389.
- Poulin, C. (2006). Harm reduction policies and programs for youth. Ottawa, ON: Canadian Centre on Substance Abuse.
- Richardson, L., McCauley, E., & Katon, W. (2009). Collaborative Care for adolescent depression: a pilot study. *General Hospital Psychiatry*, 31, 36-45.
- Rohde, P., Clarke, G. N., Lewinsohn, P. M., Seeley, J. R., & Kaufman, N. K. (2001). Impact of comorbidity on a cognitive-behavioral group treatment for adolescent depression. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 795-802.
- Rush, B. (2010). Tiered frameworks for planning substance use service delivery systems: Origins and key principles. *Nordic Studies on Alcohol and Drugs*, 27, 617-636.
- Rush, B. R., & Nadeau, L. (2011). Integrated service and system planning debate. In D. B. Cooper (Eds), *Responding in mental health-substance use* (pp. 148-175). London, UK: Radcliffe Publishing Ltd.
- Rosenheck, R. A., Resnick, S. G., & Morissey, J. P. (2008). Closing service system gaps for homeless clients with a dual diagnosis: Integrated teams and interagency cooperation. *Journal of Mental Health Policy and Economics*, 6, 77-87.
- Substance Abuse and Mental Health Administration. (2003). *Report to Congress on the Prevention and Treatment of Co-occurring Substance Abuse and Mental Disorders*. Washington, DC: Author.
- Sayal, K. (2006). Pathways to care for children with mental health problems. *Journal of Child Psychology and Psychiatry*, 47, 649-659.
- Schwartz, C., Garland, O., Harrison, E., & Waddell, C. (2007). *Treating concurrent substance use and mental disorders in children and youth. A research report prepared for Child and Youth Mental Health Policy Branch of the British Columbia Ministry of Children and Family Development*. Vancouver, BC: Children's Health Policy Centre, Faculty of Health Sciences, Simon Fraser University.



- Schwartz, C., Waddell, C., Barican, J., Gray-Grant, D., Garland, O., & Nightingale, L. (2010). Preventing substance abuse in children and youth. *Children's Mental Health Quarterly*, 4, 1-16. Vancouver, BC: Children's Health Policy Centre, Faculty of Health Sciences, Simon Fraser University.
- Somers, J. (2008). Screening for co-occurring disorders and the promotion of collaborative care. *International Journal on Mental Health and Addictions*, 6, 141-144.
- Skinner, N., Roche, A., Freeman, T., & McKinnon, A. (2009). Health professionals' attitudes to AOD-related work: Moving the traditional focus from education and training to organizational culture. *Drugs: Education, Prevention and Policy*, 16, 232-249.
- Slesnick, N., & Prestopnik, J. L. (2005). Ecologically based family therapy outcome with substance abusing runaway adolescents. *Journal of Adolescence*, 28, 277-298.
- Spirito, A., Monti, P. M., Barnett, N. P., Colby, S. M., Sindelar, H., Rohsenow, D. J., et al. (2004). A randomized clinical trial of a brief motivational intervention for alcohol-positive adolescents treated in an emergency department. *Journal of Pediatrics*, 145, 396-402.
- Sterling, S., Valkanoff, T., & Hinman, A., & Weisner, C. (2012). Integrating substance use treatment into adolescent health care. *Current Psychiatry Reports*, 14, 453-461.
- Sterling, S., Weisner, C., Hinman, A., & Parthasarathy, S. (2010). Access to treatment for adolescents with substance use and co-occurring disorders: Challenges and opportunities. *Journal of the American Academy of Child and Adolescent Psychiatry*, 49, 637-646.
- Suarez, L. M., Belcher, H. M. E., Briggs, E. C., & Titus, J. C. (2012). Supporting the need for an integrated system of care for youth with co-occurring traumatic stress and substance abuse problems. *American Journal of Community Psychology*, 49, 430-440.
- Tait, R. J. & Hulse, G. K. (2003). A systematic review of the effectiveness of brief interventions with substance using adolescents by type of drug. *Drug and Alcohol Review*, 22, 337-346.
- Tait, R. J., Hulse, G. K., & Robertson, S. I. (2004). Effectiveness of a brief intervention and continuity of care in enhancing attendance for treatment by adolescent substance users. *Drug and Alcohol Dependence*, 74, 289-296.
- Teplin, L. A., Abram, K. M., McClelland, G. M., Mericle, A. A., Dulcan, M. K., Washburn, J. J., & Butt, S. (2007). Psychiatric disorders of youth in detention. In C. L. Kessler and L. J. Kraus (Eds.), *The mental health needs of young offenders: Forging paths toward reintegration and rehabilitation* (pp. 7-47). New York, NY: Cambridge University Press.
- Toumbourou, J. W., Stockwell, T., Neighbors, C., Marlatt, G. A., Sturge, J., & Rehm, J. (2007). Interventions to reduce harm associated with adolescent substance use. *The Lancet*, 369, 1391-401.
- Thota, A., Sipe, T. A., Byard, G. J., Zometa, C. S., Hahn, R. A., McKnight-Eily, L. R. et al. (2012). Collaborative care to improve the management of depressive disorders: A community guide systematic review and meta-analysis. *American Journal of Preventive Medicine*, 42, 525-538.



- Van Hook, S., Harris, S. K., Brooks, T., Carey, P., Kossack, R., Kulig, J., & Knight, J. R. (2007). The "Six T's": Barriers to Screening Teens for Substance Abuse in Primary Care. *Journal of Adolescent Health, 40*, 456-461
- Volkow, N. D. (2004). The reality of comorbidity: Depression and drug abuse. *Biological Psychiatry, 56*, 714-717.
- Waddell, C., McEwan, K., Shepherd, C. A., Offord, D. R., & Hua, J. M. (2005). A public health strategy to improve the mental health of Canadian children. *Canadian Journal of Psychiatry, 50*, 226-233.
- Waddell, C., Offord, D. R., Shepherd, C. A., Hua, J. M., & McEwan, K. (2002). Child psychiatric epidemiology and Canadian public policy-making: The state of the science and the art of the possible. *Canadian Journal of Psychiatry, 9*, 825-832.
- Waldron, H. B., Slesnick, N., Brody, J. L., Turner, C. W., & Peterson, T. R. (2001). Treatment outcomes for adolescent substance abuse at 4- and 7-month assessments. *Journal of Consulting and Clinical Psychology, 69*, 802-813.
- Wasserman, G. A., McReynolds, L. S., Ko, S. J., Katz, L. M., & Carpenter, J. R. (2005). Gender differences in psychiatric disorders at juvenile probation intake. *American Journal of Public Health, 95*, 131-137.
- Wasserman, G. A., Jensen, P. S., Ko, S. J., Coccozza, J., Trupin, E., Angold, A. et al. (2003). Mental health assessments in juvenile justice: Report on the consensus conference. *Journal of the American Academy of Child & Adolescent Psychiatry, 42*, 752-761.
- Waxmonsky, J. G., & Wilens, T. E. (2005). Pharmacotherapy of adolescent substance use disorders: a review of the literature. *Journal of Child and Adolescent Psychopharmacology, 15*, 810-825.
- Weiss, R. D., & Mirin, S. M. (1985). Substance abuse as an attempt at self-medication. *Psychiatric Medicine, 3*, 357-367.
- Wilens, T. E., Adamson, J., Sgambati, S., Whitley, J., Santry, A., Monuteaux, M.C., & Biederman, J. (2007). Do individuals with ADHD self-medicate with cigarettes and substances of abuse? Results from a controlled family study of ADHD. *American Journal on Addictions, 16*, 14-21.
- Wilens, T. E., Martelon, M., Joshi, G., Bateman, C., Fried, R., Petty, C., & Biederman, J. (2011). Does ADHD predict substance use disorders? A 10-year follow-up study of young adults with ADHD. *Journal of the American Academy of Child and Adolescent Psychiatry, 50*, 543-553.
- Wu, L. T., & Ringwalt, C. L. (2006). Use of alcohol treatment and mental health services among adolescents with alcohol use disorders. *Psychiatric Services, 57*, 84-92.
- Young, M. M., Stevens, A., Porath-Waller, A., Pirie, T., Garritty, C., Skidmore, B., et al. (2012). Effectiveness of brief interventions as part of the screening, brief intervention and referral to treatment (SBIRT) model for reducing the non-medical use of psychoactive substances: a systematic review protocol. *Systematic Reviews, 1*, 1-11.
- Yuma-Guerrero, P. J., Lawson, K. A., Velasquez, M. M., von Sternberg, K., Maxson, T., & Garcia, N. (2012). Screening, brief intervention and referral for alcohol use in adolescents: A systematic review. *Pediatrics, 130*, 115-122.



Appendix I

Definitions

Mental Illness/Mental Disorder: Refers to meeting criteria for a *Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (DSM-IV)* psychiatric disorder.

Substance Abuse (SA): Is a DSM-IV diagnosis defined by a maladaptive pattern of alcohol or drug use resulting in recurrent, serious negative consequences (e.g. legal problems, disruption of interpersonal relationships, failure to fulfill major role obligations, use in dangerous situations) and causes clinically significant impairment or distress in at least one setting (e.g. school, home).

Substance Dependence (SD): Is a more severe DSM-IV SUD diagnosis consisting of a persistent, maladaptive pattern of alcohol or drug use leading to serious impairment or distress in one or more settings (e.g. school, home). To meet criteria for this diagnosis, a youth must exhibit at least three of the following seven symptoms within a 12 month period: tolerance, withdrawal, larger amounts of substances taken for longer periods of time, multiple unsuccessful attempts to cut down, substantial amount of time spent using or obtaining the substance, other activities are diminished (e.g. occupational, recreational), and use continues despite knowing of the psychological or physical harm caused by the substance.

Note: Substance Dependence is sometimes referred to as an “addiction”. However, an addiction encompasses a broader array of behaviours (e.g. gambling) which are beyond the scope of this paper.

Problematic Substance Use: Refers to sub-threshold substance use that is related to negative outcomes (e.g. early substance use), but does not warrant a diagnosis of a SUD.

Concurrent Disorders (CD): Refers to the existence of simultaneous DSM-IV diagnoses of a mental illness and a SUD.

Note: Although at times, CD can refer to other combinations of co-occurring disorders (e.g. intellectual disability and a mental disorder), the definition of CD is limited to a mental illness and SUD in this paper.

Youth: For the purposes of this paper, youth refers to 12 to 24 year olds. However, the Ministry of Children and Youth services provides funding for youth 12-18 years, so it is important to address the needs of transitional age youth and the pathway of care as they transition to the Ministry of Health and Long-Term Care funded adult service system.

Young adult: for the purposes of this paper, young adult refers to those 16-24 who bridge late adolescence and into early adulthood.

Transition aged youth: similar to young adult, those 16-24. The term “transition aged youth” has particular connotations though, as it includes the difficulties that these youth encounter in shifting from the child and youth mental health and addictions sectors to the adult health care sector.



Appendix II

Screening, assessment and treatment implications in various sectors

Primary healthcare

Research indicates that the majority of adolescents who receive SUD treatment had accessed a primary care physician in the previous year (Clark, Lynch, Donovan, & Block, 2001). Among Ontario youth with concurrent disorders, medical services were the most frequently accessed, far exceeding rates of specialty mental health service utilization (Cheung et al., 2010). Healthcare visits are an opportunity to detect mental health and substance use disorders early on in order to provide early intervention (Sterling, Valkanoff, Hinman, & Weisner, 2012).

Research indicates that parents tend to not raise concerns around mental health and substance use to family physicians due to a lack of perception of problem or need for service (Sayal, 2006), which tends to place the responsibility on the primary care physicians to be aware of and screen for these diagnoses based on observations of behaviours present during a medical appointment. However, screening for substance use disorders by primary care physicians is infrequent primarily due to limited time and lack of training in this area (Van Hook, et al., 2007). In order to address lack of time as a barrier, U.S. studies have suggested that pay for service codes for reimbursement for physicians specific to screening and brief intervention have the potential to increase treatment access (Sterling et al., 2010). Although the U.S. and Canadian mental health and addiction service systems vary greatly, the American example is relevant because it emphasizes that incentivizing offering SBIRT through primary care could have a part in changing physician behaviour and system change.

Most research on screening and brief intervention in primary care has focused on alcohol use. In the United States, screening and brief intervention of alcohol use in primary care settings is recommended by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) as well as the American Academy of Pediatrics. These two organizations collaborated to develop *Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide* (2011). This guide is intended for primary care and emergency department providers caring for youth aged 9-18 years old. It uses a two-question screen (about their friends' drinking and their own drinking frequency) that can be included in any clinical exam, and is for youth at risk of developing alcohol related problems, as opposed to those who are already experiencing alcohol-related problems. Depending on the youth's responses to the screening questionnaire, the guide offers advice for the type of intervention to provide during the healthcare visit, including motivational interviewing techniques and methods for referral to treatment. If the youth is at moderate to high-risk, a one-month follow-up appointment is recommended by physicians.

The NIAAA Practitioner's Guide also suggests using additional screening questionnaires, such as the CRAFFT 6-item questionnaire (Knight, Sherritt, Shrier, Harris, & Chang, 2002) or the Alcohol Use Disorders Identification Test (AUDIT; Babor, de la Fuente, Saunders, & Grant, 1992) to further assess level of risk or need for referral to treatment. CRAFFT is a mnemonic that aids practitioners in remembering the six screening questionnaires (e.g. the C stands for "Have you ever ridden in a Car driven by someone, including yourself, who is high or had been using alcohol or drugs"). A recent



review of the research on screening instruments in primary care settings (Pilowsky & Wu, 2013) recommends that medical settings use the CRAFFT to identify youth who may have problematic substance use.

Although the literature supports screening for mental health and substance use in primary care settings, increased training opportunities are necessary for primary care physicians and pediatricians in the area of SBIRT so they can screen, provide brief interventions and refer to specialty clinics where appropriate (Sterling et al., 2012). A British Columbia/Yukon Collaborative Care Project evaluated the effectiveness of providing training to primary care physicians on the topic of screening for mental health and SUDs in both youth and adult populations (Somers, 2008). This study found that training in the area of screening for concurrent disorders increased primary care physicians' belief that effective treatments are available and possible for individuals with SUDs.

There are few evaluation studies on the effectiveness of providing brief interventions in primary care settings. A notable exception is research by D'Amico, Miles, Stern, & Meredith (2008) who found decreased marijuana use (but not alcohol use) following a brief intervention in primary care settings for youth 12-18 years old.

Emergency departments

Due to the high rates of injuries and medical crises associated with SUDs (Hingson & Zha, 2009), emergency departments are viable settings for screening and early intervention. For instance, a brief screening could be conducted by a nurse or at intake. For youth who may not otherwise access services, emergency departments provide a window of opportunity to connect a youth with services during a time of acute need (Barnett et al., 2003).

The research evaluating SBIRT services in emergency departments for illicit and prescription drug use is scarce. Mitchell et al. (2013) cites only one published randomized controlled trial to date. This study found decreased marijuana use at 12-month follow-up for those who received a brief motivational interviewing intervention compared to a control group (Bernstein et al., 2009). There is a clear need to expand the screening process, and related training, to include the use of illicit and prescription substances.

Research studies have found mixed results on the effectiveness of SBIRT services for alcohol use in emergency departments. Some researchers found decreased alcohol use at 12-month follow-up for both the brief intervention group and the control group (e.g. Spirito et al., 2004). Others found that brief intervention can support increased efforts to quit, but with no overall change in alcohol consumption frequency at 12-month follow-up (Bernstein et al., 2010). A review of randomized clinical trials of SBIRT services in emergency departments concluded that "based on existing evidence, it is not clear whether SBIRT is an effective approach to risky alcohol use among adolescent patients in acute care" (p. 115; Yuma-Guerrero et al., 2012). It appeared the brief interventions were more effective for older adolescents as well as youth who were engaging in more persistent risky alcohol use. More research is required to shed light on the particular subpopulations of adolescents who may differentially benefit from brief interventions within emergency departments, for instance if there are sex differences or differences in trauma history.

Education settings

Given the large number of adolescents who attend school, education may be particularly well suited to identify youth with emerging mental disorders and SUDs and respond using SBIRT (Mitchell et al., 2013). Often, schools provide mental



health or healthcare where SBIRT services can be carried out, with the added advantage of having school personnel collaborate with other service providers and understand the needs of students over extended periods of time.

Interventions specific to implementing SBIRT services for substance use in high schools have shown some promising outcomes. For example, in New Mexico, SBIRT services were implemented in 13 schools for youth aged 14-17 (Mitchell et al., 2012). Students were screened universally and offered brief intervention within the school setting (average one session) or referral to treatment outside the school setting (average four sessions) depending on the results of their screening. Results showed that students who received either of the interventions reported decreases in days of drinking to intoxication and drug use at 6-month follow-up. Interestingly, the number of sessions had little effect on substance use frequency at 6-month follow-up, which suggests that single-session interventions may be sufficient to reduce substance use among this particular population.

Other studies using screening and brief intervention in schools showed that students decreased their substance use at 3-month follow-up, but not 12-month follow-up (McCambridge & Strang, 2005). This suggests that effects of brief intervention may decrease over time, and may highlight the need for a broader approach that includes referral to more intensive support.

Juvenile justice settings

Rates of mental health disorders and substance abuse are extremely high in the juvenile justice system (Teplin et al., 2007). Among incarcerated youth in British Columbia, up to 91% of males and 100% of females met the criteria for at least one disorder (Gretton & Clift, 2011). In this population of youth, substance use disorders and conduct disorder were the most prevalent. Females involved with the juvenile justice system are often more functionally impaired and have higher rates of comorbidity than their male counterparts (Teplin et al., 2007; Wasserman, McReynolds, Ko, Katz, & Carpenter, 2005).

Given the high rates of mental health and substance use disorders among youth in the juvenile justice system, screening has been recommended for all youth within 24 hours of incarceration (Wasserman et al., 2003). In Ontario, approximately 25% of youth receiving addictions treatment were referred from the justice system (Cheung et al., 2010), and this treatment is often offered as part of a diversion program to avoid incarceration. The rationale behind referring to community mental health or addiction services after an assessment is to rehabilitate youth and reduce the risk of recidivism (Dembo, Schmeidler, Pacheco, Cooper, & Williams, 1997).

Although concurrent disorders are common among youth involved in the juvenile justice system, these youth often have symptoms severe enough to warrant intensive treatment services beyond screening and brief intervention. This implies the need for services and care pathways between youth justice and other supports that reflect a comprehensive, integrated treatment approach.

Mental health and addictions treatment settings

Concurrent disorders are extremely common in mental health and addiction treatment settings for youth. Nevertheless, the procedures for screening and identifying those with mental health needs in addictions treatment settings, and those with SUDs in mental health settings, are not universally or even typically implemented in Ontario. The lack of clarity



about what screening tool to use as well as what steps to take after identifying that youth may need services have been reported as barriers to using screening procedures in these settings (Christie et al., 2013; Skinner et al., 2009).

Training has been recommended to increase the use of screening by clinicians. Researchers and clinicians at CAMH have contributed extensively to the research on the implementation of screening questionnaires, in particular the Global Appraisal of Individual Needs – Short Screener (GAIN-SS; Dennis, Chan, & Funk, 2006). The CAMH report *Screening for Concurrent Substance Use and Mental Health Problems in Youth* (2009) provides a comprehensive review of the literature on selecting and implementing an appropriate screening tool for a particular population and setting.

Research studies on SBIRT services in mental health and addiction settings have mostly focused on the effectiveness of screening or brief intervention (Mitchell et al., 2013). Several feasibility studies have found positive results in both mental health and addictions settings for implementing screening questionnaires into clinical practice (Hides, Lubman, Elkins, Catania, & Rogers, 2007). Screening in both addictions and mental health service settings has wide support, but there is limited research on brief intervention services for either mental health in addictions settings or addictions treatment in mental health settings. Although more research is needed in this area, and on the effectiveness of the referral to treatment services when screening procedures are used in mental health or addiction settings, existing research provides insight into the building blocks necessary for brief interventions program development.

In New Zealand, two child and adolescent mental health service settings received a one-day training on brief interventions for SUDs. A ten-month follow-up study found that the training led to improvements in clinicians' attitudes (e.g. increased confidence), skills and knowledge of SUDs (Christie, Black, Dunbar, Pulford, & Wheeler, 2013). However, mental health clinicians reported feeling "less legitimate" in the role of providing SUD interventions at later times. The authors concluded that a one-day training workshop is insufficient and that ongoing training and support to carry out SUD screening and interventions is required for mental health clinicians.

An Australian study that involved the training of addictions workers to provide a brief intervention for concurrent depression came to a different conclusion (Hides, Elkins, et al., 2007). The program consisted of a 2-day training workshop and up to three hours of supervision per month from a clinical psychologist. Although the program initially proved to be effective, difficulties arose when the intervention was implemented into everyday clinical practice. Addictions workers reported lacking confidence in their ability to deliver programming because the mental health approach contrasted with their theoretical orientation, and poor supervision attendance and high staff turnover complicated the implementation process. The study concluded that training addictions workers was not an effective strategy. The researchers found, however, that the program was more successful when the addictions workers screened and referred youth to a mental health clinical psychologist working within the clinic, while providing continued addictions counseling as appropriate. The mental health specialist also could provide treatment and planning consultation on an as-needed basis to the addictions workers.

The authors concluded that "basic management and appropriate referral of co-occurring mental health issues should be a core competency for [addictions] workers" (Hides, Elkins, et al., 2007, p. 366). However, in order to train and sustain this level of competency among addictions workers, full support of team leaders and senior management was essential. They concluded that "change will not occur if the service does not articulate this process as a priority and a core service issue" (p. 365-366).



Psychopharmacology

Although psychosocial treatments are recommended as a first line of treatment for those with concurrent disorders, there is some evidence for the use of medications to treat severe internalizing disorder symptoms and ADHD among youth with SUDs (Bukstein et al., 2005). Use of medications for those with concurrent disorders should not be ruled out immediately (Waxmonsky & Wilens, 2005), but should be prescribed with great caution. Caution should be used because of the danger of mixing problematic substance use with prescriptions, so careful assessment of the youth's mental health and substance use history and presenting concerns are essential. Close monitoring and on-going support are important. There are medications available that have lower risk of being abused and misused, such as longer acting stimulants for ADHD and some psychotropic medications to alleviate depression or anxiety (Bukstein et al., 2005).

Appendix III

Models of collaborative care

Youth with established and severe concurrent disorders - case management

To improve the accessibility of multi-site treatment approaches, intensive case management or Wraparound services have been recommended for those with severe substance use and mental health symptoms (Suarez, Belcher, Briggs, & Titus, 2012). Intensive case management ensures that vulnerable youth with multiple needs have a key worker that coordinates and arranges their schedule, which in turn theoretically makes integration more successful. Several U.S. researchers and clinicians promote the use of care coordinators to help organize and integrate treatment plans, thus not requiring single-site intensive, integrated programs (Hawkins, 2009; Bukstein & Horner, 2010).

1) Intensive case management consists of a specially trained professional who is able to coordinate the supports and intervention services needed to help individuals with concurrent disorders live in the community, rather than hospital or residential settings. The case manager is responsible for developing and monitoring a comprehensive service plan, connecting youth with additional support services, and offering crisis intervention and advocacy on an as-needed basis. To be effective, case managers are required to have a small caseload (Hawkins, 2009).

Intensive case management was cited as an effective intervention for youth with co-occurring disorders by the U.S. Department of Health and Human Services in 2002. Research has shown decreased hospitalizations, decreased symptoms and better functioning among youth involved in the New York's Child and Youth Intensive Case Management initiative (Evans, Banks, Huz, & McNulty, 1994; Evans, Armstrong, & Kuppinger, 1996). More recently, a U.S. study found that adolescents who used intensive case management services were more likely to engage in mental health services, and less likely to stop treatment prematurely (Bender, Kapp, & Hahn, 2011).

2) Wraparound is a family-driven model of care coordination for youth with mental health problems who are also involved with one or more additional systems (child welfare, juvenile justice, etc.). Wraparound requires a team approach to planning and involves multiple providers. The services are "individualized, family-driven, strengths-based, culturally competent, and community oriented" (Burchard, Bruns, & Burchard, 2002). The purpose of wraparound



services is to increase service utilization by high-risk individuals, who may have difficulty accessing services without support (Hawkins, 2009).

In terms of evaluation, Wraparound has been evaluated in multiple outcome studies, each showing a variety of beneficial results. Findings include a decrease in at-risk and delinquent behaviour (Carney & Buttell, 2003) and an increase in positive outcomes such as school attendance (Bruns, Rast, Walker, Peterson, & Bosworth, 2006).

Beyond the use of case management, little is documented on how to effectively collaborate among mental health and addictions service providers to ensure proper care. However, research on collaborative care models offers a starting off point for deciding on the level of collaboration or coordination necessary for service providers.

Collaborative care: coordination among primary care, mental health, and SUD service providers

Craven and Bland (2006) state that collaborative care

“involves providers from different specialties, disciplines, or sectors working together to offer complementary service and mutual support, to ensure that individuals receive the most appropriate service from the most appropriate provider in the most suitable location, as quickly as necessary, and with a minimum of obstacles. Collaboration can involve better communication, closer personal contacts, sharing of clinical care, joint educational programs and/or joint program and system planning” (p. i).

Most research on collaborative care is descriptive and outlines methods to support collaboration between primary care physicians and mental health specialists. The collaborative care model has been used for people with specific mental illnesses, such as adult depression (Thota et al., 2012), but could be a useful model in the area of youth concurrent disorders (Libby & Riggs, 2008) because of the frequency of medical problems that exist among these youth. Youth with SUDs are at increased risk of having sexually transmitted diseases, HIV infection, hepatitis C, and serious injuries (Toumbourou et al., 2007; Gray, Upadhyaya, Deas, & Brady, 2006), making the primary care setting well positioned to coordinate medical, mental health and substance use services for adolescents. When youth come in for help with medical problems, it provides an opportunity for early identification, brief intervention and referral to specialized treatment. Additionally, the primary care physician usually has a long-term relationship with a youth (Libby & Riggs, 2008).

The B.C./Yukon Collaborative Care Project provides an example of initiating conversations about shared care across sectors (Somers, 2008). A critical component of this project involved hosting several inter-disciplinary, professional development events involving primary care physicians, mental health clinicians and drug and alcohol clinicians. These practitioners initially came together to learn about and discuss screening for concurrent disorders. Implementing screening in their practices shed light on the high rates of concurrent disorders among their patients, which led to an increased motivation to provide treatment by collaborating across sectors. The Project could serve as a model for first steps in implementing common screening practices in different settings in Ontario, and eventually formalizing cross-sector collaboration.

A position paper by the Canadian Psychiatric Association (CPA) on the topic of collaborative mental health care outlines the components of a collaborative care model between primary care physicians and psychiatrists (Kates et al., 2011).



The CPA states that this model can be used between primary care and a range of mental health and addictions specialists.

According to the CPA, collaborative mental health is “care that is delivered by providers from different specialties, disciplines, or sectors working together to offer complementary services and mutual support” (p. 2). Examples of collaborative activities can include:

- *Effective communication*: relay relevant information to clients about programs as well as discuss client’s care with other professionals.
- *Consultation*: primary care physicians and mental health and addictions specialists provide guidance to each other to support the care of the client and family.
- *Coordination*: establish care plans and clinical activities collaboratively in order to avoid duplication and contradicting messages.
- *Co-location*: where providers from different disciplines work in the same setting (although this does not guarantee effective collaboration).
- *Integration*: shared care planning and decision making across different disciplines within the same setting.

Studies suggest that the essential ingredient in a successful collaborative care model is the quality of the collaboration among partners, with collaboration defined as active and on-going (Craven & Bland, 2006). Although researchers have proposed the potential importance of primary care physicians acting as “gatekeepers and coordinators” of integrated treatment services (Libby & Riggs, 2008), there are no evaluation studies on collaborative care models for youth with concurrent disorders.

The British Columbia Ministry of Health produced *Integrated Models of Primary Care and Mental Health & Substance Use Care in the Community: Literature Review and Guiding Document* (2012), which was aimed at supporting integrated care for both youth and adult populations. The purpose of the document is to “inform planning around the particular program models that are appropriate for individuals with mental health and substance use problems when integrating primary and mental health and substance use care in the community” (p. 9). Based on an extensive literature review, the document summarizes nine types of collaborative models of care. The models are listed in increasing order of intensity of symptoms/need in combination with increasing level of coordination or integration.

The literature review conducted for the B.C. Ministry of Health report found few results on collaborative care models for youth, with none of them actually focused on management of substance use disorders, let alone concurrent disorders. There was some evidence that youth with depression would be more open to the ‘*shared care model*’ (primary care setting) rather than the ‘*reverse shared care model*’ (mental health setting), suggesting that youth may find primary care facilities less stigmatizing (Richardson, McCauley, & Katon, 2009). For youth with complex mental health needs, case studies found that Wraparound services (‘*fully integrated system of care*’) decrease hospital costs, improve functionality, and decrease risk to self or others (Grimes, Kapunan, & Mullin, 2006; Grimes & Mullin, 2006). For youth with psychoses, the early psychosis intervention (EPI) program in British Columbia demonstrates an example of successful ‘*specialized hub and spoke outreach programs*’ which targets youth ages 15-21 years old. Research suggests that the EPI program’s



success is a result of the interaction with multiple service providers including mental health, primary care, schools, and corrections (Ehmann, Yager & Hanson, 2004).

The B.C. Ministry of Health report concluded that:

“while no definitive approach was noted through this review, it would seem that models of co-location/collaboration may be effective in treating children, youth and families where mental health and behavioural issues are emerging. Further, collaborative or integrated service models need to be more broadly focused than just on health – the inter-relationships between health/mental health and substance use services with school and family must be addressed” (p. 70).

In terms of system or service level changes, little research exists on how to best implement integrated services for youth with concurrent disorders (Adair et al., 2009). Research is needed to evaluate various options of service integration, including intensive case management and collaborative care models. Although the collaborative care model is used primarily for physicians, it is possible that this model could be used with the point person being a mental health provider or substance use provider, depending on the level of acuity.