CONCEPTUALIZING INTEGRATED SERVICE DELIVERY FOR PREGNANT AND PARENTING WOMEN WITH SUBSTANCE USE ISSUES: DEFINING KEY FACTORS AND PROCESSES

by

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Abstract

Integrated substance use treatment programs for pregnant and parenting women provide comprehensive services designed to meet the complex needs of women and their children. Meta-analytic data associate participation in these programs with positive outcomes relating to maternal substance use and mental health, and child development. Given that programs are typically developed to meet locally determined needs and depend on available resources, considerable heterogeneity in treatment models and services exists. Further, little is known about process-related factors that support the integration of substance use and prenatal/parenting/child services within and between agencies. This study employed concept mapping methodology with a group of expert participants to examine their perceptions of factors and processes that support effective integrated service provision for this population. Multidimensional scaling and hierarchical cluster analysis were used to derive and define requisite factors and to examine their relative importance. Findings are discussed in relation to a preliminary conceptual framework for integrated service provision.

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Chapter 1: Introduction

1.1 Statement of the Problem

Two decades of research have highlighted that substance use treatment for women is most effective when it is sensitive to the gender-specific experiences, needs of, and barriers faced by women (Women's Service Strategy Work Group, 2005). A unique gender-specific characteristic that has less consistently received attention in the substance abuse treatment field is women's role as mothers. Neglect of this role is problematic in light of estimates suggesting that approximately 70% of women pursuing substance abuse treatment are responsible for at least one child (US Department of Health and Human Services, 1999) and given that women in the United States report using illicit drugs and drinking alcohol (2.8 % of 1, 249 women) during pregnancy (Ebrahim & Gfroerer, 2003). The use of substances during and after pregnancy has been associated with a range of negative outcomes relating to fetal/child health and development, maternal well-being, and parenting (Motz, Leslie, Pepler, Moore, & Freeman, 2006). Consideration of motherhood within the context of substance abuse treatment is essential as it is a frequent source of significant stress (Kelley, 1998) and is often the primary impetus for women seeking and remaining in treatment (Sword et al., 2009). Researchers advocate that when women become pregnant or are parenting, a critical "window of opportunity" opens (Daley, Argeriou, & McCarty, 1998). Namely, the desire to become better mothers and to improve the lives of their children helps to counter the challenges of entering treatment and changing maladaptive patters of substance use, and provide powerful motivation for seeking and maintaining sobriety (Higgins, Clough, Frank, & Wallerstedt, 1995; Sword, Niccols, & Fan, 2004; Sword et al., 2009).

Although the potential for positive change exists for pregnant and parenting women, a number of barriers to accessing traditional substance abuse services hinder their ability to fully

capitalize on this window of opportunity for change. When questioned about barriers to accessing and remaining in conventional systems of care, women articulate the presence of intra/interpersonal, sociocultural, structural, and systemic barriers (Centre for Substance Abuse Treatment, 2009; Motz, Leslie, Pepler, Moore, & Freeman, 2006), many of which revolve around or relate to pregnancy- or child-related concerns (Curet & His, 2002; Finkelstein, 1994; Howell & Chasnoff, 1999; Poole & Greaves, 2009) or associated stigma (Finkelstein, 1994).

Acknowledgment of these barriers engendered the inception of a more integrated model of service delivery for this marginalized population. Integrated treatment programs provide comprehensive services to address substance use and maternal mental health and well-being, as well as child well-being and parenting, where possible, at a single access point. The benefits of participating in such programs have been well cited in the literature across a range of outcomes (e.g., parenting, maternal substance use, mental health, length of stay; Milligan et al., 2010a, 2010b, 2011; Niccols et al., 2010, 2012a, 2012b).

Despite the apparent promise of this approach, the absence of a well-defined conceptualization of integrated service delivery limits the proliferation of these programs. More specifically, a conceptual understanding of the processes and services that support effective integration, as well as an indication of the relative importance of such processes and services is currently missing from the literature. While integrated service delivery has been defined as the co-location of services relating to substance use, maternal and child well-being, and parenting (Milligan et al., 2010a, 2010b, 2011; Niccols, 2010, 2012a, 2012b), the appropriateness of this, in particular for rurally located programs with limited access to services, as well as the extent to which this dimension maps onto client outcomes, remains largely unclear.

The present study addressed this existing knowledge gap. Specifically, it employed concept mapping methodology – a structured multistep process that culminates in visual representations of the ideas of a group – to yield a conceptualization or synthesis of factors and processes thought to comprise *effective* integrated service delivery for pregnant and parenting women with substance use issues and their children. Knowledge gleaned from this study advances our understanding of what integration looks like 'on the ground,' and contributed to the operationalization of key factors and process and the development of a multi-perspective model of this method of service delivery. In turn, this may guide future research aimed at supporting the further development and proliferation of these programs.

1.2 Substance Use During and After Pregnancy: Implications for Women and Children

1.2.1 Maternal substance use and sequelae. Historically, alcohol and substance use disorders were viewed as a male dominated problem and were investigated, understood, and treated almost exclusively from this perspective (Finkelstein, 1994; Greenfield, 2002; Greenfield et al., 2007). Gender-focused epidemiological research, however, indicates that males and females are differentially motivated to use and abuse substances (e.g., Teter, McCabe, LaGrange, Cranford, & Boyd, 2007), exhibit distinct patterns of use and abuse (e.g., Cotto, Davis, Dowling, Elcano, Staton, & Weiss, 2010), and experience physical (Brady & Randall, 1999; Cormier, Dell, & Poole, 2004; Greenfield, 2002), mental (Rush et al., 2008; Zilberman, Tavares, Blume, el-Guebaly, 2003), and interpersonal (Brady & Randall, 1999; Kauffman, Silver, & Poulin, 1997) consequences that differ both qualitatively and quantitatively. A particular subset of women – those who are pregnant and mothering – face additional repercussions of substance use with respect to the adverse influences that use and associated behaviours can exert over child well-being and parenting abilities (e.g., Motz, Leslie, Pepler, Moore, & Freeman, 2006). Among

women with substance use issues, the majority are of child-bearing age, suggesting that many women with these issues face additional challenges related to pregnancy and parenting (Tjepkema, 2004; US Department of Health and Human Services, 1999).

The profound and far-reaching implications of substance use during pregnancy for mother and child and the potential for continued use and abuse post-pregnancy to interfere with effective parenting are extensively documented. Substance use during pregnancy may be negatively correlated with or preclude engagement in important health practices (i.e., "behaviours that may affect [the mother's] health, the health of the fetus, or the pregnancy's outcome;" Lindgren, 2001, p. 209) such as obtaining adequate sleep (Kearney, Murphy, Irwin, & Rosebaum, 1995), eating a nutritious diet (Cannella, 2006), taking prenatal vitamins (Scholl et al., 1997), or attending routine prenatal care appointments (Funai, White, Lee, Allen, & Kuczynski, 2003). Insufficient weight gain during pregnancy and an absence of prenatal vitamins have been associated with an increased likelihood of preterm delivery (Siega-Riz, Adair, & Hobel, 1996) and underweight or stillborn infants (Scholl et al., 1997), respectively.

1.2.2 Prenatal maternal substance use and sequelae for children. The use of alcohol and other substances during pregnancy confers biological risk to the developing fetus for a range of unfavourable outcomes. Data indicate that 14% of mothers report drinking alcohol in any amount during pregnancy (McCourt, Paquette, Pelletier, & Reyes, 2005). In the presence of alcohol the fetus must direct its energy toward metabolizing the substance rather than toward the healthy development and growth of cells and tissues. Due to its small size and underdeveloped liver and enzyme systems, the fetus's capacity to eliminate alcohol is slowed resulting in longer periods of exposure. The toxicity of alcohol is damaging to cells in developing organs, and insult to any one organ can negatively affect all other fetal organs. Central nervous system

development (i.e., brain and spinal cord), due to its ongoing nature, is particularly vulnerable to the adverse effects of alcohol at any point during pregnancy, and impacts on neural organization in the cortex may result in lasting impairments (Motz, Leslie, Pepler, Moore, & Freeman, 2006). Drinking alcohol during pregnancy places mothers at risk of having a child with Fetal Alcohol Spectrum Disorder (FASD), a range of disabilities associated with prenatal alcohol exposure and the leading cause of developmental disability among Canadian children (e.g., intellectual impairment, developmental delay, behavioural disorders, learning disabilities, attention deficit disorder and hyperactivity; Motz et al., 2006). Children with FASD exhibit restriction in prenatal/postnatal growth and experience a range of secondary disabilities spanning mental health, school, employment, and parenting (Centres for Disease Control, 2005; Moore and Greene, 2004; Streissguth, Barr, Kogan, & Bookstein, 1996).

In addition to alcohol, prenatal exposure to other substances including tobacco, crack/cocaine, methamphetamines, marijuana, and opiates have also been shown to adversely impact the growing fetus. Cigarette smoke, for example, reduces uterine blood flow depriving the fetus of important nutrients and oxygen and restricting birth weight (Cornelius, 2003). There is also research linking prenatal nicotine exposure to behavioural and temperamental difficulties (e.g., conduct disorder, aggression, hyperactivity; Brook, Brook, & Whiteman, 2000; Cornelius, 2003; Law, Stroud, LaGasse, & Niaura, 2003; Wakcshlag, Leventhal, Pine, Pickett, & Carter, 2006) and impaired cognitive abilities and executive functioning in a variety of domains (e.g., Cornelius, Ryan, Day, Goldschmidt, & Willford, 2001; Fried, Watkinson, & Siegel, 1997; Olds, 1997). Similar to alcohol and nicotine, crack/cocaine passes through the placenta and is most consistently associated with fetal growth deficiencies (Lester, Boukydis, & Twomy, 2000; Lutiger, Graham, Einarson, & Koren, 1991). Further, infants who have been prenatally exposed

to crack/cocaine show increased behavioural reactivity in response to stress (Mayes, Grillon, Granger, & Schottenfeld, 1998) and display complications such as irritability, hyperactivity, and abnormal feeding and sleeping patterns (PRIMA Project, 2004). Women who use marijuana during pregnancy are at higher risk for premature delivery (Motz, Leslie, Pepler, Moore, & Freeman, 2006), and longer-term effects of increased hyperactivity, inattention and impulsivity have been observed in children at 10 years old (PRIMA Project, 2004). Infants who are prenatally exposed to opiates often experience withdrawal symptoms that may result in convulsions, fever, rapid respiration and excoriation of the skin, poor sleeping and feeding, and flu-like symptoms (Hans & Jeremy, 2001).

In summary, prenatal substance use has been linked to physical deformity and compromised neurobehavioural status (Shankaran et al., 2007), and children born to women who abused substances throughout pregnancy are more likely to show impairment in physical growth and development and exhibit difficulties in academic, social, and behavioural functioning (Covington et al., 2002; Wilens et al., 2002). The irreversible nature of these deficits points to a need for prevention efforts that include targets beyond alcohol and substance use alone (Poole, 2004) as well as early diagnosis and intervention to prevent secondary disabilities (Moore & Green, 2004).

1.2.3 Maternal substance use and parenting. Quality of the caregiving environment is an important predictor of child outcomes and is likely to be influenced by maternal substance use (Eiden, Lewis, Croff, & Young, 2002). Biological vulnerability for poor outcomes further accumulates with the addition of substance-related environmental factors; for example, research has suggested that women who abuse substances experience difficulty providing stable and nurturing environments for their children, face significant challenges related to parenting and

meeting basic needs such as food and shelter, and lack strong and reliable support systems (Barnard & McKeganey, 2004; Conners et al., 2002; Kelley, 1998). Moreover, maternal substance abuse has been correlated with child maltreatment (Dunn et al., 2002), with children being nearly three times more likely to be abused and more than four times more likely to be neglected than children of parents who do not engage in substance use (Reid, Masschetto, & Foster, 1999). Particularly alarming is that these children are at increased risk for engaging in alcohol and drug use themselves (Legrand, Iacono, & McGue, 2005), elevating the potential for intergenerational transfer of dependence and dysfunction. For example, Mares and colleagues (2013) found that parents who reported drinking as a means of coping had adolescent children who were more likely to consume alcohol and more likely to drink as a means of coping.

Following childbirth, physical/ emotional (e.g., cravings, withdrawal symptoms) aspects of substance use or resurfacing of unresolved past traumas, may impede a mother's ability to understand and sensitively respond to the needs and cues of her infant potentially precluding the development of a secure attachment; substantial evidence highlights that substance-involved mother-infant dyads are at risk for problematic interactions (e.g., Johnson & Leff, 1999; Minnes, Singer, Arendt, & Satayathum, 2005) and are more likely than their non-exposed counterparts to develop insecure and disorganized attachments (Swanson, Beckwith, & Howard, 2000). When mothers are unable to assist their infants to self-regulate in the face of internal and external stimulation, infants experience chronic stress that hinders the maturation of the child's regulatory system (Motz, Leslie, Pepler, Moore, & Freeman, 2006) thereby reducing their ability to moderate reactions to stress later in life (Bradley, 2000). Although attachment typically develops over the course of the first year of life, it appears to remain relatively stable across development and exerts influence over a range of biopsychosocial outcomes in children (see Ranson &

Urichuk, 2008 for a review). The majority of children born to women who use substances develop disorganized attachments (Espinosa , Beckwith, Howard, Tyler, & Swanson, 2001) that set the stage for unfavourable child outcomes such as difficulties managing affective responses, poor self-esteem, and vulnerability to stress and regulatory problems (Main & Hesse, 1990).

Despite good intentions, parenting challenges and skills deficits are common among women who abuse substances and typically reflect the interaction of child, maternal, and environmental factors (Mayes & Truman, 2002). Women experience significant stress in relation to meeting the needs of their children and frequently resort to maladaptive coping behaviours (Kelley, 1998). Perceived ineffectiveness or helplessness in the caregiver role can serve to promote painful feelings of inadequacy, guilt, and shame (Hien, Litt, Cohen, Miele, & Campbell, 2009), and perpetuate the use of substances in this population (Wong, 2009). Often, the mother with substance abuse issues has been a victim of violence or abuse herself, struggles with co-occurring psychopathology and emotion regulation difficulties, and/or has had limited exposure to effective parenting role models of her own (Camp & Finkelstein, 1997; Luthar & Walsh, 1995; Niccols et al., 2012). Parenting demands may be further compounded by challenges associated with caring for children who themselves may be more difficult to parent due to neurodevelopmental difficulties associated with prenatal substance exposure (Wilens et al., 2002).

1.3 Barriers to Accessing Substance Use Treatment for Pregnant and Parenting Women

In light of multifarious gender-specific factors, it follows that women may benefit from specialized treatment programming capable of targeting substance use in concert with challenges existing outside of the realm of substance abuse but which are intricately connected to it (Women's Service Strategy Work Group, 2005). In Canada, however, most substance abuse

treatment programs do not offer pregnancy-, parenting- , or child-related services. Those that attempt to address parenting and/or child needs, typically do so by referring women and children to other agencies (Niccols et al., 2010). Low rates of follow through on such referrals are cause for concern, as they frequently result in needs being left unmet. In this regard, Shulman and colleagues (2000) found that only 10% of mothers in treatment for substance use followed through on referrals for child evaluations off-site, but that this increased substantially to 85% when developmental services were provided to children in-house. Logistically speaking, this more fragmented approach employing separate service delivery systems is poorly equipped to respond to the multiple needs of this population, which extend far beyond the provision of addictions treatment to include myriad other services (e.g., prenatal care, parenting skills, child care, mental health, and life skills; Howell & Chasnoff, 1999; Luthar and Walsh, 1995). Ideally, these services should be tailored to the individual needs of each mother-child dyad, and delivered in a coordinated and more seamless fashion (Howell & Chasnoff, 1999).

An additional drawback of traditional service delivery models is that they often do not explicitly recognize the central role of mothering for both recovery- and child-related outcomes. Rather than conceptualizing the mother-child dyad as a mutually influential unit requiring assistance, it is often viewed as two distinct, almost irreconcilable entities. In reality, however, women exhibit resistance or unwillingness to take leave from their role as mother to focus exclusively on their own needs (Creamer & McMurtrie, 1998). When questioned about barriers to accessing and remaining in conventional systems of care, women express two primary pregnancy- or child-oriented concerns: 1) fear of being reported to child protection services and/or losing custody of their child and 2) frustration at the lack of resources specifically geared toward pregnancy and parenting, including direct and ancillary services such as child care or

transportation (Curet & His, 2002; Finkelstein, 1994; Howell & Chasnoff, 1999; Poole & Greaves, 2009). Moreover, they describe feeling resistant to subjecting themselves to the community-, and at times provider-based stigma, scrutiny, and judgment that accompanies being a pregnant woman seeking help for substance use issues (Howell & Chasnoff, 1999). Ultimately, the presence of barriers precludes many women from receiving help and jeopardizes maternal, fetal, and child health (Motz, Leslie, Pepler, Moore, & Freeman, 2006).

1.4 Pregnancy and Parenting as a Window of Opportunity for Treatment

Juxtaposing the often bleak circumstances of pregnant or parenting women using substances is the woman's desire to provide and build a better life for their children. Women consistently articulate a strong desire to break the cycle of substance use in order to provide a better future for their child as the primary motivating factor for seeking treatment and weathering the challenges associated with achieving sobriety (Sword et al., 2009). From a treatment and relapse prevention standpoint this is critical in that it delineates parenthood as a vital "window of opportunity" within which to intervene (Daley, Argeriou, & McCarty, 1998), and an avenue through which to engage women in treatment. Teaching mothers effective parenting skills may contribute to improvements in perceived parental efficacy, self-worth, and child outcomes in the short-term and protect against relapse in the longer-term (Camp & Finkelstein, 1997). The abovementioned findings carry particular relevance for a gendered approach to treatment programming and engagement, and acknowledgment of their significance for addressing problematic substance use is paramount for establishing best practice guidelines that are sensitive to the unique experiences and needs of this population.

1.5 Integrated Treatments: Addressing the Unique Needs of Pregnant and Parenting Women and their Children

1.5.1 Development of integrated programs. In response to the needs of and barriers faced by pregnant and parenting women with substance use issues, integrated service delivery was brought to light and has experienced significant growth over the last decade in both Canada and the United States. In contrast to traditional fragmentation of services, integrated programs provide women and their children with comprehensive and coordinated support, where possible, at a single access point. This 'one-stop shop' model is in line with best practices for treating women with substance use issues, which recommends the promotion of both maternal and child health as well as the development of healthy relationships (Women's Service Strategy Work Group, 2005), and speaks to requests articulated by women in need of such services (Howell & Chasnoff, 1999). Broadly speaking, integrated programs strive to emphasize outreach efforts and the provision of timely, client-centered, and individualized services that focus on the needs of both mother and child. Working relationships with child protection agencies as well as other community services meeting a range of needs are maintained, and continued support and relapse prevention services in recognition of ongoing interactions between substance use management and parenting is offered (The Jean Tweed Centre, 2008). Services surrounding substance use and mental health counselling, prenatal care, pregnancy and parenting, medicine and nutrition, education, employment assistance, and case management are provided on-site through collaborative service arrangements (Niccols & Sword, 2005).

1.5.2 Evidence supporting the efficacy of integrated programs. A program of meta-analytic research undertaken by Milligan and colleagues has established the benefits of integrated treatment, illustrating that it is equally as effective as traditional addiction treatment in reducing substance use (Milligan et al., 2010a), but goes above and beyond by: 1) significantly

increasing length of stay in treatment (Milligan et al., 2010b); 2) improving maternal mental health and participation in prenatal care (Milligan et al., 2011; Niccols et al., 2010); 3) ameliorating birth outcomes through increased birth weight and head circumference and decreased birth complications, premature deliveries, and healthy infant toxicology screens (Milligan et al., 2011); 4) enhancing parenting skills through providing insight into intergenerational influences on parenting and instruction on strengthening emotional bonds and implementing positive discipline techniques (Niccols et al., 2012b); and, 5) improving child development, growth, emotional and behavioural functioning (Niccols et al., 2012a). A qualitative meta-analysis by Sword and colleagues (2009) extracted and synthesized narrative reports of women's experiences with and perceptions of integrated treatment programs, which highlighted their perceived associations between treatment completion and benefits in maternal and child well-being and enhanced parenting capacity. This work echoed the abovementioned quantitative findings and further corroborated the motivational quality of having children present throughout the treatment process. More specifically, the authors reported that relative to non-integrated programs, having children present increased client engagement and they hypothesized that pregnancy-, parenting-, and child-related services foster maternal motivation to actively engage in treatment and maintain sobriety.

1.5.3 Challenges with conceptualizing integrated programs. While the effectiveness of integrated treatment approaches for pregnant and parenting women with addictions has been addressed in the literature, there is great diversity in program models. For example, in Ontario, Canada, there are currently over 30 integrated programs, with very different models of service delivery which reflect varying resources, expertise, and client needs of a given community. As such, there is substantial heterogeneity in terms of the type and number of services offered, as

well as the degree to which they are offered through co-location in a one-stop-shop to partnership models.

Given the wide range of services that can be included in the integrated treatment model (e.g., substance use treatment, maternal and child mental health services, opiate management treatment, housing, prenatal and physical health care, education and job training), there is a need for professionals across sectors that have been traditionally distinct to come together to meet the needs of clients. Whether services are offered in a one-stop-shop model or through partnerships and collaboration, the integrated system of care is complex and requires not just knowledge of what services are needed for this population but how these services are going to be offered in a manner that promotes engagement and positive outcomes. As such, integrated programs must move beyond program descriptions to better understand the processes that support the delivery of such a wide array of services, including how agencies work together, service linkage, cooperation, coordination, and partnership (Milligan & Greenberg, 2012; Milligan et al., 2011; Sword et al., 2009).

1.5.4 Process-related approaches for understanding integrated service delivery. Few studies in the extant literature on integrated programs serving this population include information pertaining to program characteristics, services, and outcomes, let alone processes that support effective service delivery (Henderson et al., 2012). However, a review of literature from the fields of integrative health, substance abuse treatment, child welfare, and education reveals numerous models of multiple agencies working together. A common conception is one of a continuum ranging loosely from independent practitioners working in parallel within a defined scope of practice (Boon, Verhoef, O'Hara, & Findlay, 2004) to professionals from different disciplines working together while retaining autonomy in terms of policy, organization, and

structure (i.e., collaboration) to professionals from different disciplines working together under a common policy, organization, and structure (i.e., integration). In such a scheme, collaboration is viewed as a precondition for integration (Axelsson & Axelsson, 2006; Boon et al., 2009). The variables that have been theorized to facilitate movement toward integration overlap across studies, but the specific dimensions that characterize differing levels or stages of multi-agency working vary substantially (e.g., levels of formalization/autonomy, reciprocity). Numerous studies have sought to elucidate essential ingredients and processes for effective integration, some common facilitating factors for system-level integration being: shared vision, philosophy, purpose, and outcomes; clearly defined roles, responsibilities, and constraints; formal agreements and documentation of policies and practices; mechanisms for communication, information sharing, and conflict resolution; effective leaders who promote "buy-in" at all levels and who model effective integration; trust and mutual respect; adequate fiscal and nonfiscal resources as well as a willingness to share resources and an openness to losing some autonomy; ongoing education and opportunities for joint-learning (e.g., Boydell, Bullock, & Goering, 2009; Drabble, 2011; Drabble & Poole, 2011; Horwarth & Morrison, 2007; Mattessich, 2005). This literature has also put forth numerous barriers related to integration, which, for the most part include a lack of those facilitators described above, but broaden to include factors such as fragmentation of services, differences in regulatory bodies and administrative structures, and lack of consensus surrounding conceptualization of primary client, treatment approaches, timeframes, assessment and intervention strategies, and standards for measuring success of outcomes (e.g., Cameron, Lart, Bostock, & Coomber, 2012; Darlington, Feeney, & Rixon, 2005). A number of collaboration measures have been developed based on factors such as those described above; however, these tend to be designed and validated with specific agencies (e.g., Human Services

Integration Measure; Browne et al, 2004, Browne et al., 2007; Browne, Kingston, Grdisa, & Markle-Reid, 2006; Interagency Collaborative Activities Scale, Dedrick & Greenbaum, 2011; Wilder Collaboration Factors Inventory, Mattessich, Murray-Close, & Monsey, 2001) and it is difficult to ascertain how well these would capture the qualities underlying service integration for this specific population.

A single study examined the definition of integration within the field of substance abuse treatment for women (Drabble & Poole, 2011). Qualitative interviews were conducted with 24 professionals in child welfare and substance use treatment in British Columbia, Canada. Interviews were structured according to nine open-ended questions and follow-up probes spanning five areas of inquiry (e.g., description of collaborative practices and how they developed). From this, the authors extracted elements of successful integration and organized them into the following domains: cross-cutting enabling factors (e.g., shared purpose); processes and protocols (e.g., mechanisms for conflict resolution, communication protocols and guidelines); principles and values (e.g., translating principles and values into practical guidelines); program and practice innovation (e.g., proactive support for safety and relapse prevention); and, shared outcomes capable of accounting for both mother and child. The factors of shared purpose, leadership, respectful relationships, and knowledge translation mechanisms were of particular interest as their importance appeared to cut across all stages of the collaborative process (i.e., initiating, developing, and maintaining collaboration) and they were linked to all other domains. As commented by the authors, while mandates of systems may differ, shared purpose can be rooted in the desire to improve child safety as well as the health and competencies of pregnant women and mothers. Shared purpose appeared to be related to strong leaders capable of fostering a shared vision and initiating collaborative practices.

Leadership often occurred through groups of individuals who supported collaboration, and who harnessed novel approaches to evoking change. Respectful and trusting relationships were necessary at all levels of relationships, and could be cultivated through a number of avenues including informal discussions, structured gatherings, or group trainings. A final key factor pertained to mechanisms for translating and disseminating key knowledge about the implementation of policies, protocols, or best practices related to both clients and collaboration to relevant professionals. This was also described as taking the form of being informed about findings from relevant research and evaluation studies, and receiving training and other learning opportunities for advancing effective practices for collaboration. While this article is the first and only article on processes of integration, it is limited to the perspectives of professionals working in substance use treatment and child welfare and does not include the full range of professionals, as well as researchers and policy makers, who are involved in the development, maintenance, operations, and delivery of integrated programs. Further, given the use of solely qualitative interview data, the relative importance of specific processes and factors within the greater gestalt of integration remains unclear.

1.6 Objectives of the Present Study

The primary objective of the present study was to address these limitations. Specifically, I sought to examine factors and processes that support effective integrated service delivery for pregnant and parenting women with addiction using a diverse range of stakeholders (i.e., researchers, clinicians, policy-makers). To build on the work of Drabble and Poole (2011), as well as the field of integrated service delivery more broadly, a methodology titled concept mapping (Kane & Trochim, 2007) was employed. As detailed in the methods section, this is a novel group participatory approach that combines qualitative and quantitative methods that

enable researchers to address questions of relatedness between processes and factors, as well as relative importance. Defining integration using this diverse participant group and looking at the relative importance and relatedness between processes and factors is a key next step for integrated programming in developing models of best practices, improving service delivery, and developing new programs in communities without specific programming for this high-risk population.

Chapter 2: Method

2.1 Concept Mapping

2.1.1 Overview and rationale. As outlined by Kane and Trochim (2007), concept mapping is a group participatory approach in which participants are guided through a structured conceptualization procedure comprising three primary activities: 1) a group brainstorm of short statements pertaining to a focal prompt, 2) an individual sorting task in which brainstormed statements are organized into conceptually similar groups, and 3) a group interpretation session in which results are discussed. Importantly, participant perceptions are incorporated into all stages of the research process from data collection to interpretation of results, fostering rapport between researchers and community members. Broadly speaking, participants are invited to contribute ideas in their own language and to organize them in a way that makes sense given their individual understanding of and experiences with the issue under exploration (i.e., effective integrated service delivery for pregnant and parenting women with substance use issues). Multivariate analyses are used to combine large quantities of qualitative and quantitative data and generate a number of maps and data displays. These reveal the composite thought of the group, while also retaining the uniqueness of individual contributions. For example, larger conceptual domains or clusters (e.g., recruitment issues), as well as the statements that populate them (e.g., lack of cultural sensitivity in communication) represent the conceptual perceptions of the group; however, they remain couched in language articulated by individual participants. Interrelationships between ideas as well as numerical information about their importance in relation to one another are also visually displayed. Such illustrations provide the basis for discussion surrounding interpretability and utility of results (Kane & Trochim, 2007).

Concept mapping is an alternative methodology to existing qualitative techniques (e.g., open-ended survey, interview, focus group) and offers qualities that may render it advantageous over strictly qualitative approaches. Jackson and Trochim (2002) assert that concept mapping integrates strengths of word-based (e.g., cognitive mapping) and code- or theme-based (e.g., content analysis) analysis methodologies while also addressing some of their limitations. Most critically, it is a form of text analysis that directly involves respondents in the coding of text. Respondent-generated statements – in their original format – are used as the units of analysis and respondents "code" the data through a pile sorting task that engages their understanding of conceptual or thematic similarity between statements. Individual respondent coding is then quantitatively aggregated across respondents and multivariate statistical techniques are applied enabling the underlying structure of the data to emerge (i.e., a visual map of thematic clusters). Finally, respondents are able to interpret the output according to their own knowledge of or experiences with the topic under investigation. Through this multi-step process, concept mapping circumvents some of the issues that can arise with researcher-generated coding schemes (e.g., utilization of a biased classification method) and limits researcher decision-making around how to reduce (e.g., words versus codes as units of analysis), organize, and meaningfully interpret text. By coupling text analysis techniques and advanced statistical methods, concept mapping is a tool that allows researchers to code and represent meaning in text data based entirely on respondent input in an efficient manner with improved analytic rigor (Jackson & Trochim, 2002).

Numerous characteristics of the concept mapping methodology make it an ideal method for exploring the intricacies of *how* programs integrate services to provide care to pregnant and parenting women experiencing problematic substance use. Though a research methodology,

concept mapping doubles as an assistive tool for cultivating relationships with participants in various communities and engaging them as active research partners (Windsor, 2013). Acquiring these perspectives is critical for a gaining a more nuanced understanding of factors that support and hinder integrated treatment programming, and the experiential knowledge gleaned from community-based participants will serve to complement existing expert knowledge (Henderson, 2010) and potentially enhance its accuracy and relevance. This is very much in line with community-based participatory research (CBPR), which "combines methods of scientific inquiry with community capacity-building strategies" (Windsor, 2013; p. 275). CBPR's value has been linked to its utility for fostering mutual trust among community members, service providers, agencies, and researchers which in turn facilitates the formulation of relevant research questions and enhances the quality of research and dissemination of results (Windsor, 2013). Additionally, explicit inclusion of community perspectives at all stages of the research process contributes to strengthening the external validity of findings (Viswanathan et al., 2004) and increases the likelihood that service providers will adopt evidence-based practices (Pinto, Yu, Spector, Gorroochurn, & McCarty, 2010).

Given the complex nature of this topic and the desire to yield a comprehensive understanding, it is important to be able to strike a balance between expanding and contracting the conceptual content. While there are no predetermined hypotheses delimiting respondent input, efforts are made to clearly define the scope of investigation through a focus prompt and to limit the quantity of data by imposing guidelines around the format of generated data (i.e., brief statements). Concept mapping offers a cost- and time-effective, and inclusive approach for organizing the ideas of a diverse group. To this end, it is designed to systematically assimilate input from multiple sources with differing expertise and experience to yield a common

conceptual framework that has utility for future planning and evaluation endeavours. Within this framework, the contributions of participants (e.g., program managers, staff, researchers) are given equal emphasis regardless of real-world status (Kane & Trochim, 2007). A related strength of the method pertains to the ease with which it distils large amounts of qualitative (e.g., statements about integration process factors) and quantitative (e.g., ratings of the importance of these factors in relation to each other) information into simplified displays that remain embedded within the language and culture of the stakeholder group (Kane & Trochim, 2007). This not only renders the results more personally relevant and accessible for discussion, but also facilitates their translation into meaningful application (e.g., development of a questionnaire evaluating program capacity for integration). Alternatively, the articulation and operationalization of concepts can contribute to theory building about how programs function in real-world environments and guide investigation into the causal relationships between concepts (Trochim, 1989a; 1989b) such as in an evaluation study of the relationships between process factors and program outcomes. Rating data on the importance of various factors for integration is helpful in this respect, as it provides some insight into which should be included as variables.

Subjective researcher decisions are minimized, and instead control over content and product is placed primarily in the hands of those who are closest to and perhaps have the most influence over the issue at hand (i.e., a representative stakeholder group). Looking forward, and with respect to utilization of the resulting map, it is beneficial that relational data is depicted in such a way that one can simultaneously view themes in isolation while also obtaining information about how they relate to one another and to the framework as a whole to offer a more global synthesis. The capacity to display results in a concrete framework that introduces a common participant language and the emphasis on processes may more readily facilitate the

transfer of knowledge to practice and embedding results within a natural context (Trochim & Linton, 1986). Finally, the potential for examining the relative importance of factors and processes builds upon strictly qualitative approaches and may be helpful for prioritizing results and guiding future action.

2.1.2 Concept mapping procedure. The concept mapping procedure has three distinct phases: (1) preparing for concept mapping, (2) brainstorming (idea generation) and structuring tasks, and (3) concept mapping analysis, interpretation, and utilization (Kane & Trochim, 2007). Phase one involves identifying the issue to be examined, defining the central purpose of the concept map or the construct to be conceptualized, and hypothetically placing results within a larger context (e.g., determining how they might feed into larger research goals). This phase also encompasses participant and facilitator selection. Phase two involves participants brainstorming short statements that are relevant to the topic of interest (e.g., 'one specific barrier to racial/ethnic minority participation in medical research is'; Robinson & Trochim, 2007), individually sorting these statements (e.g., 'fear of the unknown') into groups with potential names (e.g., 'fears about clinical trial'), and rating them according to their relative importance. There are no specific size constraints on number of participants or how many statements can be generated in the brainstorming session; however, it is important to consider how this might impact practicality and difficulty of the structuring task. It is fair to assume that larger samples would result in a greater number of generated statements, thereby increasing the difficulty level associated with grouping the statements into meaningful categories. As such, it is recommended that an upper limit of 100 statements be utilized which allows for breadth of ideas while ensuring that subsequent tasks are manageable for participants, redundant content is limited, and time for data input is reduced (Kane & Trochim, 2007). Phase three consists of integrating group processes

(e.g., brainstorming) with multivariate statistical analyses (e.g., multidimensional scaling and hierarchical cluster analysis) to yield pictoral displays of the group's perceptions along with how they are organized and their relative importance. All analyses were carried out using concept systems software (Concept Systems Incorporated, 2005), a package specifically designed for carrying out concept mapping projects and related analyses.

Pictoral illustrations (i.e., concept maps) create a conceptual framework that serve as a springboard for group discussion about the meaning of the clusters, how they interrelate, and how the information can be used to inform future research, clinical or policy decisions (e.g., to inform the development of a measurement tool or to guide prioritization of long-term goals). Participants discuss the suitability of the results and offer insight about the appropriateness of the maps. A schematic overview of the concept mapping process is depicted below in Figure 1, and a more detailed description of the concept mapping process including analysis is provided later (as summarized from Kane & Trochim, 2007). Please also refer to Appendix C for a brief overview of the process from start to finish.

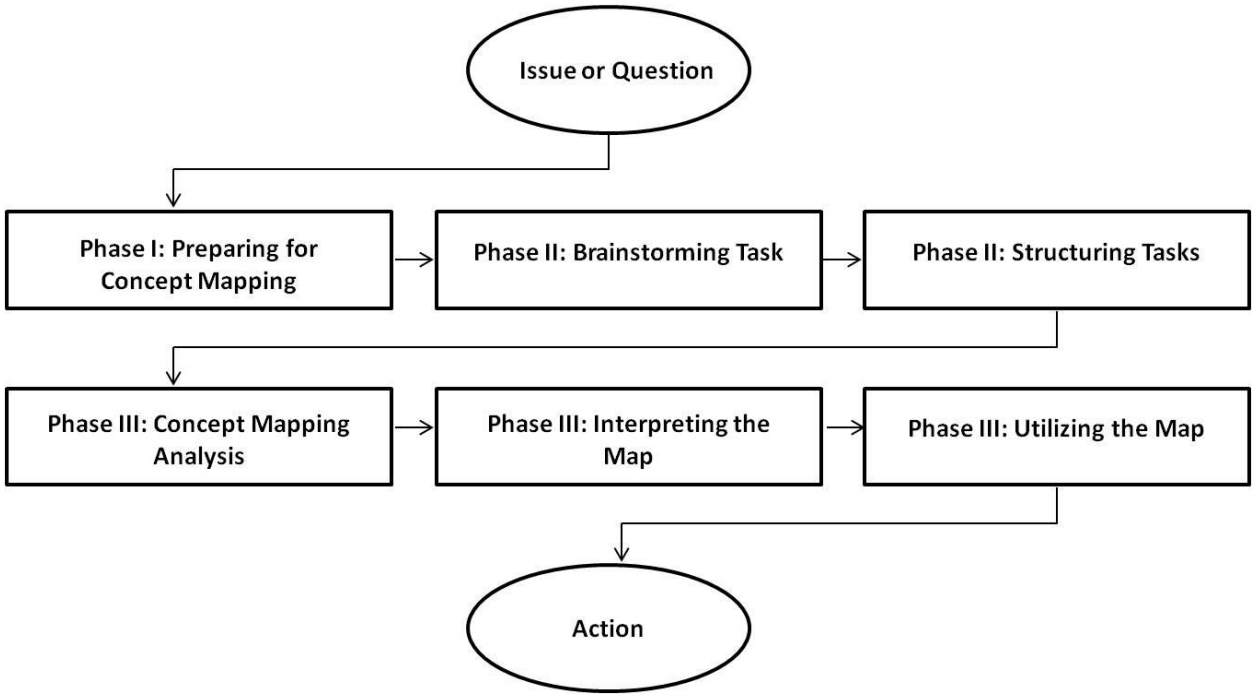


Figure 1. Schematic Overview of Concept Mapping Process (Adapted from: Kane & Trochim, 2007; p. 8)

2.2 Phase 1: Preparing for Concept Mapping

The present study was undertaken as part of a larger provincial evaluation of the Ontario Ministry of Health and Long Term Care Early Childhood Development Addiction Initiative programs being undertaken by the supervisor of this thesis (K. Milligan). Phase one involved identifying the issue to be examined, defining the central purpose of the concept map or the construct to be conceptualized, and hypothetically placing results within a larger context (e.g., determining how they might feed into larger research goals). This was carried out through a series of meetings with our core research team (n=10) and involved discussions around a range of topics including: composition and size of the participant group, the benefits and drawbacks of including multiple concept mapping groups (e.g., rural versus urban based), the feasibility of including individuals accessing the programs in the stakeholder group, mode of data collection

(e.g., in person, online), and facilitation of data collection (e.g., who should lead the in-person meetings).

2.2.1 Participants. Participants were recruited from the advisory committee for the larger provincial evaluation. The advisory committee is comprised primarily of individuals from across Ontario, Canada as well as three individuals who are actively involved in research, policy, and clinical work with integrated programs from British Columbia and Saskatchewan. Members of the advisory committee were selected based on their role in and experience with integrated service delivery with pregnant and parenting women with substance abuse issues (e.g., program manager, front-line service provider, partner agency or service provider, policy maker, researcher), and location (rural, urban, North, South, East and West regions of province) to ensure diverse representation.

All advisory members (*n*=35) were invited to participate in the concept mapping study, which was conducted as part of the two advisory meetings for the larger project. Initial contact with prospective concept mapping participants was made through email, at which time they were informed about the objectives and participatory requirements of the study, invited to participate, and encouraged to contact the researchers with any questions or concerns (see Appendix A). An informed consent agreement containing information about the purpose of the study, potential risks and benefits of participation, the voluntary nature of participation, and contact information was attached for review (see Appendix B). Given the demanding schedules of many of our advisory members, they were encouraged but not required to commit to all concept mapping activities (e.g., one does not need to have contributed to the statement generation in order to be eligible to participate in the structuring, rating, or interpretation phases). As a token of appreciation for their contribution, they received a 10 dollar Chapter's gift card for participating

in each of the brainstorming and interpretation phases and a 30 dollar Chapter's gift card for participating in the sorting phase. Those who completed the cluster rankings received an additional 5 dollar gift card. There were no additional costs associated with travel to the meeting as it was included as part of the regular advisory meeting for the larger evaluation. Across the tasks, a total of 30 participants with experience in research, service provision, management of integrated programs, and policy ranging in experience from 6 months to 37 years (M = 10.5 years) contributed insight (Tables 1 and 2). Within this group, the following had representation: seven integrated treatment programs, the Child Welfare Institute, Ontario Mental Health and Long Term Care, the Canadian Centre of Substance Abuse, Public Health Agency of Canada: Healthy Child Development Section, the South-East Local Health Integration Network, the Centre for Addiction and Mental Health, and several Universities including Ryerson University, McMaster University, the University of Toronto, and the University of Saskatchewan.

Table 1

Concept Mapping Participants by Position (n=30)

Position	*n*	Geographical Diversity
Research	10	Toronto, Hamilton, Vancouver, Saskatoon
Management	9	Toronto, Hamilton, Niagara, Kingston, Windsor, Belleville, Etobicoke
Service Provider	6	Toronto, Thunder Bay, Sudbury
Policy	4	Toronto, Hamilton, Ottawa
Knowledge Translation	2	Vancouver, Ottawa

Note. One participant self-identified as both Service Provider and Management

Table 2

Number of Participants Who Completed Each Concept Mapping Activity (n=30)

Concept Mapping Activity	*n*
Brainstorm Session	17
Sort	20
Rate 1	19
Interpretation Session	
In person	7
Teleconference	11
Rate 2	19

Note. Numbers do not total to 30, as participants did not necessarily partake in all activities

2.2.2 Development of the focus prompt. The structure and wording of the prompt was developed in collaboration with the core research team (*n*=10) and guidance was sought from several researchers in the Toronto area who have experience with concept mapping methodology. To ensure the prompt was easily understood and elicited the type of discussion desired, an informal online survey was completed by a small group of non-participating advisory

committee members and feedback was solicited about its suitability. This provided a sense of the types of responses that could be elicited (e.g., are both processes and services commented on?) and facilitated preparation for the brainstorming session. The prompt was intended to capture essential ingredients of their individual understanding of "effective" integrated service delivery for this population by allowing them to overlook, momentarily, some of the practical or resource-related limitations that stakeholders experience in the real world. Further, this prompt was structured in such a way that it would assist participants in developing optimal responses (e.g., brief, grammatically similar to one another) thereby limiting the extent to which statements would be altered from their original format for subsequent sorting and rating tasks. Finally, the prompt was intended to yield information pertaining to processes as opposed to strictly service-related responses.

2.3 Phase 2: Data Collection – Brainstorming (Idea Generation) and Structuring of the Conceptual Domain

The data collection process consisted of two primary activities: (1) attendance at an in-person group brainstorming session and (2) individual completion of online statement sorting and rating tasks. These activities are briefly described below. All data collection activities were approved by the Ryerson University and Centre for Mental Health and Addiction Research Ethics Boards.

2.3.1 Session I: Brainstorming task. All prospective participants were contacted via email and invited to participate in the brainstorming session. A total of 35 individuals were contacted, and 19 convened at the Centre for Addiction and Mental Health in Toronto, Ontario, Canada and took part in a two-hour-long facilitated group session. All participants consented to participation and to the session being audiotaped.

A professional facilitator with extensive experience in community mental health service delivery and research facilitated the session. The main tasks of the facilitator were to ensure that participants understood the goal of the session and remained focused on the prompt (e.g., highlight ideas extraneous to the scope of the focus prompt), and to ensure the smooth flow of ideas. The facilitator took care not to influence thinking or content of statements. In addition, she managed the session by guiding turn-taking, encouraging involvement of all members, and promoting diversity of thought (e.g., intervening if participants became overly focused on an individual statement or idea; Kane & Trochim, 2007). Finally, the facilitator was responsible for cultivating an environment of respect and non-judgment, in which participants respond to and build off of one another's ideas.

Following an introductory icebreaker activity and an overview of the project aims and agenda the facilitator informed participants of the goal of the brainstorming session and encouraged them to generate as many statements as possible to complete the focus prompt: *Based on your knowledge and experience, effective integrated service delivery means _____*. They were instructed to withhold any criticism or discussion regarding the legitimacy of generated statements unless the purpose was for clarification. Consensus about the quality of statements was not sought; rather, a statement was included if at least one person in the group considered it to carry relevance to the research question. Statements were recorded on flipchart paper such that they were visible to all participants, and the group was encouraged to provide feedback regarding how specific statements were recorded (e.g., wording). Once participants had completed this initial brainstorm, the facilitator led the group in a focused review of the statements to narrow the list down to "absolutely essential" or "gotta have it" elements. Statements that were vague or broad were also discussed to ensure that they were specific (e.g.,

types/qualities of partnerships, what is “accessible”?, illustrate “patient-centered”). The brainstorming session took approximately 1.5 hours to complete and approximately 200 statements were generated (e.g., “supportive leadership,” “case management,” “no wrong door”). Following the group brainstorming session, participants had the opportunity to submit additional items anonymously through writing in the goal of increasing participation; however, no one opted to do this. The audio recording of the session was transcribed and reviewed to ensure accuracy and completeness of the statement set.

2.3.1.1 Statement reduction. The number of statements as well as their clarity are critical to the success of the remainder of the concept mapping process (e.g., sorting statements), and as such, statements underwent a review process referred to by Kane and Trochim (2007) as idea synthesis. This involved ensuring that each statement was relevant to the focus of the project (i.e., focus prompt), editing statements for clarity and comprehension, and removing redundant statements in order to obtain a list of unique statements where each represented a single idea (i.e., statements with two or more distinct ideas were split into component parts) and to ensure that the final number of statements was manageable for participants to sort. A statistical method for achieving this in the extant concept mapping literature is lacking; therefore, the following procedure was implemented. Transcription of the brainstorming session was referenced in order to compile an initial and comprehensive list of statements that were elicited in response to the focus prompt. At this time, items were tentatively grouped according to broader themes (e.g., partnerships) in order to facilitate the identification of duplicate and/or irrelevant statements. For example, a number of statements pertaining to challenges associated with achieving integrated service delivery were raised and while these are certainly important to consider these were removed due to their deviation from the original focus prompt. To this end, the author (TM),

supervisor (KM), and a senior PhD student (AU) from the core research team independently reviewed and narrowed the statement list and then met to discuss the list and came to consensus on which to retain. Through this narrowing process, the statement list was reduced to 91(from ~200). These were subsequently distributed to two additional researchers (KMc and KU) involved with the core research team who provided feedback regarding statement retention and statements requiring additional modification. This feedback was used to guide further reduction of the statement and yielded a final set of 62 items that all members of the core research team agreed met the criteria outlined above. The final step involved ensuring that all statements completed the prompt in a way that made grammatical sense and were as concise as possible. Efforts were made to limit the extent to which statements were modified from their original form so as to retain the language and meaning of the group thought as much as possible.

2.3.1.2 Final statement list pilot. The final statement list was inputted into the Concept System Software and five individuals from the core research team, including researchers (KU), knowledge users (AF, DC-M), and senior graduate students (GK, AU) were recruited to pilot the structuring tasks online and to provide feedback around their overall experience (e.g., clarity of task instructions, length of time to complete, manageability of working with 62 items, software interaction challenges). This information guided finalization of the tasks and contributed to the development of a tip sheet for 'successful sorting,' which included information on how to navigate the software (see Appendix E).

2.3.2 Online structuring task. All prospective participants were contacted via email and invited to partake in the structuring tasks; the invitation to participate was extended both to those who contributed to the brainstorming session as well as advisory members who were unable to attend the first session. A total of 30 individuals were contacted and 20 participated.

2.3.2.1 Sorting and rating brainstormed items. Using the Concept Systems Software, participants individually placed the 62 randomly ordered items from the final statement list into piles that "made sense to them" or that they felt "belonged together," as per concept mapping guidelines (Kane & Trochim, 2007) allowing for the generation of sorts that represented each participant's unique perspective. For example, one participant may have placed "stigma reduction" with "prevention" while another may have placed it with "empowerment." The following restrictions were implemented: (a) all statements could not form a single pile and (b) there could not be as many piles as there were statements. In addition, participants were asked to avoid creating piles according to priority or value, such as 'important' or 'hard to do' or 'other/miscellaneous' to ensure that items were being placed together based on conceptual or thematic similarity. Participants were allowed as much time as they wished to complete the task and were informed that there was no right or wrong way to approach the sort. Finally, they were asked to develop a conceptual label for each pile that they created that they felt "best captured its theme or contents."

In addition, participants were instructed to "imagine being in a perfect world where ALL things are feasible, and to rate the relative importance of each statement based on [your] understanding of effective integration." This was a relative rating (versus rank) of each statement in relation to all others using a 5-point Likert scale (1 = unimportant; 2 = mildly important; 3 = moderately important; 4 = very important; 5 = extremely important). Respondents were urged to use the *full range* of rating values. The results of the sorting and rating tasks provided the data needed to carry out concept mapping analyses and generate maps and displays.

2.4 Phase III: Concept Mapping Analysis and Map Interpretation

2.4.1 Illustrating the conceptual domain: Sorting data. All analyses described below were carried out using Concept Systems Software. Three primary data analysis steps contributed to the development of concept maps (Kane & Trochim, 2007); each is described in detail below.

2.4.1.1 Similarity matrices. From data yielded in the sorting tasks, similarity matrices were computed for each participant. These comprised as many rows and columns as there were brainstormed statements (62). Each cell contained either a '1', indicating that the two corresponding statements were sorted into the same pile by that participant, or a '0', indicating that the two corresponding statements were not sorted into the same pile by that participant.

Individual matrices were then aggregated to yield a group similarity matrix by summing each cell across all participants. This matrix, too, contained as many rows and columns as there were brainstormed items (62); however, the value in each cell represented the number of participants who grouped that pair of statements together (regardless of which other statements they included in that pile). Values ranged from 0 to 20 - the total number of participants who did the sorting task - and higher values suggested greater conceptual similarity. The following analysis was carried out using this data as input.

2.4.1.2 Multidimensional scaling (MDS). Nonmetric MDS (Davison, 1983; Kruskal & Wish, 1978, as cited in Kane & Trochim, 2007) is a multivariate analysis that takes as input the squared group similarity matrix, and through an iterative process creates a map of points representing the set of brainstormed statements. This analysis creates coordinates for each statement for each dimension desired, such that in a two-dimensional solution two coordinates are computed for each statement. In theory, the analyst can specify any number of dimensions from 1 to $N - 1$ where N is the number of statements; however, a two-dimensional solution has

been recommended for concept mapping where the emphasis is placed upon understanding interrelationships between statements in terms of proximity. As dimensionality increases, the ease at which these relationships can be interpreted becomes exceedingly complex (Kane & Trochim, 2007).

The output of this analysis is a bivariate plot of X-Y values, or a point map that displays points representing each statement based on two coordinates, along with their identification number. Statements sorted together most often are located in closer proximity in two-dimensional space, whereas those sorted together less often are further apart. In addition, MDS analysis provides a diagnostic statistic called the "stress" index (Kruskal & Wish, 1978, as cited in Kane & Trochim, 2007), which measures the degree to which the distances on the map are discrepant from the values in the group similarity matrix. Higher stress values reflect higher levels of discrepancy between the input matrix and the representation of those data in a two-dimensional array, or in other words, that the point map is a poorer representation of the data. Conversely, low stress values reflect that the point map is a better overall fit of the data. Meta-analytic studies across a wide range of concept mapping projects estimated an average stress value of 0.285 with a standard deviation of 0.04 (Trochim, 1993).

2.4.1.3 Hierarchical cluster analysis. Hierarchical cluster analysis (Everitt, 1980, as cited in Kane & Trochim, 2007) was employed with the goal of grouping or partitioning individual statements on the point map into clusters of statements that reflect similar underlying concepts. MDS coordinate values (i.e., X.Y) for each statement (i.e., point) were used as input for hierarchical cluster analysis and resulted in a partitioning of the MDS configuration into non overlapping clusters in two-dimensional space. Ward's algorithm (Everitt, 1980, as cited in Kane & Trochim, 2007) was used as a basis for defining a cluster, which is thought to provide a more

interpretable solution than alternative approaches (e.g., centroid; Kane & Trochim, 2007). This resulted in a hierarchical arrangement of all cluster solutions ranging from all statements representing a single cluster to each statement representing its own cluster. Analogous to selecting number of dimensions in MDS, it is the responsibility of the analyst to determine how many clusters the statements should be divided into for the final solution.

Individual sorting yielded results ranging from 4 to 11 piles (M = 7.4, SD = 2.02), with the majority of participants falling between the range of 5 to 8 piles. As such, the author and supervisor (KM) of this study began with the largest cluster solution (8) and reviewed the cluster solutions in a stepwise manner, working from most to fewest clusters in the solution (7, 6, and 5) and iteratively merging. The statements comprising each cluster were reviewed to note where discrepancies lay between the different cluster solutions and to determine which cluster solution was most parsimonious and made most conceptual sense. The solution selected (6 clusters) was the one that best struck a balance between detail and interpretability. The final cluster solution is displayed in point cluster and cluster maps.

2.4.2 Illustrating the conceptual domain: Rating data. Rating data was averaged across participants for each item and for each cluster, and overlaid on the point and cluster maps. The point rating map indicates the average rating for each statement across participants and the cluster rating map indicates the average rating for all statements within a given cluster. The proximity of points on the point map relates to the likelihood that they were sorted into the same pile across participants, and the height of a column (i.e., number of stacked blocks) indicates the average relative importance of each statement according to participant input. The number of layers in each cluster indicates the relative importance of each group of ideas compared to others on the map according to participant input.

2.4.3 Session II: Map interpretation task and cluster naming. Participants convened for a second group session that lasted 1.5 hours during which they reviewed the point map and final cluster solution. A total of 18 participants contributed either via teleconference (n=11) or in person (n= 7) at Ryerson University. These pictoral representations formed the basis for the discussion and illustrated different but related aspects of the collected conceptual information, or the views of the collective group. The documents outlined below were provided to all participants:

(1) *Brainstormed Item List.* The original list of brainstormed items along with their identification number.

(2) *Cluster List.* A list of the statements as they were grouped into clusters by the cluster analysis.

(3) *Point Map.* The numbered point map illustrating the statements as they were placed by multidimensional scaling (MDS).

(4) *Cluster Map.* The cluster map illustrating how statements were grouped by the cluster analysis.

The session was co-led by the author and supervisor of this study (TM and KM). The aims included facilitating participants' understanding of the results and reaching some form of agreement about how the clusters should be labeled. Following a brief summary of the concept mapping process to date and the current status of the project, the materials were presented to the group sequentially as per the ordered list above. Researchers described each document and how it was derived (always reminding participants of their involvement), and sought feedback from the stakeholder group about the meaning, utility, and completeness of the documents.

For the cluster point map, participants were given 5-10 minutes to read through the set of statements that comprised each cluster and to brainstorm a short phrase or word that they felt represented each cluster individually. Each cluster was discussed in the larger group in turn in order to reach consensus about a name for each. Participants assigned a label to each cluster on their respective cluster map and assessed whether multiple clusters could be grouped together into larger regions or should be broken up into smaller clusters. The facilitators engaged the group in discussion about their impressions of the map, its interrelationships, and encouraged them to challenge the location of items. This discussion informed modification to the preliminary analysis (e.g., one cluster was split into two) so as to increase interpretability and meaningfulness for the current conceptualization. In addition, it allowed for the generation of cluster titles. The session was audiotaped and transcribed. Following the interpretation session, the leaders finalized the clusters, and their respective items and labels based on the group discussion. This was distributed to other members of the research group and minor final edits were made.

2.4.4 Rating of labeled statements and clusters. As a final task, 29 participants were contacted and invited to complete an online survey of which 19 individuals participated. In this online survey, respondents were again instructed to "imagine being in a perfect world where ALL things are feasible, and to rate the relative importance of each statement based on [your] understanding of effective integration." This was a rating of relative importance (versus ranking) in relation to all other items within a given cluster and keeping in mind the overall theme (i.e., cluster label). Participants used a 5-point Likert scale (1 = unimportant; 2 = mildly important; 3 = moderately important; 4 = very important; 5 = extremely important) and were urged to use the *full range* of rating values. In addition, participants were asked to rank order the individual clusters from most to least important for integrated service delivery and finally they were

encouraged to consider whether there were any items integral to defining what effective integrated service delivery means were absent from the final conceptualization. This step is not typically involved in the concept mapping process; however, in light of challenges associated with the original statement ratings, it was included to gain a better sense of the relative importance of statements within each cluster and the clusters themselves.

Chapter 3: Results

3.1 Brainstormed Statements

The final list of statements that participants believed contributed to the conceptualization of effective integrated service delivery for pregnant and parenting women with substance use issues and their children consisted of 62 statements. These are listed below in Table 3.

Table 3

List of Statements Generated by Participant Group

Statement #	Statement
1	making program information readily available to mothers
2	creative and shared use of resources
3	supportive leadership
4	colocation with other frequently accessed services
5	case management
6	recognizing three clients - mom, baby, mom-baby dyad
7	focusing on multiple relationships (e.g., staff, organizations, women, children, families)
8	secure funding
9	building on strengths of staff, management, and women
10	data sharing across ministries
11	looking at needs of whole person - all ages and stages
12	a range of expertise
13	addressing potentially conflicting goals/needs/interests of mom, baby, and mom-baby dyad
14	risk management
15	coming in and out of the system without judgment
16	identifying short and long-term goals
17	clear organizational structure between and within organizations
18	stigma reduction
19	orienting toward outcomes and cost-effectiveness
20	working toward a common goal
21	finding the intersection of vision, mission, and values of various partners
22	using a determinants of health perspective as a lens for examining client needs
23	reflecting on what is working and what is needed
24	making the right training opportunities available
25	standardized assessment
26	respecting the boundaries and/or limitations of each organization
27	having a process for navigating conflict, legal issues, and relevant legislation
28	streamlined process of referral between partners

29	access to literature about evidence
30	joint education and training
31	dedicated time and expertise for program evaluation
32	the whole is greater than the sum of its parts
33	each point of entry has awareness of all the potential parts of the system and services available
34	sustainability
35	bringing together unlikely partners
36	including the client's voice (e.g., in determining treatment focus, partnerships, timelines)
37	shared care plans
38	prevention
39	valuing lived experience
40	partnerships evolve over time as client's needs change
41	identifying core competencies for staff
42	continuity of care
43	communicate, communicate, communicate
44	mutual benefit for program and partner
45	being able to attract and retain competitive staff
46	wrap around services for women and children
47	system/policy-level thinking
48	integrated funding for initiatives
49	service agreements
50	evidence includes clinical experience and wisdom
51	no wrong door
52	collaboration
53	clarity of roles and responsibilities of each partner
54	clarity of procedures for sharing client information
55	long-term investment
56	seamless
57	integration among services and into community
58	empowerment
59	increased capacity
60	accessible system
61	innovation
62	non-judgment

3.2 Clusters Derived from Statement Sorting

The point map that visually represents results from the sorting data is presented in Figure 2. The statements in Table 3 can be linked using the item number (left-hand column) to the

statement (i.e., points) on the map presented. The relative distance between points denotes the participants' perceptions of the degree of similarity between statements. For example, 'looking at needs of the whole person – all ages and stages' (#11) was considered to be substantially different from 'data sharing across ministries' (#10) and relatively more similar to 'empowerment' (#58). The model generated a goodness-of-fit value of .27, after 10 iterations, falling within the recommended reliability range of .10 to .35 (Kane & Trochim, 2006). This suggests that the map is a good representation of the data, or in other words that there is little discrepancy between the input data matrix (i.e., sort data aggregated across participants) and the representation of these data as points in the two-dimensional space.

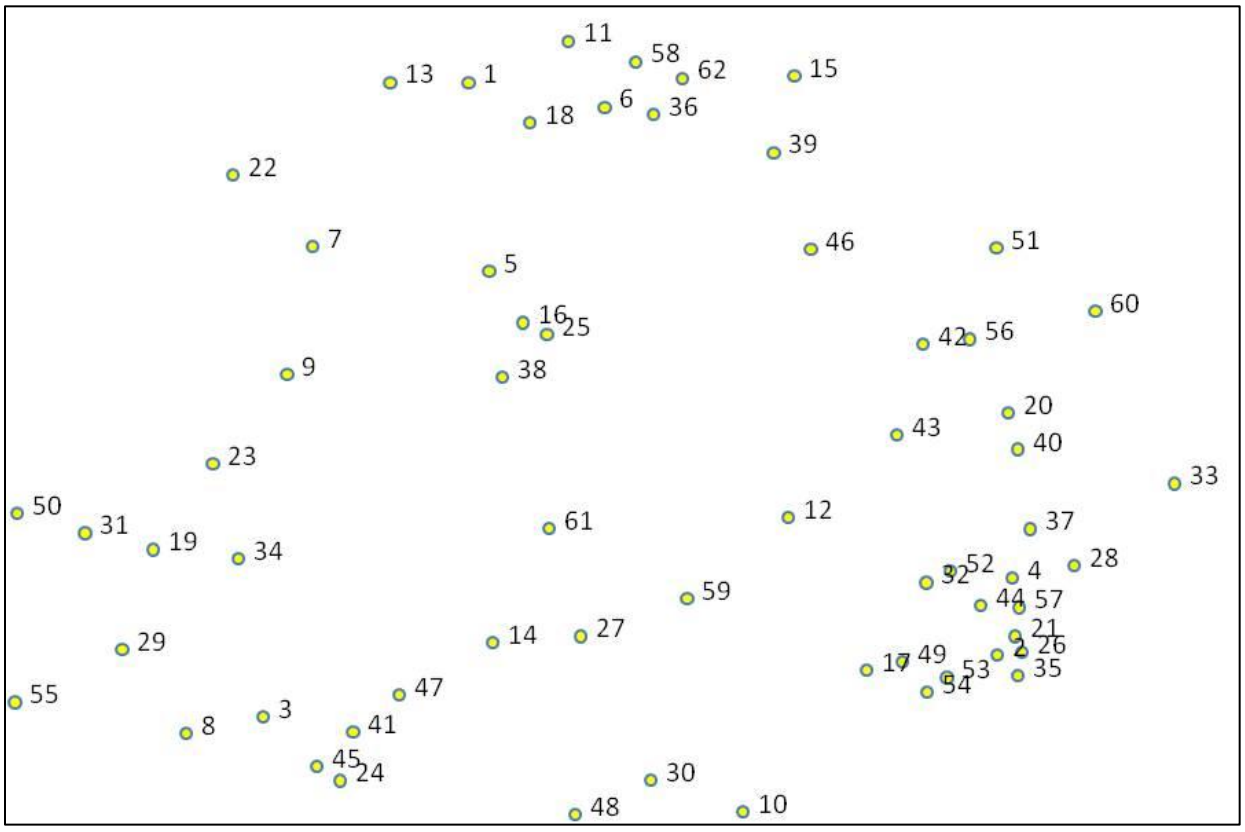


Figure 2. Numbered Point Map

The 62 statements were subsequently organized into six clusters by hierarchical cluster analysis, as displayed in Figures 3a and 3b (displaying individual statements).Statements within each cluster were quantitatively determined to center on a common theme; the six key themes that emerged were labeled by the participant group as indicated below:

- **Cluster 1**: *Holistic and Empowering Care for Mom, Baby and Dyad*
- **Cluster 2**: *Tailored and Continuum-Based Service Components*
- **Cluster 3a**: *Sustainability and Organizational Health*
- **Cluster 3b**: *Investing in Staff*
- **Cluster 4**: *Innovative and Coordinated Partnerships*
- **Cluster 5**: *Cross Ministry Coordination*
- **Cluster 6**: *Accessible and Coordinated Care for Clients*

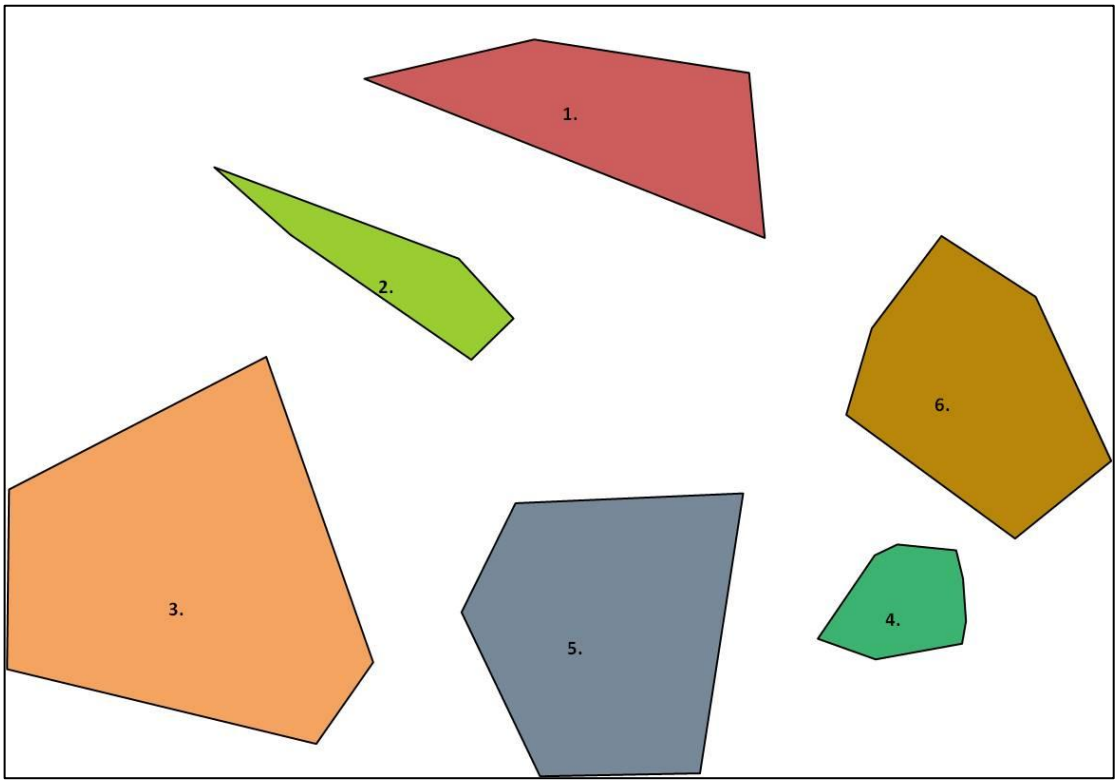


Figure 3a. *Six Cluster Map of Effective Integrated Service Delivery Showing Overall Components*

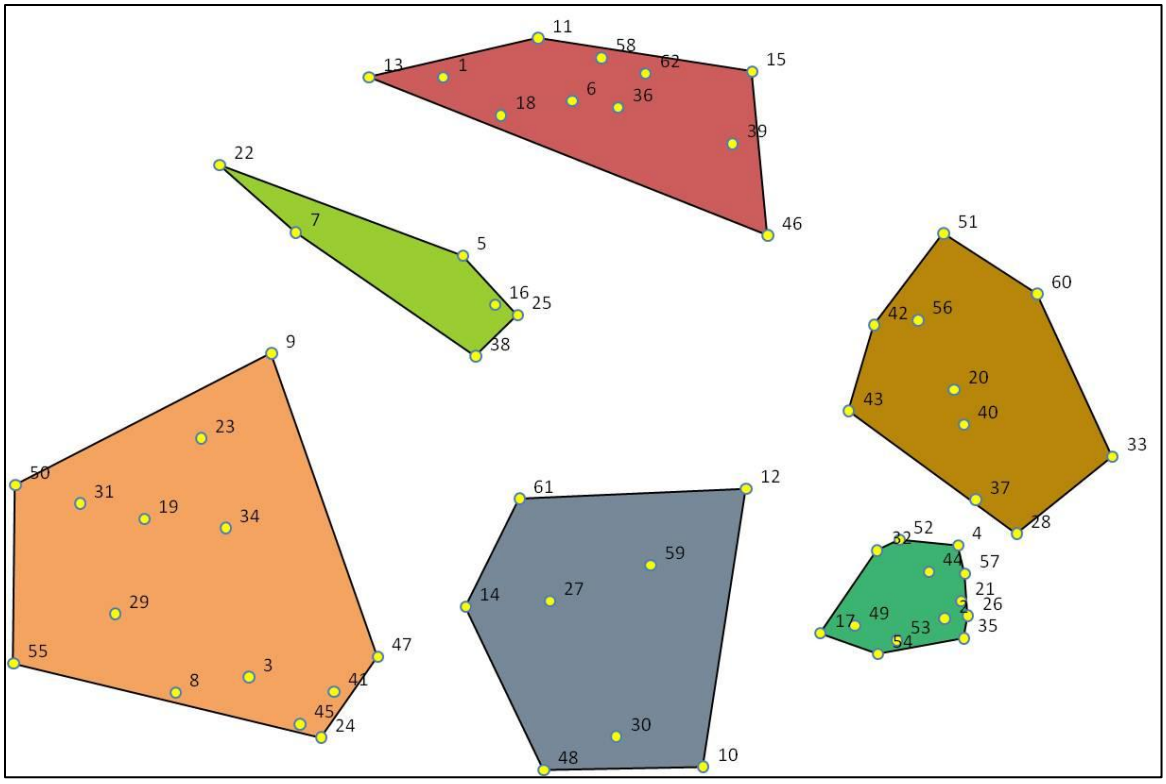


Figure 3b. *Six Cluster Map of Effective Integrated Service Delivery Showing Overall Statements and Components*

Overall, participants readily reached consensus in the naming of clusters 1, 2, and 3. Cluster 1 was reported by participants to reflect the "foundation that informs the rest of the [map]" and was labelled *Holistic and Empowering Care for Mom, Baby, and Dyad* (see Table 4). While the cluster was described as a cohesive whole, it was conceptualized as encompassing two distinct but related concentric circles. The first circle represents the delivery of service to multiple target groups which is centrally located. Statements such as recognizing three clients – mom, baby, and mom-baby dyad – and addressing potentially conflicting goals/needs/interests of mom, baby and mom-baby dyad were reported to reflect this theme. Complementary to this, a second larger outer circle was reported to be made up of the vision or values that imbue the integrated method of service delivery. This included statements such as empowerment, lack of judgment or stigma, openness to including the client's voice, and valuing lived experience. In

general, participants agreed that this cluster answered questions relating to *who* the service is for and *how* it should be delivered to that particular client population. Statements representing the latter were said to inform the entire integration model. This idea of concentric circles can be visualized on the map through the physical configuration of the statements. Participants also recognized the relatedness of these groups of items. More specifically, one participant stated "the values kind of create a big circle and then the mom-baby relationship piece creates a little circle that is superimposed on top of the big circle." The statements looking at the needs of the whole person – all ages and stages and wrap around services for women and children were described as relating to "*how* [one] provides those best practice pieces, and reflect the importance of continuum-based (versus single need focused) services". This was further articulated within the context of Cluster 2 discussion described below.

Table 4

Cluster 1: Holistic and Empowering Care for Mom, Baby and Dyad

Statement #	Statement
1	making program information readily available to mothers
6	recognizing three clients - mom, baby, mom-baby dyad
11	looking at needs of whole person - all ages and stages
13	addressing potentially conflicting goals/needs/interests of mom, baby, and mom-baby dyad
15	coming in and out of the system without judgment
18	stigma reduction
36	including the client's voice (e.g., in determining treatment focus, partnerships, timelines)
39	valuing lived experience
46	wrap around services for women and children
58	empowerment

Participants agreed that Cluster 1 was closely linked to Cluster 2. Similar to the concentric circles that made up Cluster 1, this is depicted by the physical location of the clusters, which are directly beside each other on the map reflecting greater perceived relatedness between their thematic content by participants. Cluster 2 was labelled as *Tailored and Continuum-Based Service Components* (see Table 5) and was again viewed as a multi-component but coherent cluster. Participants divided the cluster between types of services that address the whole person across needs and life stage (e.g., standardized assessment) and factors supporting this type of service delivery (e.g., focusing on multiple relationships). The idea of tailoring services was emphasized whereby participants highlighted the need to include the "right mix" of components for each client along a continuum. Participants acknowledged that supporting women and children is typically a long-term process, spanning a significant amount of time and possibly including multiple "life stages" requiring varying intervention (e.g., parenting skills for an infant differ from those required for a toddler or adolescent). As was observed in Cluster 1, a number of statements were identified as reflecting the "*how*" of effective integrated service delivery (e.g., standardized assessment, case management, prevention). It was acknowledged that a key process supporting this type of service delivery was the development of meaningful and mutually beneficial partnerships.

Table 5

Cluster 2: Tailored and Continuum-Based Service Components

Statement #	Statement
5	case management
7	focusing on multiple relationships (e.g., staff, organizations, women, children, families)
16	identifying short and long-term goals
22	using a determinants of health perspective as a lens for examining client needs
25	standardized assessment
38	prevention

Cluster 3 was likened by one participant to the "structural integrity" of a building, viewing associated statements as "what holds everything together" (e.g., sustainability, long-term investment), or as another participant elaborated "the backbone of the organization." In contrast to clusters 1 and 2, participants did not view cluster 3 as a cohesive whole, but rather felt that the cluster should be divided into two subclusters relating to different aspects of capacity (see Tables 6a and 6b). As such, statements numbered 9, 19, 23, 29, 31, 34, 50, 55 were divided off into a subcluster entitled *Sustainability and Organizational Health* and comprised statements related to short- and long-term program operation. For instance, these included "orienting toward outcomes and cost-effectiveness," "reflecting on what is working and what is needed," as well as those relating to remaining up-to-date with research and clinical evidence, building on strengths of staff/clients/management, and dedicating time and ensuring appropriate expertise are available for carrying out program evaluations.

The remaining statements numbered 3, 8, 24, 41, 45, and 47, which assembled tightly in the lower right quadrant were divided into a subcluster entitled *Investing in Staff*. These

statements linked to the ability of programs to identify, attract, retain, and support the continued development and well-being of staff. One participant indicated that "you can't force people into [this work] – organizations need to be thoughtful of the *who* of integration and ask professionals where they want to play a role." Participants highlighted that effective service integration requires long-term investment in expertise, training, and mentorship, which includes identifying training priorities and opportunities to access this knowledge. Participants indicated that all staff members ought to be welcoming and knowledgeable about all parts of the system (e.g., able to inform or direct women).

Similar to how cluster 1 and 2 were close in proximity on the map and considered to be thematically related, participants noted that an interdependence existed between the subclusters 3a and 3b in that supportive leadership and staff management are related to organizational health and it is the responsibility of the organization to contribute to staff competency and development primarily through securing funding to retain competitive staff (e.g., salary, benefits) and investing in them through making available relevant training opportunities.

Table 6a

Cluster 3a: Sustainability and Organizational Health

Statement #	Statement
9	building on strengths of staff, management, and women
19	orienting toward outcomes and cost-effectiveness
23	reflecting on what is working and what is needed
29	access to literature about evidence
31	dedicated time and expertise for program evaluation
34	sustainability
50	evidence includes clinical experience and wisdom
55	long-term investment

Table 6b

Cluster 3b: Investing in Staff

Statement #	Statement
3	supportive leadership
8	secure funding
24	making the right training opportunities available
41	identifying core competencies for staff
45	being able to attract and retain competitive staff
47	system/policy-level thinking

In contrast to clusters 1, 2, and 3, naming clusters 4, 5, and 6 posed greater interpretation challenge to the participant group. This was in part attributed to the "fluidity," as one participant called it, of certain statements or their apparent relevance to multiple clusters. Others agreed that depending on how certain statements were operationalized or conceptualized, they could fit sensibly in various locations of the map (e.g., 'communicate, communicate, and communicate'). In comparison to the first three clusters, a coherent theme took more time and consideration to identify.

Participants labelled Cluster 4 as *Innovative and Coordinated Partnerships* (see Table 7), suggesting that this cluster focused on "what integration looks like" and "best practices from a between-agency lens." The statements comprising Cluster 4 appeared to have the smallest inter-item distances on the map indicating a high degree of similarity between them according to how stakeholders completed their individual sorts. This cluster encompassed statements relating to the need and process of partners joining to achieve more than is possible by each service provider in isolation. The whole is greater than the sum of its parts was considered to be a "foundational

statement" in that it captures "the innovation that comes as a result of working together – the value added piece [of integrated treatment]." According to stakeholders this involves creatively bringing together unlikely partners in a meaningful way such that "each player gets something out of it or people think it is a good thing." Participants stated that partnerships ought to exist to bring identified and shared goals to fruition, and pointed out that most often the service borne out of a given partnership is innovative or unique in some way. Participants suggested that partnerships should be developed with the client in mind and that they should define "who is at the [proverbial] table." The primary benefit of forging partnerships was suggested to be one of feasibility; organizations are typically unable to meet the range of needs experienced by women in isolation but increase their capacity to meet such diverse needs through forging multiple partnerships. This in turn enables them to address other clusters that relate to effective integrated service delivery and suggests that in order for this approach to be successful multiple, carefully considered partnerships must be formed. Cluster 4 also included statements pertaining to characteristics or factors thought to facilitate the development and maintenance of partnerships, including infrastructure (e.g., collocation, shared use of resources), as well as processes (e.g., finding the intersection of vision, mission, and values of various partners, delineating roles and responsibilities and respecting boundaries of partners, and clarifying policies and procedures for partners).

Table 7

Cluster 4: Innovative and Coordinated Partnerships

Statement #	Statement
2	creative and shared use of resources
4	colocation with other frequently accessed services
17	clear organizational structure between and within organizations
21	finding the intersection of vision, mission, and values of various partners
26	respecting the boundaries and/or limitations of each organization
32	the whole is greater than the sum of its parts
35	bringing together unlikely partners
44	mutual benefit for program and partner
49	service agreements
52	collaboration
53	clarity of roles and responsibilities of each partner
54	clarity of procedures for sharing client information
57	integration among services and into community

The statements in Cluster 5 were the most challenging for participants to interpret and label, requiring more time and considerable discussion within the group compared to other clusters. Following discussion, participants reached consensus that the statements reflected *Cross Ministry Coordination* (see Table 8). It was put forth that this cluster represented "what to do to achieve integration and innovation – or important processes" (e.g., managing risk, integrated funding, increasing capacity, innovation). Within the context of their discussion, participants raised the topics of knowledge building, exchange, and dissemination in relation to this cluster but these were not further elaborated. In addition, they noted that they saw overlap with this

cluster and Clusters 3a and 3b in terms of capacity- and staff-related statements. Including 'ministry' in the title was meant to convey "different levels of coordination" that exist within and between programs and between programs and various ministries.

Table 8

Cluster 5: Cross Ministry Coordination

Statement #	Statement
10	data sharing across ministries
12	a range of expertise
14	risk management
27	having a process for navigating conflict, legal issues, and relevant legislation
30	joint education and training
48	integrated funding for initiatives
59	increased capacity
61	innovation

The sixth and final cluster: *Accessible and Coordinated Care for Clients* (see Table 9) was considered by participants to create what they called an "infinity loop" (∞) with cluster 4. More specifically, where Cluster 4 was considered to represent best practices from an agency lens, Cluster 6 was considered to do the same from a client lens, and both were thought to inform one another in a reciprocal manner. Some of the necessary components of this identified by participants included removing barriers or "enhancing access to care" (e.g., transportation, childcare, waitlists), allowing for evolution in partnerships to meet changing needs, strong communication, and common goals. Stakeholders emphasized the notion of no wrong door, elaborating that women should be able to make contact at any point in the system and be welcomed by a staff member who has awareness of all other parts and services. The process of

moving through the system should ideally be streamlined such that it is experienced from the client perspective as seamless (e.g., remove the need for women to retell their story on multiple occasions, minimize transitions).

Table 9

Cluster 6: Accessible and Coordinated Care for Clients

Statement #	Statement
20	working toward a common goal
28	streamlined process of referral between partners
33	each point of entry has awareness of all the potential parts of the system and services available
37	shared care plans
40	partnerships evolve over time as client's needs change
42	continuity of care
43	communicate, communicate, communicate
51	no wrong door
56	seamless
60	accessible system

3.3 Coordination and Values as a Key Processes

One process – coordination – was identified as traversing all clusters. Stakeholders suggested that coordination ought to exist and be understood through multiple interconnected lenses, including that of the client, agency, and ministry. One participant, for instance, commented that coordination exists at the "broad service or organizational level but [that] there is also a piece around referrals, clients, and communicating directly about client needs." Similar to the cross-cutting role of coordination, one participant conceptualized the value-related

statements as "floaters," indicating that these ought to inform or guide all aspects or levels of integrated programming.

3.4 Rating Data

Rating information captured how important participants perceived each statement to be for achieving effective integrated service delivery. Table 10 displays the average importance rating for each of the 62 statements in order of least to most important. Despite instructions to use the full range of the scale, the range of importance values used by participants was 3.46 to 4.67 (M = 4.25, SD = 0.31), which is relatively narrow. This suggests that participants considered all statements in the set to be of relatively high importance, with limited variance between items. Given the limited range, moderators of importance such as type of position held and geographical location could not be explored.

Table 10

Average Importance Rating of Each Statement for Effective Integration Using a 5-point Likert Scale (n=19)

Statement #	Statement	*M* Rating (*SD*)	*n*
44	mutual benefit for program and partner	3.47 (1.23)	17
35	bringing together unlikely partners	3.61 (0.92)	18
4	colocation with other frequently accessed services	3.78 (1.00)	18
32	the whole is greater than the sum of its parts	3.78 (1.11)	18
14	risk management	3.80 (1.08)	15
25	standardized assessment	3.82 (1.07)	17
19	orienting toward outcomes and cost-effectiveness	3.83 (1.04)	18
22	using a determinants of health perspective as a lens for examining client needs	3.88 (0.86)	17
41	identifying core competencies for staff	3.89 (0.93)	17
38	prevention	3.89 (1.15)	19
59	increased capacity	3.94 (0.90)	17
29	access to literature about evidence	3.94 (1.02)	17
21	finding the intersection of vision, mission, and values of various partners	3.94 (1.06)	18
27	having a process for navigating conflict, legal issues, and	4.00 (0.88)	19

	relevant legislation		
5	case management	4.00 (0.89)	16
49	service agreements	4.00 (0.89)	16
16	identifying short and long-term goals	4.00 (0.94)	19
30	joint education and training	4.00 (1.08)	18
17	clear organizational structure between and within organizations	4.06 (0.83)	17
10	data sharing across ministries	4.06 (0.93)	16
45	being able to attract and retain competitive staff	4.06 (1.06)	18
50	evidence includes clinical experience and wisdom	4.06 (1.16)	18
24	making the right training opportunities available	4.11 (0.76)	18
12	a range of expertise	4.11 (0.96)	18
31	dedicated time and expertise for program evaluation	4.18 (0.95)	17
9	building on strengths of staff, management, and women	4.21 (0.85)	19
20	working toward a common goal	4.21 (0.98)	19
48	integrated funding for initiatives	4.24 (0.75)	17
37	shared care plans	4.28 (0.57)	18
1	making program information readily available to mothers	4.28 (1.02)	18
7	focusing on multiple relationships (e.g., staff, organizations, women, children, families)	4.29 (0.77)	17
58	empowerment	4.33 (1.08)	18
2	creative and shared use of resources	4.35 (0.61)	17
39	valuing lived experience	4.35 (0.86)	17
61	innovation	4.35 (0.93)	17
62	non-judgment	4.41 (0.94)	17
53	clarity of roles and responsibilities of each partner	4.42 (0.51)	19
40	partnerships evolve over time as client's needs change	4.44 (0.78)	18
23	reflecting on what is working and what is needed	4.47 (0.62)	17
54	clarity of procedures for sharing client information	4.47 (0.61)	19
55	long-term investment	4.47 (0.72)	17
33	each point of entry has awareness of all the potential parts of the system and services available	4.47 (0.72)	17
15	coming in and out of the system without judgment	4.47 (0.87)	17
43	communicate, communicate, communicate	4.50 (0.89)	16
13	addressing potentially conflicting goals/needs/interests of mom, baby, and mom-baby dyad	4.53 (0.62)	17
28	streamlined process of referral between partners	4.53 (0.70)	19
51	no wrong door	4.53 (0.87)	17
34	sustainability	4.53 (0.87)	17
11	looking at needs of whole person - all ages and stages	4.53 (1.07)	17
3	supportive leadership	4.56 (0.51)	18
56	seamless	4.56 (0.51)	17
36	including the client's voice (e.g., in determining treatment focus, partnerships, timelines)	4.59 (0.62)	17

52	collaboration	4.61 (0.61)	18
18	stigma reduction	4.65 (0.49)	17
42	continuity of care	4.65 (0.61)	17
47	system/policy-level thinking	4.65 (0.79)	17
6	recognizing three clients - mom, baby, mom-baby dyad	4.69 (0.60)	16
57	integration among services and into community	4.71 (0.47)	17
46	wrap around services for women and children	4.72 (0.46)	18
60	accessible system	4.76 (0.44)	17

Note. Participants were instructed to skip statements if they felt unable to comment on its importance (e.g., inadequate experience with or understanding of statement) meaning that not all participants rated each statement.

Figures 4 and 5 show the point rating and cluster rating maps, respectively. The point rating map indicates the average rating for each statement across participants and the cluster rating map indicates the average rating for all statements within a given cluster. The height of a column (i.e., number of stacked blocks) indicates the average relative importance of each statement according to participant input. The number of layers in each cluster indicates the relative importance of each group of ideas compared to others on the map according to participant input. These are visual depictions of the data presented in Table 10 above.

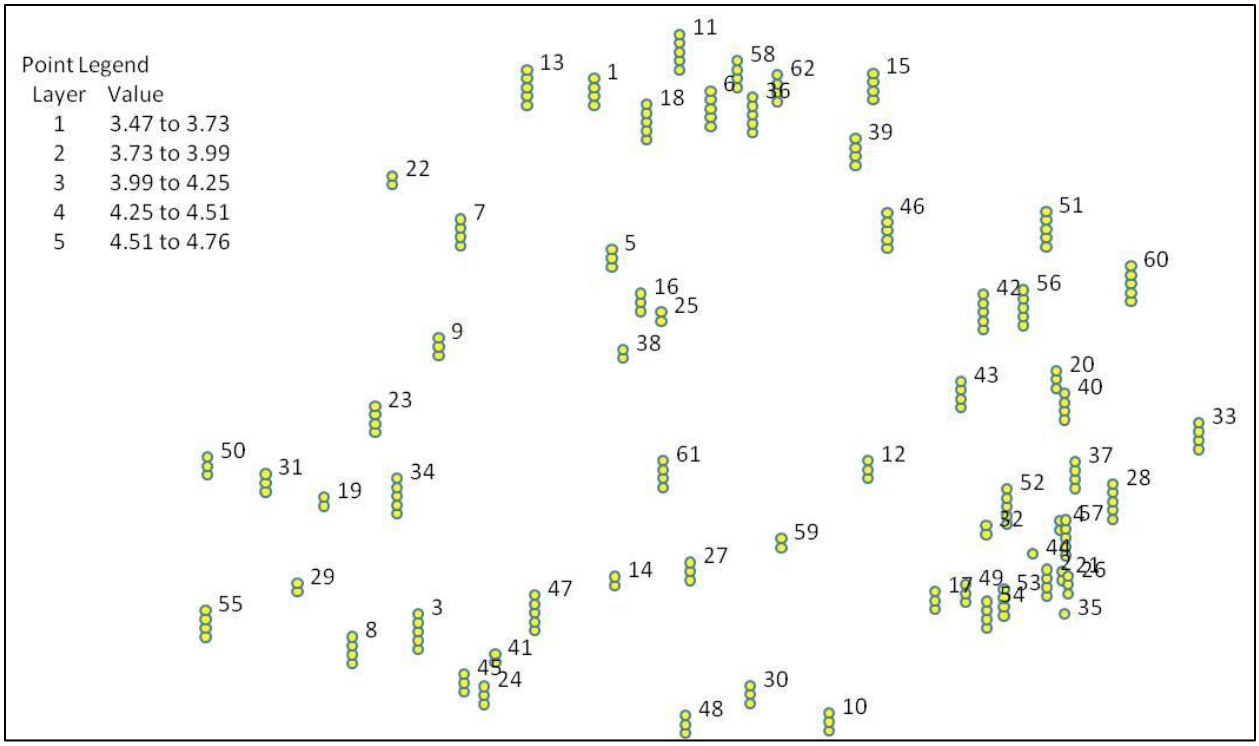


Figure 4. *Point Rating Map for Effective Service Integration.*

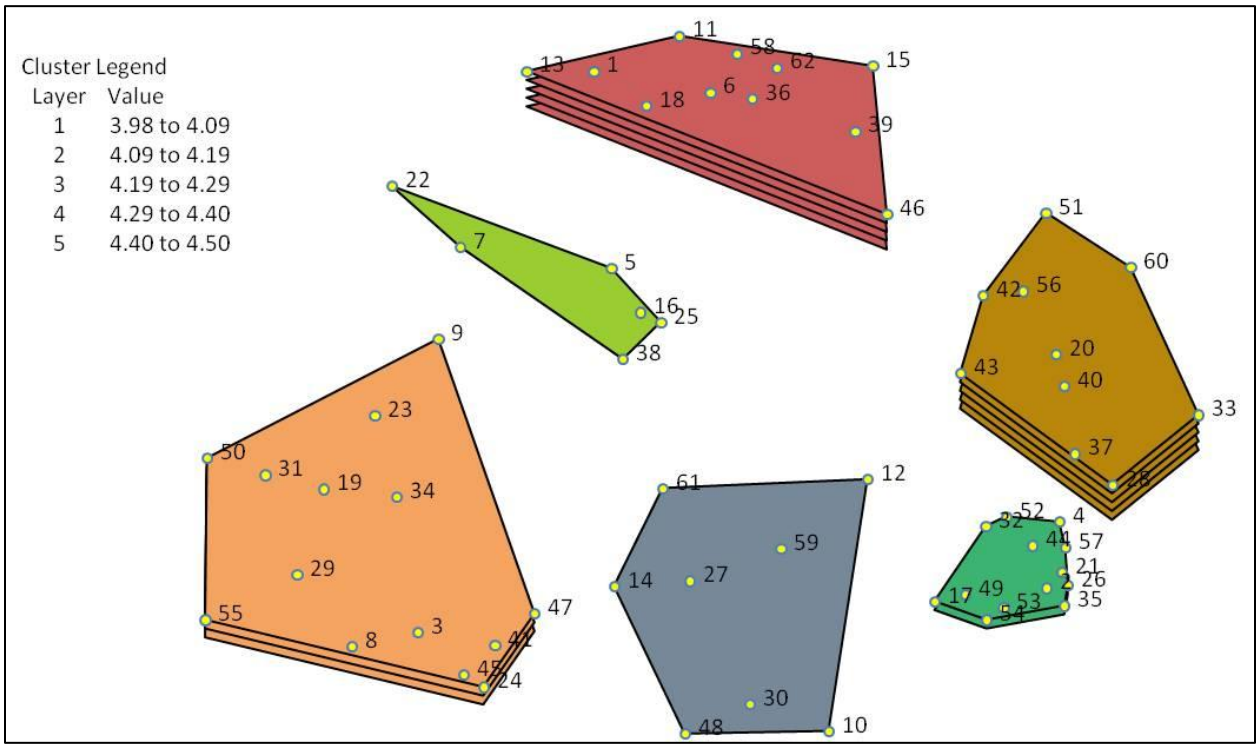


Figure 5. *Cluster Rating Map for Effective Service Integration.*

Based on data from the online survey, Table 11 displays the average importance rating for statements comprising each cluster in order of most to least important as well as the mean rating for each cluster overall (i.e., including all associated statements). Again, participants employed a narrow range of values, suggesting that participants considered all statements in each cluster to be of relatively high importance. Table 12 displays the clusters in rank order from most to least important for effective integrated service delivery according to a weighted score. The weighted score was obtained by multiplying each proportion by a weighted value such that the most important was multiplied by 7 and the least important was multiplied by 1.

Table 11

Average Importance Ratings for Clusters and Associated Statements

Statement #	Statement	*M* Rating (*SD*)
Cluster 1: Holistic and Empowering Care for Mom, Baby, and Dyad		
	Average rating of overall cluster	*4.30 (0.21)*
6	recognizing three clients - mom, baby, mom-baby dyad	4.58 (0.61)
62	non-judgment	4.53 (0.69)
1	making information readily available to mothers	4.47 (0.70)
58	empowerment	4.42 (0.69)
36	including the client's voice (e.g., in determining treatment focus, partnerships, timelines)	4.42 (0.77)
46	wrap around services for women and children	4.26 (0.73)
15	coming in and out of the system without judgment	4.26 (0.81)
11	looking at needs of whole person - all ages and stages	4.21 (0.79)
13	addressing potentially conflicting goals/needs/interests of mom, baby, and mom-baby dyad	4.16 (0.83)
18	stigma reduction	4.00 (0.94)
39	valuing lived experience	3.95 (0.85)

	Cluster 2: Tailored Services on the Care Continuum	
	Average rating of overall cluster	*3.89 (0.39)*
6	case management	4.32 (0.89)
22	using a determinants of health perspective as a lens for examining client needs	4.32 (0.82)
16	identifying short and long-term goals	4.00 (0.88)
7	focusing on multiple relationships (e.g., staff, organizations, women, children, families)	3.80 (0.79)
25	standardized assessment	3.47 (1.17)
38	prevention	3.42 (1.07)
	Cluster 3a: Sustainability and Organizational Health	
	Average rating of overall cluster	*4.05 (0.28)*
23	reflecting on what is working and what is needed	4.42 (0.51)
34	sustainability	4.37 (0.60)
55	long-term investment	4.26 (0.93)
31	dedicated time and expertise for program evaluation	4.11 (0.81)
29	access to literature about evidence	3.95 (0.62)
9	building on strengths of staff, management, and women	3.79 (0.79)
19	orienting toward outcomes and cost-effectiveness	3.79 (0.85)
50	evidence includes clinical experience and wisdom	3.68 (0.89)
	Cluster 3b: Investing in Staff	
	Average rating of overall cluster	*4.09 (0.36)*
3	supportive leadership	4.5 (0.62)
8	secure funding	4.40 (0.62)
45	being able to attract and retain competitive staff	4.17 (0.71)

41	identifying core competencies for staff	3.89 (0.83)
47	system/policy-level thinking	3.56 (0.78)
	Cluster 4: Innovative and Coordinated Partnerships	
	Average rating of overall cluster	*3.86 (0.32)*
57	integration among services and into community	4.47 (0.62)
53	clarity of roles and responsibilities of each partner	4.32 (0.83)
54	clarity of procedures for sharing client information	4.16 (0.83)
26	respecting the boundaries and/or limitations of each organization	3.89 (0.71)
2	creative and shared use of resources	3.84 (1.06)
17	clear organizational structure between and within organization	3.84 (0.86)
49	service agreements	3.78 (0.32)
4	collocation with other frequently accessed services	3.79 (0.96)
21	finding the intersection of vision, mission, and values of various partners	3.79 (0.83)
32	the whole is greater than the sum of its parts	3.79 (1.06)
44	mutual benefit of program and partner	3.74 (0.97)
52	collaboration	3.58 (0.98)
35	bringing together unlikely partners	3.21 (1.13)
	Cluster 5: Cross Sectoral Coordination	
	Average rating of overall cluster	*3.92 (0.27)*
61	innovation	4.32 (0.67)
59	increased capacity	4.11(0.74)
12	a range of experience	4.11 (0.57)
48	integrated funding for initiatives	3.95 (0.85)

10	data sharing across ministries	3.89 (0.88)
27	having a process for navigating conflict, legal issues, and relevant legislation	3.79 (0.79)
30	joint education and training	3.79 (0.85)
14	risk management	3.42 (0.61)
	Average cluster rating	*3.92*
	Cluster 6: Accessible and Coordinated Care for Clients	
	Average rating of overall cluster	*4.33 (0.27)*
60	accessible system	4.84 (0.37)
42	continuity of care	4.63 (0.60)
33	each point of entry has awareness of all the potential parts of the system and services available	4.42 (0.84)
56	seamless	4.37 (0.68)
28	streamlined process of referral between partners	4.37 (0.60)
20	working toward a common goal	4.28 (0.67)
51	no wrong door	4.26 (1.05)
43	communicate, communicate, communicate	4.21 (0.85)
40	partnerships evolve over time as client's needs change	4.05 (0.71)
37	shared care plans	3.89 (0.81)

Note. One participant did not provide responses for cluster 3b.

Table 12

Rank Order of Clusters Based on Importance for Effective Integrated Service Delivery (n=16)

	% participants who ranked cluster in each position							
	Most important						Least Important	Weighted Score
Cluster 1: Holistic and Empowering Care for Mom, Baby and Dyad	37.5	18.75	12.5	6.25	12.5	12.5	0	550.25
Cluster 6: Accessible and Coordinated Care	31.25	31.25	18.75	6.25	0	0	12.5	537.5
Cluster 5: Cross Ministry Coordination	18.75	18.75	6.25	6.25	6.25	25	18.75	387.5
Cluster 2: Tailored and Continuum-Based Service Components	6.25	18.75	18.75	6.25	18.75	12.5	18.75	375
Cluster 4: Innovative and Coordinated Partnerships	6.25	12.5	6.25	37.5	12.5	6.25	18.75	368.75
Cluster 3a: Sustainability and Organizational Health	0	0	18.75	12.5	31.25	25	12.5	306.25
Cluster 3b: Investing in Staff	0	0	18.75	25	18.75	18.75	18.75	300

Chapter 4: Discussion

Pregnancy and parenthood have been recognized as times of increased motivation or a "window of opportunity" for engaging women with substance abuse issues in treatment. Given the presence of unique needs and barriers related to the motherhood role, an increasing number of integrated programs specifically designed for pregnant and parenting women with substance abuse issues have been developed, typically based on the availability of local needs and resources. This has resulted in multiple conceptualizations of "integration" and models of integrated treatment, which largely preclude the development of a clear model of integration that may afford cross-site evaluation and further proliferation of these programs. The present study addressed this gap by employing concept mapping methodology with a group of professionals involved in integrated service delivery to explore perceptions of the processes and factors that comprise effective integrated service delivery. Iterative qualitative and quantitative methods included in the concept mapping process yielded a visual representation of seven key concepts (i.e., clusters), their conceptual similarity, and their composition (i.e., statements). The following discussion will present the resulting framework or model of integrated service delivery, introduce and describe its key concepts, and consider how these align with or reflect extant literature. Further, implications for service delivery and clinical practice will be offered along with suggestions for how this model might guide or inform future research aimed at understanding how to best support this population.

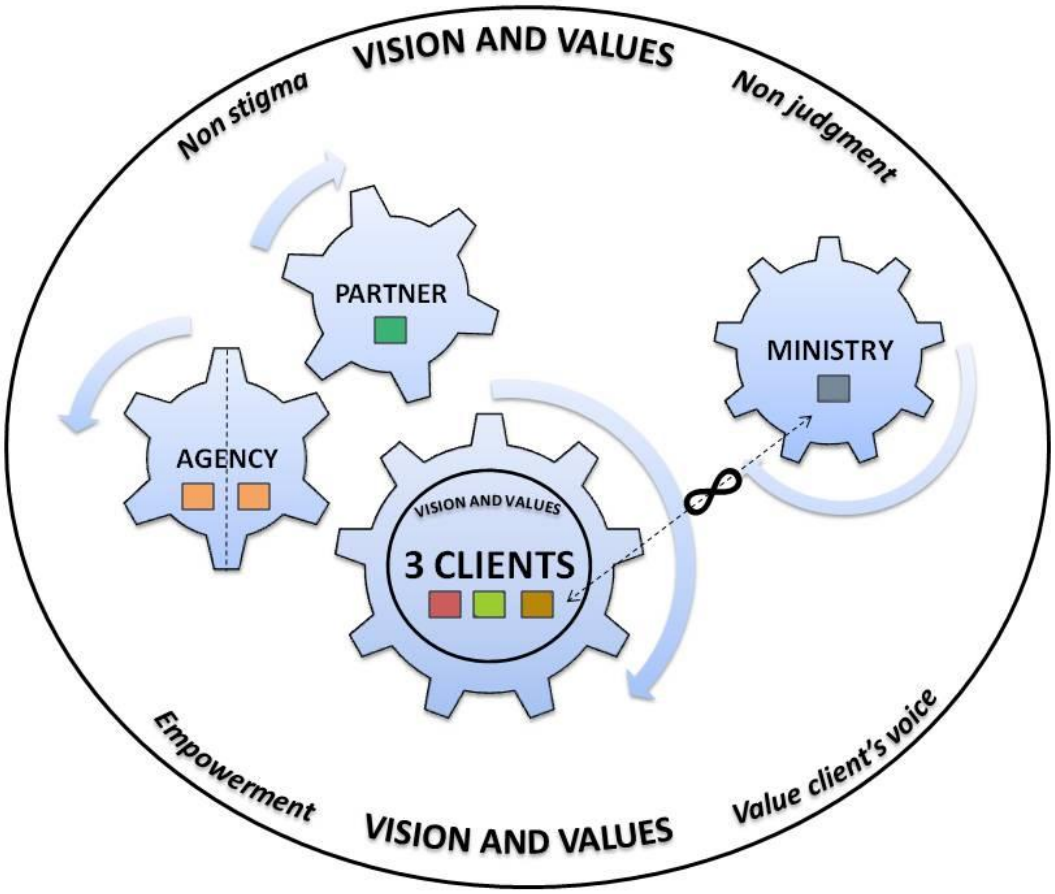
4.1 A Preliminary Model for Conceptualizing Integrated Service Delivery

Seven primary concepts were derived from the concept mapping procedure: (1) Holistic and Empowering Care for Mom, Baby, and Dyad, (2) Tailored and Continuum-Based Service Components, (3a) Sustainability and Organizational Health, (3b) Investing in Staff, (4) Innovative and Coordinated Partnerships, (5) Cross Ministry Coordination, (6) Accessible and

Coordinated Care for Clients. When conceptualizing the organization of statements within and between clusters, a helpful visual metaphor used by participants was the notion of "foreground" and "background;" the former referring to the execution of day-to-day operations/practices of a given program and the latter referring to the behind-the-scenes organization and planning that ground these operations/practices and guide their execution. In the literature, background and foreground have been described as categories that explain how individuals and organizations make sense of their worlds, and understanding how a given organization configures such elements affords rich information about its inner workings (Patriotta, 2003). Within the foreground-background dichotomy of effective integrated service delivery, participants described the client as central with agency-, partnership-, and ministry-related considerations radiating outward. Primary foreground components, while distinct, were viewed as interrelated and mutually influential, with effective integrated service delivery appearing to rely on their simultaneous and coordinated functioning. This "process" can be thought of as analogous to the functioning of multiple gears in a system; where each "cog" or key concept has a purpose but its value and functionality is maximized within the system's larger whole and is perhaps best understood in relation to other cogs. According to participants, all components exist within a background of vision/values that inform and guide operations at all levels. The above has been summarized into a model and is displayed in Figure 6.

Overall, this model suggests that effective integrated service delivery for this population relies upon a range of factors and processes that are highly interconnected. Importantly, this implies that the definition of integration extends beyond one that solely reflects the co-availability of services addressing substance use, maternal and child well-being, and parenting, as has been used in previous literature (e.g., Milligan et al., 2010a). Rather, integrated service

delivery may be better understood as a “living system” (Capra, 2002) that changes with its surroundings (Coleman, 1999) and is composed of networks of communication and information transfer (Morgan, 1986). The six clusters will each be discussed in turn in relation to their perceived position in the foreground or background.



Cluster 1: *Holistic and Empowering Care for Mom, Baby and Dyad*

Cluster 2: *Tailored and Continuum-Based Service Components*

Cluster 3a: *Sustainability and Organizational Health*

Cluster 3b: *Investing in Staff*

Cluster 4: *Innovative and Coordinated Partnerships*

Cluster 5: *Cross Ministry Coordination*

Cluster 6: *Accessible and Coordinated Care for Clients*

Figure 6. *Preliminary Model of Effective Integrated Service Delivery for Pregnant and Parenting Women with Substance Use Issues*

4.2 Foreground Components of Effective Integrated Service Delivery

4.2.1 Client. This area of the model comprises three clusters or primary components: (1) Holistic and Empowering Care for Mom, Baby, and Dyad, (2) Tailored and Continuum-Based Service Components and (3) Accessible and Coordinated Care for Clients. These were ranked by participants as first, second, and fourth in terms of their overall importance for effective service integration. Holistic and Empowering Care for Mom, Baby, and Dyad stood out as being extremely important in the eyes of participants (ranked first) for this method of service delivery and appears to be an integral part of the definition of integration and a unique facet of its approach. This serves as numerical support for the participant articulated notion that the individual clients are central in this model.

Ideas illuminated by these clusters included addressing three clients – mom, baby, and mom-baby dyad, as well as their potentially conflicting goals/needs/interests, providing the "right mix" of services to women and children that are holistic in nature and evolve in light of changing needs over time, and taking measures to ensure that services are designed in such a way that they mitigate or eliminate known barriers that women face when seeking help. In addition, these clusters included statements related to values that participants felt ought to inform how women and children are treated and how the delivery of services is carried out. The ideas represented in these clusters are very much in line with extensive documentation of the complex needs and unique experiences of this population.

4.2.1.1 Caring for multiple clients. At present, there appears to be consensus that substance use among females, and particularly mothers, ought to be understood and addressed through a lens that captures and elucidates their experiences of engaging in and recovering from these challenges. Further, there is recognition of the fact that substance-related issues do not exist within a vacuum but rather occur in the presence of numerous and interrelated influences that

require attention (e.g., woman's history and social, economic, cultural factors that comprise her individual context). These ideas have been articulated in the literature through recommendations outlining that substance use treatment programs should be capable of addressing women's physical, social, and mental health needs, as well as their children's needs, through prenatal services, parenting programs, child care, and other child-related services in a coordinated (i.e., centrally located) fashion (e.g., Howell & Chasnoff, 1999; Women's Service Strategy Work Group, 2005). Such recommendations explicitly acknowledge the roles that child, parenting, and mental health challenges can play in both perpetuating use and hindering recovery, and the widespread and long-lasting impacts of maternal substance use on child development.

These ideas are reflected in *Cluster 1: Holistic and Empowering Care for Mom, Baby Dyad,* and are most evident in statements pertaining to the need to simultaneously recognize three clients – mother, baby, mom-baby dyad – and to acknowledge challenges associated with attempting to address the potentially conflicting interests of these distinct but intricately connected entities. Responding to the needs of mother, child, and their relationship appears to carry significance across the treatment spectrum with respect to treatment initiation, engagement, retention, and outcomes.

Child-related issues, for instance, pose some of the most prominent barriers to accessing treatment (Wilsnack, 1991). Women who are responsible for the care of children are often unable or unwilling to enter treatment that requires them to choose between obtaining help and caring for their child, or are halted by other physical barriers such as transportation or childcare. Few residential programs are equipped to allow women to keep their children with them and outpatient programs often do not provide services for children or childcare (Drabble, 1996; Finkelstein, 1994). Often, admitting to the misuse of substances within the context of

motherhood places women at risk of stigmatization, including being perceived as neglectful, irresponsible, or unfit for parenting. The fear of losing custody of their child or being otherwise punished (e.g., incarceration) and difficult feelings of guilt and shame regarding use and associated behaviours can be highly dissuading for women as they consider the possibility of change. At times, women are referred for treatment but find that substance abuse programs do not have the expertise or appropriate supports to meet their complex needs (e.g., combine prenatal care with substance abuse treatment and services for older children) and are reluctant to accept them (see Centre for Substance Abuse Treatment, 2009 for a review of barriers to engagement). According to Finkelstein (1993), primary barriers to providing resources to women, from a program perspective, include administrative concerns about medical issues for mothers, infants, and children; inability to care for infants and lack of services for children; lack of financial resources; and limited staff training and knowledge about pregnancy and substance use (as cited in Centre for Substance Abuse Treatment, 2009).

For women, however, the presence of their child in treatment is repeatedly identified as being a powerful source of motivation throughout the recovery process (e.g., Sword, Niccols, & Fan, 2004; Wong, 2009), which is perhaps unsurprising given "the centrality of motherhood to women's identity and recovery" (Sword et al., 2009; pp.11). In fact, developing a sense of self has been identified as a psychosocial process that plays a role in women's recovery and contributes to favourable outcomes (Sword et al., 2009). Interestingly, women articulate gaining self-worth through their "parental selves" (Wong, 2006) or in relation to their role as mother and to its value for their children (Kunkel, 2002). According to Wong (2009), when afforded opportunities for new parenting experiences through practicing parenting skills in a supportive environment, women develop greater maternal empathy and are thus better able to identify with

and respond to the needs and emotions of their child. Ultimately, strengthening their maternal identity or parental self-concept facilitates positive bonding and perceptions of their child, and fosters motivation to learn parenting skills and overcome existing obstacles. It appears, then, that there is an important interplay between a mother's external interactions with her child and the internal modification and formation of her sense of self, child, and others (Wong, 2009). Opportunities to observe and practice new parenting skills and re-establish relationships with their children are steps toward confronting and moving past feelings of guilt and shame regarding past parenting behaviours and practices. Beyond this, children serve to remind women of the urgency of seeking recovery and these relationships continue to be important for maintaining sobriety following treatment termination (Schretzman, 1999).

Through the provision of specific treatment or service components distinct from those targeting substance abuse issues (e.g., prenatal care, childcare, therapeutic childcare, parenting support) women realize enhanced outcomes with respect to a range of indicators, including length of stay, maternal substance use, maternal mental health, parenting capacity, and birth outcomes (e.g., Ashley, Marsden, & Brady, 2003; Milligan et al., 2010a, 2010b, 2011; Niccols et al., 2012b; Orwin, Francisco, & Bernichol, 2001). Gains are also observed among children with respect to both behavioural and developmental measures (e.g., Motz, Leslie, Pepler, Moore, & Freeman, 2006; Niccols et al., 2011). In the longer term, one might expect that positive parent- and child-oriented outcomes associated with program completion would mitigate vulnerability for relapse associated with stress and lay the foundation for healthy child development and maternal well-being.

4.2.1.2 Caring for the whole person. With respect to the complexity of women's and children's needs, participants generated a number of statements pertaining to the adoption of a

"whole person" approach where a range of needs can be targeted through a comprehensive set of services (e.g., wrap around services for women and children). This mirrors the emphasis that women have placed on being understood "as a whole person, and not just a substance user" (Motz, Leslie, Pepler, Moore, & Freeman, 2006; p.53). This approach, however, should acknowledge that needs are constantly in flux depending on a variety of factors (e.g., age, custody of children, stage of readiness for change), and therefore effective integrated service delivery should be able to adapt to these evolving needs and support women and children flexibly at various junctures along their path to well-being even if this path is non-linear (e.g., coming in and out of the system without judgment).

Cluster 2: Tailored and Continuum-Based Service Components aligns with the abovementioned and includes types of services (e.g., standardized assessment) and considerations that may impact on their effectiveness or reception. Case management, for example, was raised by participants and implies that "…services need to match the client's needs rather than force the client to fit into the specific services offered by the agency" (Centre for Substance Abuse Treatment, 2009; p.91). It may be an "essential ingredient" (Sorensen et al., 2005) for linking services and agencies and includes a range of services including outreach, needs assessment, planning and resource identification, service linkages, monitoring and ongoing reassessment, and client advocacy (Brindis & Theidon, 1997). Morgenstern and colleagues (2006) explored the benefits of intensive case management among women with complex problems and found that it resulted in significantly higher levels of substance abuse treatment initiation, engagement, and retention in comparison to those who received only a screening and referral. Case management also appears to improve access to a greater variety of services (Jansson, Svikis, Breon, & Cieslak, 2005) and has been associated with greater rates of

abstinence and family and social functioning (McLellan et al., 2003). In a related vein, participants commented on the potential utility of applying a determinants of health perspective when assessing client needs. They elaborated further that women who are unable to secure basic needs (e.g., food, shelter) or who experience ongoing threats to their safety (e.g., intimate partner violence) may be less likely to engage in or benefit from services targeting other – seemingly less urgent issues – such as substance use or parenting. Alexander (2013) states that "mothers experiencing drug addiction need to be seen in the context of their social determinants and environment" (p. 747). She aptly stated that "starting with a desire to find a cure before determining why people use [drugs] will always fail to produce a solution" (p.748), and cautions against focusing exclusively on "fixing the behaviour" at the expense of identifying and preventing factors that shape it. Homelessness, unemployment, prostitution, and comorbid psychological issues for example, are aspects of the mother's functioning that impact on parenting and an inability to address these may undermine treatment efforts. Further, it has been conceptualized that variables related to the social environment (e.g., social support, neighbourhood disadvantage, income level, socioeconomic status, education level) mitigate or largely explain individual risk factors resulting in poor health outcomes (Galea et al., 2003).

Galea and colleagues (2003) suggested that social support and social networks can intervene, for better or for worse, between the social environmental determinants and individual risk factors (e.g., mental health) to influence outcomes. Within the context of treatment, multiple relationships form in parallel (e.g., mother-staff; mother-mother; mother-child) and it appears that these are a critical source of support, learning, and development in and of themselves. Through positive relational experiences (both direct and indirect through modeling), for instance, women learn to seek and provide support, experience empathy and respect, and gain insight into

healthy interactions and boundaries with their children (Sword et al., 2009). These relationships hold therapeutic value in that they provide safety for self-exploration and assist women in redefining their perceptions and expectations of various roles in relation to others. Together, this contributes meaningfully to the recovery environment and process, and equips women with the skills to develop healthy connections outside of the treatment setting (Wong, 2006, 2009).

Research indicates that there are widespread benefits to implementing a whole person, comprehensive approach not only in relation to treatment, but also in terms of prevention and maintenance of gains. First, integrated treatment, which attempts to consider the needs of the whole person, is associated with increased length of stay (e.g., Milligan et al., 2010b), which has been identified as a primary predictor of treatment effectiveness and correlates with a number of important outcomes such as readmission to treatment, involvement in illegal activities, and employment rates (Clark, 2001; Hubbard et al., 2003; Lanchasky et al., 2000). Second, women participating in integrated treatment attended more prenatal appointments which is a primary determinant of pregnancy outcome (Little et al., 2003) and were less likely to give birth to premature babies than women participating in non-integrated treatment (Milligan et al., 2011). Further, residing with their mothers in integrated care was associated with increased birth weight for infants (Milligan et al., 2011). These findings speak to the preventative potential of integrated treatment for supporting positive child outcomes (Luthar, Suchman, & Altomare, 2007). Finally, it has been suggested that by addressing child and parenting needs, which contribute to overall maternal mental health, integrated treatment may strengthen protective factors and yield benefits beyond simply reducing substance use (Niccols et al., 2010, 2012).

4.2.1.3 Enhancing accessibility through coordination. An additional consideration that has been widely discussed in the literature is that of accessibility of appropriate care and the

coordination of services so as to improve access. Issues relating to the mothering role certainly create significant obstacles to entering treatment; however, barriers are not restricted to this domain and exist at multiple other levels including: intrapersonal (e.g., individual factors), sociocultural, structural, and systemic (Centre for Substance Abuse Treatment, 2009). In order to promote positive change among women to the fullest extent, programs must be able to anticipate obstacles and develop strategies to either reduce the occurrence of barriers or assist women in overcoming them.

According to *Cluster 6: Accessible and Coordinated Care for Clients,* developing policies and procedures aimed at overcoming these barriers and rendering programs more readily accessible to women seeking help is essential to effective integrated service delivery. Many of the statements comprising this cluster are structurally oriented and relate to an issue that is especially problematic in non-integrated treatment models and impacts a woman's experience of help-seeking: fragmentation of services. In this model, women are required to navigate a maze of service agencies in order to obtain necessary supports. Often, they are met with inconsistent procedures between agencies that either conflict or require them to retell their story (e.g., intake process). The norm is for women to be concurrently involved with multiple systems (e.g., substance use treatment and child welfare); however, these tend to be divided along a range of variables such as definition of the primary client, staff education or training, and funding sources that impede engagement. Further, staff often have limited knowledge of services beyond their own (Goldberg, 2000; Young et al., 1998). Practically speaking, the contents of Cluster 6 function to overcome existing challenges through coordinating services in such a way that clients can seek information and receive support at multiple points of entry, seamlessly move between

agencies that are in communication and agreement about client care and treatment goals, and allow for adaptations to changing needs over time.

4.2.2 Agency. Issues relating to individual program or agency characteristics are depicted in *Clusters 3a: Sustainability and Organizational Health* and *3b: Investing in Staff.* Participants indicated that while these are highly interdependent concepts, and should be considered in relation to one another, it is also worthwhile to view them as distinct. Cluster 3a contained statements that center on activities contributing to maintaining a "healthy" organization (e.g., time and expertise for program evaluation; orienting toward outcomes and cost-effectiveness; ensuring that evidence is accessible). Cluster 3b contained statements that highlight the importance of carefully considering staff, their needs, and how to best support their development and well-being. These clusters were ranked in the sixth and seventh positions in terms of their overall importance for effective integration, with staff investment ranking in the higher position by a narrow margin.

According to participants, investing in staff is a defining characteristic of integrated service delivery and involves activities such as identifying core competencies that are beneficial for working with this population, ensuring that desirable staff can be recruited and retained, and organizing relevant training opportunities to ensure that core competencies are developed and remain up-to-date with respect to evidence and best practices. Participants relayed that the responsibility of these activities falls primarily to the directors or managers of programs who are tasked with clearly defining key outcomes, implementing ongoing program evaluations, assessing cost-effectiveness, and ensuring access to literature that includes both clinical wisdom and empirical knowledge. The subclusters are intertwined in that they simultaneously rely on and support one another.

4.2.2.1 A need for staff investment. One might consider the group of individuals who provide services on the ground as the essential agents of change along a woman's road to recovery. Staff-related characteristics or attributes contribute – for better or worse – to the environment and culture of a program, and subsequently to treatment outcomes. In favourable conditions, staff engage with women non-judgmentally and convey qualities such as compassion, honesty, empathy, and respect when approaching therapeutic relationships (Schretzman, 1999; Sword, Niccols, & Fan, 2004; Wong, 2006). This, in turn, appears to create a climate of safety and support (Salmon, Joseph, Saylor, & Mann, 2000; Schretzman, 1999; Wong, 2006) in which women and children may be more likely to thrive. At times, however, circumstances are less favourable and the ability of staff to connect with women and engage them in the treatment process may be impeded by negative or inaccurate misperceptions, limited understanding of this population's unique needs and experiences, or insensitivity to important diversity issues (Vannicelli, 1984).

Sword and colleagues (2009) completed a qualitative meta-synthesis of women's reports of their experiences and perceptions of integrated treatment programs and outlined eight psychosocial processes thought to be important to women's recovery. Engagement with staff was identified as one such process and was described by the authors as being "central to women's participation in the programs and behaviour change (p.10)." Based on women's reports, Motz, Leslie, Pepler, Moore, and Freeman (2006) labeled respect, recognition, and acknowledgment as "growth-promoting" components in staff-client relationships. They equated respect with mutual empathy and viewed this as a force moving women from isolation to healthy relationships.

Social support has been identified as a critical component of successful substance abuse treatment, in that it assists with successful adaptation to stressful life situations (Salmon, Joseph,

Saylor, and Mann, 2000). Wong (2009) found that social support provided by staff within the treatment setting contributed to a mother's decision to enter and remain in treatment with her child and led to the development and maintenance of positive relational outcomes (Salmon et al., 2000). In a separate study by Wong (2006), women identified staff as supportive when they were attuned or empathetic and non-intrusive. In turn, this provided safety for women's self-exploration and enhanced their self-development and the integration of disparate aspects of self (e.g., good and bad parental self, addict, mother, woman, daughter). Salmon, Joseph, Saylor, and Mann (2000) reported on staff activities that women described as being important in their recovery, and indicated that these primarily include knowledge sharing (e.g., effect of drug use on baby, parenting) and the provision of information about resources.

4.2.2.2 Agency investment. Participants noted that providing the level and type of flexible care for necessary pregnant and parenting women to develop positive therapeutic relationships required an investment by agencies in their staff. There is evidence to suggest that staff face a number of challenges when working with this population and this may pose difficulty to agencies in terms of retaining staff over the long-term. For example, previous research suggests that staff experience a lack of leadership around complex issues such as reporting obligations to child protective services. Further, they report being unprepared, at times, to deal with the wide range of presenting issues (e.g., domestic violence, newborn irritability, child developmental difficulties) that co-occur with and impact substance abuse and recovery (Salmon, Joseph, Saylor, & Mann, 2000). Finkelstein (1993) listed limited staff training and knowledge about pregnancy and substance use as a major barrier to providing resources. Given that staff attitudes and competence can have a pervasive influence on women, children, and the treatment process, it

is unsurprising that the participant group identified staff as a worthwhile and necessary place to invest time and resources.

4.2.3 Partner. Participants were clear in their conviction that developing partnerships with other agencies defines effective integrated service provision, and *Cluster 4: Innovative and Coordinated Partnerships* depicts these ideas. These include statements reflecting the who (e.g., bringing together unlikely partners) and why (e.g., the whole is greater than the sum of its parts), as well as statements pertaining to a number of factors previously identified in the literature as facilitators of or barriers to interagency working (e.g., clarity of roles and responsibilities of each partner). With respect to overall cluster rankings, partnerships fell in the fifth position, following client-, ministry-, and service-related clusters.

Partnerships link services that have historically existed as silos and encourage interagency collaborations. In essence, partnerships are the vehicle through which integrated programs are capable of comprehensively addressing a range of complex needs that may not be adequately met by any agency in isolation. Participants used words like “innovative” and “creative” to describe these partnerships, indicating that the products of these collaborations are both greater and different than what can be offered by each individually. Collaboration between or within (e.g., in the case of collocation) agency systems is necessary for ensuring that support is provided in a consistent manner from one agency to the next and according to mutually agreed upon goals. It is not uncommon, however, for agencies to face challenges during this process relating to contrasting views on the most effective treatment approaches, primary client, or important targets of treatment (Yee et al., 2012) that may relate to differing mandates and overarching missions (Drabble, 2011).

4.2.3.1 Facilitating partnership formation. In order to overcome barriers such as those cited above, partners must show flexibility and willingness to redefine a number of previously outlined issues (e.g., boundaries, goals, vision). Participants emphasized a need for partnerships to be thoughtfully formed such that they are mutually desirable and beneficial, and the goal of coordinating is clearly delineated to and accepted by both parties, and ideally informed by client stated needs. Finding the intersection of vision, mission, and values was a participant generated statement and is very much in line with published literature. In general, authors urge the importance of developing shared principles and translating these into "living" practice guidelines that both define the philosophical foundation of the collaboration and operationalize how this manifests in practice. Essentially, collaborations should map onto the mission of a service delivery program (Drabble, 2011).

Clearly defining roles and responsibilities of partners and respecting the boundaries/limitations of what they are capable of enacting are two statements that were generated by participants. These have been linked to the development of trust in the literature (e.g., Lee et al., 2012) and researchers have described the establishment of mutual trust to be foundational in the initiation of successful collaborative relationships (Lee et al., 2012). It is important that agencies ensure that partners have realistic expectations of one another and are educated about existing constraints linked to policy, legislation or otherwise (Darlington, Feeney, & Rixon, 2005; Drabble, 2007; Drabble, 2010; Sloper 2004). Further, it is critical that staff have an accurate understanding of different professional identities and that any interagency myths or negative stereotypes are dispelled so as to foster respect of diversity and variation in expertise (Darlington, Feeney, & Rixon, 2005). In this vein, participants highlighted the importance of clearly articulating organizational structure within and between organizations, which may

include documentation of roles and responsibilities as a preventative effort to reduce confusion or disagreement. Issues related to defining and understanding roles and responsibilities have consistently been highlighted as primary barriers to successful collaboration (e.g., Atkinson, Doherty, & Kinderal, 2005; Darlington et al., 2005; Darlington & Feeney, 2008).

Participants also raised a need for clarifying procedures for sharing client information which is frequently raised in the literature and pertains to the issues around designing and implementing interagency structures, policies, and protocols (Darlington et al., 2005; Drabble, 2007; Drabble, 2010; Sloper, 2004). This is particularly important with respect to the sharing of client information, which occurs in case management and attempts to ensure that client care is delivered in a smooth and coordinated fashion. Navigating confidentiality is a challenge inherent to information sharing, and thus it is critical that specific agreements about the types of information that is to be shared are developed and guidelines about protection and limitations of client confidentiality are established (Drabble, 2011).

Many of the partnership-oriented factors raised by participants are also in line with Drabble and Poole's (2011) framework that was developed around interagency working between child welfare and substance abuse treatment specifically. These fall into their domains of principles or values (e.g., finding the intersection of vision, mission, and values of various partners), processes or protocols (e.g., clarity of procedures for sharing client information; clarity of roles and responsibilities of each partner), and cross-cutting factors (e.g., respectful relationships).

4.2.4 Ministry. The final level at which coordination must exist in successful integrated service delivery according to participants is at the ministry level; *Cluster 5: Cross Ministry Coordination*. Just as agencies partner with each other to expand the scope and type of services that can be offered to women and their children, agencies coordinate with various ministries in

efforts to increase the capacity of their programs to evolve and flourish. This cluster includes statements relating to funding, education and training, risk management and legal/legislative issues, and cross-ministry data sharing. Coordination of multiple ministries is particularly important as the wellbeing of women and children often fall under the purview of separate ministries. Participants discussed that this can pose challenges when attempting to care for multiple clients simultaneously (e.g., mother, baby, dyad) one or more of which may not be recognized as the primary client to a given ministry providing financial resources. This, in turn, may limit what programs are capable of offering in terms of services. The functioning and longevity of programs is largely dependent upon receiving ministry-appointed funding, and it is important that there are procedures and policies in place that allow for ministries to join in the goal of supporting clients who have differing but related needs. It is interesting to note that overall participants ranked this cluster as third most important with respect to its contribution to effective service integration, above service-, partnership-, and agency-centered clusters which have received the most attention in the literature (e.g., Darlington, Feeney, & Rixon, 2005; Sloper, 2004). This is an appropriate avenue for future investigation and policy-related work.

4.3 Background Components of Effective Integrated Service Delivery

Consideration of the overall model of effective service delivery that emerged from concept mapping would be incomplete without attending to the tapestry that weaves together its functioning. While these components do not map onto specific clusters, they are reflected in statements that span across clusters suggesting that they may have more "cross-cutting" influences on the integration and delivery of services for this population. These are higher order in nature, reflecting ideals or treatment philosophy, and provide the frame that guides the broader approach to integrated treatment.

4.3.1 Values and vision. In the model, the foreground and background components are housed within a larger circle that represents the values and vision of integrated treatment that guide how operations are carried out at all levels. Key characteristics articulated by participants include empowerment, stigma reduction, and non-judgment. The emphasis on these terms and the like (e.g., respect, compassion) is paramount in light of the numerous barriers that women face when accessing systems of care (e.g., denial or embarrassment regarding substance use, fear of losing custody; Corrarino et al., 2000), and with respect to the pervasive negative and stigmatizing attitudes that they are often met with when seeking help (e.g., Finkelstein, 1994), as well as the frequent experience of trauma (Jean Tweed Centre, 2013). As one participant highlighted "a lot of [these] women are marginalized in multiple ways – how do you as a service provider address their needs in a way that does not increase their experience of powerlessness?"

These above values align well with guiding principles of trauma-informed treatment, which many advocate should be used with this population. Research indicates that when service providers do not use trauma-informed practices or understand the impact of trauma it can impede attempts to reach women, hamper engagement, result in premature treatment termination, and make lapse or relapses more likely (Jean Tweed Centre, 2013). Women, themselves, have also articulated the desire for trauma-informed services, particularly with respect to establishing safety. For example, pregnant and parenting women with substance abuse issues have often developed a set of coping skills and resources that have allowed them to survive and it appears to be important to acknowledge and validate the significance of these strengths and resources and to build on them so as to enhance self-efficacy, resilience, and hope for change (Jean Tweed Centre, 2013). Approaching women without judgment may serve to reduce feelings of shame

and guilt, increase self-esteem, and shape a path for learning new skills and modifying unhelpful patterns (Jean Tweed Centre, 2013).

Trauma-informed practice emphasizes helping women obtain choice and control in their life by actively involving them wherever and whenever possible in the process of service provision. This enhances a woman's self-efficacy, creates trust, and supports engagement and retention of women thereby positively affecting outcomes (Jean Tweed Centre, 2013). Further, collaborating with women around care options and seeking their feedback are strategies for empowering them against common feelings of helplessness, shame, and guilt and additionally fosters confidence in her ability to identify and resolve problems. A focus on strengths and empowerment has been called "the key for change" and is important for fostering a climate of optimism and resilience, and teaching women that they are capable of making positive changes despite past experiences and choices. Empowerment skills include deepening self-knowledge, building self-esteem, trust, and interpersonal skills, learning how to express needs and set boundaries, enhancing life skills and mothering, and establishing reciprocal and healthy relationships. This echoes experienced practitioners in the field of substance abuse treatment for women who use terms such as "active," "collaborative," and "supportive" to characterize effective therapeutic approaches (Covington & Surrey, 1997; Finkelstein, 1993, 1996), and guidelines for substance abuse treatment for women that emphasize focusing on treatment goals that are important to the client, even if this means addressing fundamental determinants of health (e.g., food, shelter) prior to substance use and other issues.

4.3.2 Client-centered care. The above links onto person-centered approaches to care in which recipients (individuals and/or families) of services play an active and substantive role in the development of their individual treatment plan including the methods and individuals

involved. In health care generally, but particularly within the context of substance abuse and mental health, choice, empowerment, and engagement are recognized as critical to effective care and drive positive outcomes (Adams & Grieder, 2005). This includes activities such as "…fully informing patients and families about the evidence, engaging them in a process of informed, shared decision-making, and protecting their rights to self-determinations…." (Drake, Rosenberg, Teague, & Bartels, 2003; p.6) and emphasizes recovery, wellness, resilience, and community integration (Adams & Grieder, 2005). Women appear to value gaining insight into their problems and contributing factors, and appreciate opportunities for decision making in their recovery process (e.g., treatment options, pace; Jean Tweed Centre, 2013). Statements such as including the client's voice, valuing lived experience, building on client strengths, and making information readily available to women parallel this approach, and by virtue of its adoption women are empowered to take positive change into their own hands. As outlined above, this serves as an empowerment strategy that fosters collaboration with women, treatment engagement, and subsequently, enhances treatment outcomes (Jean Tweed Centre, 2013).

4.3.3 Relationship focus. The idea of multiple relationships was raised in participant discussions, is represented in multiple clusters, and is a topic that has received a great deal of attention in the literature with respect to the experiences of this population. It is not uncommon for women with substance abuse issues to have experienced multiple unhealthy or unsuccessful relationships in their past and present (e.g., neglectful or abusive parenting, interpersonal violence) and therefore to benefit from assistance in acquiring relational skills to develop healthy relationships with children, intimate partners, family members, peers, helping professionals, and intimate partners. Covington (2002) suggested that staff play an important role in facilitating this process through modeling empathetic, respectful, and compassionate responses. Some have

suggested that these new relationships support the formation of a "non-addict identity" and contribute to the development of a positive sense of self and a therapeutic support network (McIntosh & McKeaganey, 2000). Motz and colleagues (2006) and Wong (2009) ascribe the transformative ability of these relationships to their ability to foster growth and empowerment. In addition to the therapist-client relationship, women have opportunities to strengthen relationships with their children, and to learn from and teach other women.

Finkelstein (1994) asserted that "substance-abusing women should be viewed within the context of their relationships to others, recognizing that they are part of larger relational and multigenerational systems" (p.10). She highlights that "disconnection" or the failure to form attachments and make affiliations is a common experience for women and may drive the use of alcohol or other drugs. Relational models emphasize women's growth through connections and recognize connections and relationships as an essential component in treatment and recovery. This relational focus and the goal of integrated treatment to support both individual mother and child needs as well as those related to their functioning as a unit is an approach that appears to be an identifier of this method of service delivery. This has developed through an understanding of relational challenges that are prevalent among this population and the positive influence that healthy relationships exert over the treatment process.

4.4 Methodological Strengths and Limitations, and Future Directions

A novel aspect of the present study was its use of concept mapping methodology. This allowed for the examination of processes and factors in a qualitative manner, and provided quantitative data on the relatedness between factors and processes and their relative importance. To our knowledge, this is the first time concept mapping has been used to explore the complexities of integrated service delivery in any population including that of pregnant and

parenting women with substance use issues. Overall, the methodology was well received by participants, with a number of them expressing the desire to learn more about the methodology for their own work and articulating an interest in the outcomes of this study. In-person participant sessions (i.e., brainstorming and interpretation sessions) were characterized by lively discussion and rich contributions, and participants were able to respond to and build off of one another's ideas. Further, as depicted in Figure 6, concept mapping methodology was not only helpful in eliciting themes of integration that replicate previous work in the area (e.g., Cameron, Lart, Bostock, & Coomber, 2012), but allowed for a better understanding of the interrelations between processes and factors. Importantly, the resulting framework is entirely in the language of a diverse participant group who contributed insight to both the generation and interpretation of data, a notable strength of this work. That being said, there are a few limitations in the present study that warrant attention as they may have implications for the interpretation of these findings and provide direction for future research in the areas of integrated service delivery.

4.4.1 Rating data. As alluded to above, a strength of concept mapping is that it allows researchers to acquire quantitatively-based insight into how participants view brainstormed statements along specified dimensions (e.g., importance, feasibility) and in relation to the focus prompt. We asked participants to rate the relative importance of statements and clusters with respect to their role in achieving effective integrated service delivery using a 5-point Likert scale ranging from unimportant to extremely important. The utility of these results, however, was significantly limited in that participants tended to rate most statements similarly (i.e., using predominantly 4's and 5's), significantly reducing variability in the resulting data. Because these judgments are to be interpreted according to relative (versus absolute) comparisons, it was difficult to ascertain which items were considered to contribute more or less extensively to

effective integrated service delivery. This limitation also applies to the second set of ratings where participants were asked to judge the relative importance of statements comprising each cluster for achieving its overall theme as denoted by the label.

Challenges may have been linked to the Likert scale employed or to the nature of the task more generally. For instance, based on participant feedback it was difficult for some participants to rate statements using the negative side of the rating spectrum (e.g., 'unimportant' or 'mildly important') when statements were generated in response to a focus prompt conceptualizing only facilitators of effective integration. In addition, 'important' may not have been the most appropriate dimension descriptor on which to base the task. It is possible that a descriptor such as 'impact' might have better allowed participants to use the full range of rating values. An alternative might be to modify the Likert scale such the range is restricted to the positive reflecting only differing levels of importance (i.e., remove negative labels). Effectively, this would acknowledge that all items are important for effective integration in some way, but might still encourage participants to consider more fine-grained differences. A final possibility would be to build on the ideas generated by concept mapping and use this information to inform and populate the statements needed for methodologies that are forced-choice in nature. Conjoint analysis (CA) may be a useful avenue through which to explore this question. Broadly, CA is a statistical technique based on theory assuming that "decision options can be described by sets of attributes [or characteristics], each made up of different levels" (p.45; Pignone et al., 2011). The relative value that individuals attach to various attributes can be estimated by constructing a series hypothetical options comprised of these attributes at different levels and asking participants to rate, rank, or make choices between sets of hypothetical options. In turn, this information can be applied to real-world decisions to assist participants and researchers in

understanding how values translate into decision-making (Pignone et al., 2011). This technique could be used to estimate the relative importance of the various statements (i.e., characteristics of effective integrated service delivery) and better understand the individual impact of each on integration (Ryan & Farrar, 2000). Regardless of approach, it will be important to revisit the question of relative importance moving forward as this information has widespread relevance for decision-making around where to invest resources for program change and improvement.

4.4.2 Sample size and characteristics. The sample size of the current study, while in line with concept mapping methodology, may have posed challenges to the exploration of moderating factors. Namely, the number of participants representing each position (e.g., researcher, clinician, policy-maker) was small, limiting our ability to make between-group comparisons. Rosas and Kane (2012) assessed the relationship between stress values and number of sorters, and found that between 20 and 30 sorters is necessary to maximize the consistency of fit in the concept mapping representation. Twenty participants provided sorting data in the present study and an appropriate stress value was yielded.

It is important to recognize that sample size is a limitation that is in part inherent to the methodology itself. Feasibility constraints exist regarding sample size, and this carries particular relevance to the brainstorm session and consequently the manageability of the sorting/rating tasks. Conceivably, larger samples result in more generated statements requiring greater researcher intervention with respect to reducing the statement set in a way that balances breadth of information but does not make sorting and rating overly cumbersome for participants. Maximizing diversity with respect to program model, geographic location, and participant perspective was intended to contribute to the overall generalizability of these findings and buffer against impacts of a small sample size. Given appropriate resources, future research may wish to

recruit participants more broadly from across Canada and ensure that subgroups are sufficiently populated so as to allow for between group comparisons.

The findings of the present study imply that the coordination of people, services, and systems is critical for service integration to be effective. It has also been suggested that individuals filling various roles often exhibit differing or even conflicting attitudes and ideas that stem from and are influenced by a variety of factors including but not limited to education/training, mandates, treatment orientation etc. (e.g., Darlington, Feeney, & Rixon, 2005). Though there was some representation from other provinces (e.g., British Columbia), the participant group was predominantly Ontario-based. Thus, these results may reflect the ideas of a singular province and not those that are evident across Canada. Ontario has more integrated programs that any other province in Canada due to a specific investment of government funding in this area since 2003. As such, stakeholders in this province may have unique views of integration that may differ from other provinces. Thus, improving our knowledge of how viewpoints differ by role and geographic location, and with respect to the definition of integration and the relative importance of requisite factors and processes may be an initial step towards developing shared understanding and better coordinating treatment delivery. In the hope of easing the translation of knowledge from this study to the real-world, researchers made the decision to develop a single concept map representing the ideas of a diverse participant group as this is what ought to occur in practice. However, it may also be worthwhile to create a series of separate maps (e.g., researcher-generated, service provider-generated, etc.) in order to compare and contrast the output and gain a more nuanced understanding of where participants differ and align in terms of their perceptions of effective integration. Another possibility might be to present the present map to individuals representing different positions (who are external to the

study) and elicit their impressions and feedback to assess the applicability of the map to a range of individuals. Alternatively, this endeavour may also be well suited to the strengths of CA methodology as described above.

4.4.3 The perspective of women. As a final limitation, the perceptions of women who have accessed and participated in treatment programs were not incorporated in the conceptualization of effective integration presented here. According to the Canadian Institutes of Health Research (CIHR) and Canada's Strategy for Patient-Oriented Research (SPOR), "…[clients] must be involved as much and as meaningfully as possible in order for health research to be more responsive to the needs of Canadians" (Canadian Institutes of Health Research, 2011). Clients bring a unique perspective to research that stems from their personal experience with and knowledge of living with a condition or illness, accessing treatments and the health care system, and moving through the recovery process. Experiential knowledge gleaned from their participation serves to complement existing expert knowledge (Henderson, 2010) and potentially enhances the accuracy and relevance of research. Further, it is possible that client-articulated themes and stories may guide research in unexpected and innovative directions. Collaborating with women in the research process presents the potential for fostering mutual trust among community members and investigators, which not only strengthens the external validity of findings (Viswanathan et al., 2004), but may also promote "buy-in" for ongoing program evaluation efforts within agencies (Windsor, 2013). Better understanding the client perspective and experience has contributed immensely to the development of integrated treatment, and it only makes sense that, given the opportunity, they would also offer valuable insight for defining this treatment model and help to clarify factors and processes that they consider to be most meaningful. Windsor's (2013) work lends some support for the feasibility of

concept mapping with marginalized participants (i.e., individuals living in distressed communities and using substance abuse treatment services) and thus future research may wish to replicate this study with a client participant group, or alternatively, to present this concept map to clients and elicit feedback in a focus group format. It is possible that a client-generated map will differ from that presented here in both content and relative importance of factors and processes.

4.4.4 Generalizability of concept map. Due to the descriptive and exploratory nature of this study, findings should be considered preliminary – though their consistency with extant literature and the diverse and extensive expertise of the participant group certainly strengthens their conviction. These results advance our conceptual understanding of the factors and processes thought to contribute to integrated service delivery in its ideal or most effective form. With respect to interpreting the concept map, however, one cannot assume that that participant-identified factors and processes are exhaustive as they are bound by individual factors such as awareness, experience, availability of information, and likely by variables related to the focus group format. While participants hypothesized about relationships between clusters based on information about conceptual similarity (i.e., proximity) and their own experiences it will be interesting to see how these reflect day-to-day realities of integrated programs.

As such, future research should test how this visual representation of integration and associated views map onto practice in the real world, and to explicitly test the role of various factors/processes in controlled studies. A possible avenue through which to explore this question is to develop a tool based on the clusters and statements yielded by concept mapping. This offers seven primary domains to probe (e.g., subscales) and cluster statements can be easily translated into items aimed at measuring each domain. Such a tool could allow researchers to assess a

program's overall level of integration, to identify areas of strength and weakness, and to look for facilitators and barriers to achieving better integration.

The use of such a tool would also assist with the evaluation of integrated programs across different sites. Using such a tool, it would be possible to explore how integration relates to a range of maternal, child, and parenting outcomes and to look at variables which moderate these relationships – particularly those related to context (e.g., geographical location). Additionally, such a tool may shed further light on the conceptualization of integration. At present, it is unclear whether integration can be thought of as existing along a spectrum (e.g., from low to high) whereby an increased number of factors and processes reflect greater integration or, if "integration levels" are characterized by distinct sets of factors or processes (i.e., that are qualitatively different). It would be worthwhile to investigate this in relation to client outcomes. Finally, an even richer understanding may stem from future research considering factors that hinder integration. It is reasonable to expect that many of these would simply be the absence of factors/processes identified here; however, this may yield additional information. Together, this work will assist in modifying our model such that it better reflects the real world, maps directly onto key outcomes, and ideally, incorporates contextually oriented information.

4.5 Implications for Service Delivery and Clinical Practice

Myriad concrete recommendations can be extracted from the model of effective integrated service delivery for improving service delivery and clinical practice for pregnant and parenting women with substance use issues and their children. These can be loosely grouped around clients and services, partnership development, staff, and ministry concerns.

4.5.1 Clients and services. Central to the definition of effective integrated service delivery is the recognition of three clients who require attention: mom, baby, and the mom-baby dyad and

a need to understand how to balance their needs in practice. In part, this appears to be possible through providing comprehensive services that address the whole person and emphasize the therapeutic value of connection and relationships. Additionally, these services should be tailored to the unique needs of the individual client, adapt to changing needs over time, and be congruent with client-articulated goals. Clients need to be approached with non judgment and asked for feedback; building upon strengths and including them in treatment decisions wherever possible so as to foster empowerment should be emphasized as treatment aims. Finally, care should be coordinated in such a way the client experience is one of accessibility and seamlessness.

4.5.2 Partnership development. The ambitious aims of integrated treatment appear to be reliant in part on the ability to form partnerships. Simply developing partnerships, however, does not appear to be sufficient but rather these ought to be developed with deliberation, clarity, and meaning. When establishing collaborations, programs may wish to articulate the need that will be addressed for women and/or children but also to identify how each partner will benefit from the relationship. In addition, it may be advantageous to reflect on how well the resulting service compliments those already in existence and maps onto client-articulated needs. Once in place, this work implies that there are a variety of activities that should be carried out in order to ensure that the benefit afforded by the partnership is maximized and to promote the maintenance of the collaboration over the long term. For example, partners should collaboratively establish and document a number of procedures that are made readily accessible to staff and which are intermittently updated, such as mechanisms for sharing client information, navigating issues of confidentiality and sharing case management, transparency of roles, responsibilities and limitations of each partner, and key treatment targets and outcomes. Mandates, operations, and training/educational background of various partners will likely differ making it imperative that

efforts be undertaken to find common intersections and develop a shared purpose that will unite partners and anchor toward an agreed upon destination. Interpersonal considerations also warrant attention; for example, staff may benefit from dedicated opportunities to communicate with individuals from partner agencies (particularly if collocation is absent), to partake in joint training initiatives, and to know that there are procedures in place for navigating conflict should it arise.

4.5.3 Staff. Similar to developing meaningful partnerships, it is also critical that programs recruit and retain the "right" team of staff to work with this multifaceted population, and devote time to identifying and elaborating the competencies and expertise that should exist on this team. This can be supported by making training opportunities available to staff that align with this vision, keeping staff current with advances in research and clinical practice, and affording them a tailored set of skills that fit with the needs and experiences of this population. The attitudes of staff both toward women and collaboration can largely impact on relationships and partnerships; thus, it is important that staff members are equipped with appropriate knowledge and adequately supported in what is expected of them.

4.5.4 Ministry concerns. Rather than suggesting practice recommendations, the results of the present study suggest that ministry concerns may be an appropriate avenue for future research (particularly in light of its cluster ranking relative to other clusters). Participants provided a number of elements that they feel comprise cross-ministry coordination and thus effective integration; however, it would be beneficial moving forward to better outline how these elements manifest and to better understand how ministries can optimally support integrated service delivery. For example, if ministries were to develop integrated funding initiatives what would these look like? If they were to devote financial resources to education and training, what

would be the key components? How are conflict, legal issues, and legislation currently being navigated across programs and how might ministry-level involvement improve these processes? It is clear that participants consider this to play an important role in successful service integration, but what remains unclear is how this might unfold.

4.6 Conclusion

Taken together, results of the concept mapping procedure and associated interpretation suggest that the definition of effective integration for supporting pregnant and parenting women with substance use issues involves a range of factors and processes that are dynamic in nature and highly interrelated. Under optimal conditions the primary components (i.e., client, agency, partner, and ministry) work together in synchrony like cogs operating in a machine. It appears that the "integrated machine" so-to-speak is embedded within a larger context of value- or vision-related characteristics (e.g., empowerment, non-judgment) that speak both to *why* this model should exists and *how* its aims are enacted. Further, simultaneously supporting three clients adds infinite complexity to service provision and is highly reliant upon seamless coordination between agencies, systems, and services. In summary, this work indicates that rather than being understood exclusively as the co-availability of services addressing substance use, maternal and child well-being, and parenting, integration should be conceptualized as a "complex adaptive system" characterized by nonlinear relationships, complex dynamics (McDaniel & Driebe, 2001), and flux. Such a conceptualization necessitates mechanisms that allow for updating practices at multiple levels in the face of research and clinical advances.

This dynamic conceptualization of integrated service delivery and associated implications may enhance and guide a multi-site program evaluation of integration and assist in better understanding where weaknesses exists, where improvements can be made, and the feasibility of

carrying out such changes. Ultimately, this will aid in the refinement of best practices for serving the complex needs of pregnant and parenting women with substance abuse issues through integrated service delivery, and support them in capitalizing on a window of opportunity for change in their own lives, as well as the lives of their children.

Appendix A

INVITATION AND INFORMATIONAL EMAIL FOR PROSPECTIVE CONCEPT MAPPING PARTICIPANTS

Dear [Prospective Participant],

Researchers at Ryerson University and the Centre for Addiction and Mental Health (CAMH) have partnered with the Ontario Ministry of Health and Long Term Care to carry out an evaluation of addiction treatment programs for pregnant and parenting women. We are contacting you today to provide you with information about this exciting study, and to warmly invite your participation. We believe that your insights and experience are critical to the success of this work, and that the knowledge gained will guide improvements to the provision of care to this population.

The purpose of this component of a larger study evaluating the effectiveness of treatment programs designed for women who are pregnant and parenting young children across Ontario is to examine the concept of "integration" within the context of these programs. More specifically, we are interested in learning from a diverse group of stakeholders about the processes, services, and partnerships that support effective integrated service delivery, as well as their relative importance and feasibility. We are contacting you, specifically, in light of your experience and expertise with this subject matter.

We will be bringing together a number of individuals with varying backgrounds (e.g., program directors, frontline clinicians, researchers, policy advisors) to participate in two separate Toronto-based focus groups lasting approximately 5 hours each. At these sessions, we will ask you to contribute information that you perceive as important for effective integration, organize and rate ideas of the group, and participate in a structured group interpretation of resulting conceptual models. Attached is a consent form providing more information about the purpose of the study, description of the study, potential risks and benefits of participation, the voluntary nature of participation, compensation, and contact information.

If you have any questions, please do not hesitate to contact one of the following members of the research team:

Principal Investigators:

Karen Milligan, Ph.D., Assistant Professor, Department of Psychology, Ryerson University
Ph: 416-979-5000 ext. 7054
Email: karen.milligan@psych.ryerson.ca

Karen Urbanoski, Ph. D., Scientist, Social and Epidemiological Research Department, Centre for Addiction and Mental Health (CAMH)
Ph : 416-535-8501 ext. 34812

Email : karen.urbanoski@camh.ca

Graduate Student Investigator:

Tamara Meixner, B.A., Graduate Student, Department of Psychology, Ryerson University
Email: tmeixner@psych.ryerson.ca

If you are interested in participating, please email us at: mothers@psych.ryerson.ca.

We thank you very much for your time and consideration, and look forward to hearing from you and hopefully working with you soon!

[Signature]

Appendix B

INFORMED CONSENT AGREEMENT

Study Title: Healthy mothers, healthy families: Evaluating integrated treatment for pregnant and parenting women with addictions.

Principal Investigators:

Karen Milligan, Ph.D., Assistant Professor, Department of Psychology, Ryerson University, 416-979-5000 ext. 7054
Karen Urbanoski, Ph. D., Scientist, Social and Epidemiological Research Department, Centre for Addiction and Mental Health (CAMH), 416-535-8501 ext. 34812

Graduate Student Investigator:
Tamara Meixner, B.A., Graduate Student, Department of Psychology, Ryerson University

Study Purpose: Many of the integrated programs serving pregnant and parenting women with addictions are entering their 2nd decade of operation in Ontario. There is great variability in service delivery models and how integration is defined and enacted between programs. The purpose of this study is to examine the concept of "integration" within the context of these programs. We are interested in learning from a diverse group of stakeholders about the processes, services, and partnerships that support effective integrated service delivery, as well as their relative importance and feasibility.

Description of the Study: If you agree to participate, you will attend two separate focus group sessions at [Ryerson University or Centre for Addiction and Mental Health (CAMH)] lasting approximately 5 hours each, where you will complete the following tasks:

Session I: First, you will participate in a group brainstorming session with directors, frontline staff members, partner agency representatives, policy advisors, and researchers who have experience with integrated treatment. You will be asked to generate short phrases or sentences in response to the following prompt: *What does effective integration mean to you*? Second, you will be asked to individually sort these brainstormed items into groups. Third, you will be asked to rate the importance of these brainstormed items for successful service integration. After this session, researchers will summarize information collected into visual models that will be presented to the group during Session II.

Session II: Visual models of the discussion from Session I will be presented and you will be asked to engage in a structured group interpretation of the themes, meaning, and implications of this information. These summary visual models will also be presented to clients in the context of client focus groups at a separate focus group session for their interpretation of themes and implications.

All sessions will be videotaped to allow for review and transcription of the group discussion.

Potential Risks of Discomforts: Participation in this research carries minimal risk. As with all group discussions, there is a potential risk of discomfort due to differing participant perspectives. It is also not possible to ensure confidentiality of information shared in the group setting. However, we will discuss the importance of confidentiality. Steps will be taken by the facilitators to ensure that group discussion take place in a climate of respect, non-judgment, and confidentiality to minimize potential risks.

Potential Benefits of the Study to You or Others: There are no guaranteed direct benefits to individuals participating in the study; however, you may personally derive benefit from engaging in discussion with individuals about a topic that holds personal relevance. Knowledge gained from this research will be used to help our team of researchers conceptualize integration and examine how themes/component derived are related to improved well-being for pregnant and parenting women and their children.

Confidentiality: All information collected for use in this study, including this consent agreement and videotapes, will be stored on a password protected computer and physical notes and materials will be stored in a locked filing cabinet at Ryerson University in the Child Self-Regulation Laboratory. All names and other identifying information will be deleted and symbols will be used to link your data. Access to this information will be restricted to the investigators. All records will be retained for seven years after the completion of this project at which time all information collected as part of this study will be destroyed.

Information obtained through this study will be used to generate a report that will be shared with participating integrated treatment programs and the grant funders. This information will contribute to the completion of a Master's Thesis, and will be used to prepare articles for publication and presentations at various academic conferences. A summary of findings will be posted on knowledge sharing websites, such as the Canadian Council on Substance Abuse so that other agencies, professionals and students might benefit from these findings. All information used in any report will be presented in an aggregated and anonymous manner, meaning that an individual's response will not be identifiable.

Compensation for Participation in the Study: You will receive a gift card for $25 for each of the sessions attended (total $50). A meal/refreshments will be provided during the meeting time and you will also be reimbursed for travel costs associated with participation.

Voluntary Nature of Participation: Participation in this study is completely voluntary. Your choice of whether or not to participate will not influence your future relations with Ryerson University or CAMH. If you decide to participate, you are free to withdraw your consent and to stop your participation at any time without penalty or loss of benefits (e.g., travel costs, honorarium). Your right to withdraw your consent also applies to our use of your data. If you

withdraw from the study before you have completed your participation in it, you may choose to have your individual data removed from data (e.g., individual ratings or sorts) and destroyed.

Questions about the Study:

If you have any questions about your rights as a study participant, you may contact the investigators listed at the top of this consent. This study has been reviewed and approved by the Ryerson University and the CAMH Research Ethics Boards.

Toni Fletcher, Research Ethics Coordinator
Ryerson University Research Ethics Board
(416)979-5000 ext. 7112
toni.fletcher@ryerson.ca

Dr. Padraig Darby
Chair of the Research Ethics Board
Centre for Addiction and Mental Health
416-535-8501 ext. 36876.
Padraig.Darby@camh.ca

As part of continuing review of the research, your study records may be assessed on behalf of the Research Ethics Board. A person from the research ethics team may contact you (if your contact information is available) to ask you questions about the research study and your consent to participate. The person assessing your file or contacting you must maintain your confidentiality to the extent permitted by law.

Consent to participate:

I have read and been given a copy of the consent form for the study *Healthy mothers, healthy families* study and understand that:

- All the information I provide will be kept confidential
- I can withdraw from the study at any time without any negative consequences to myself or my treatment

I consent to completing the focus group sessions outlined.

Name (print): _____

Signature: _____

Date: _____

I consent to being videotaped in the context of the focus group sessions outlined.

Name (print): _____

Signature: _____

Date: _____

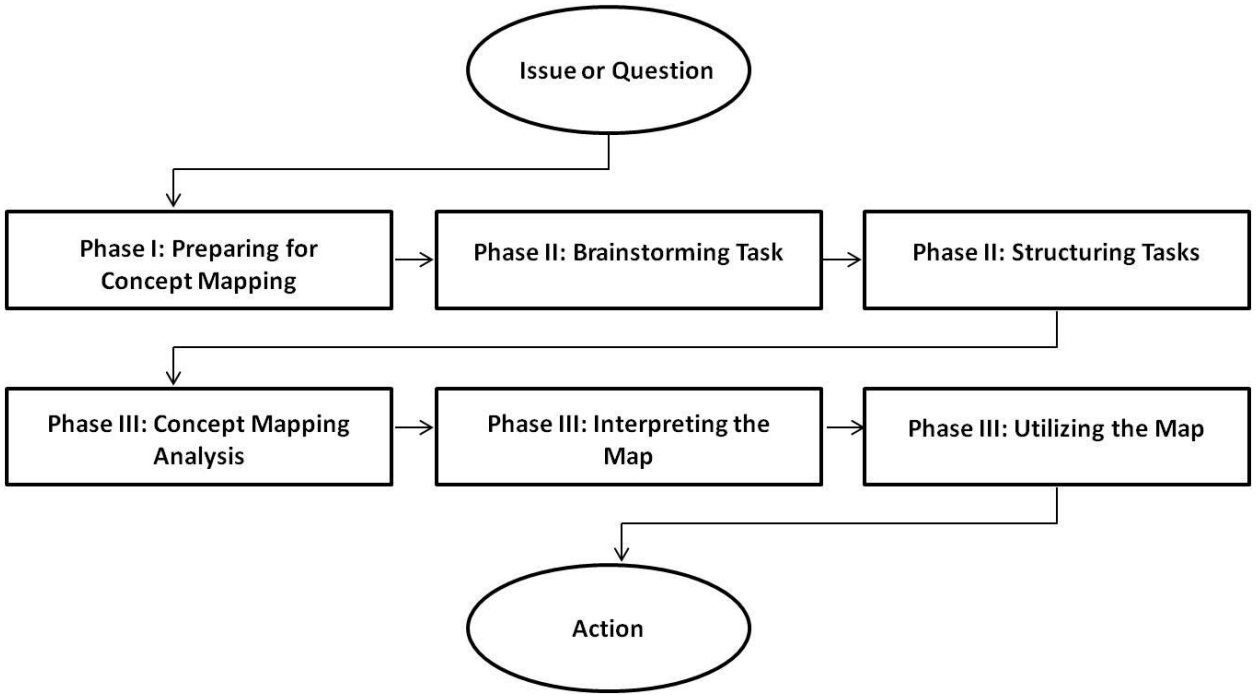
_____ _____

Signature of Investigator Date

Appendix C

BRIEF OVERVIEW OF CONCEPT MAPPING PROCESS

"Concept mapping can be considered a structured methodology for organizing the ideas of a group or organization, to bring together diverse groups of stakeholders and help them rapidly form a common framework that can be used for planning, evaluation, or both." (Kane & Trochim, 2007; p.1)



(Adapted from: Kane & Trochim, 2007; p. 8)

Steps in Concept Mapping Process

1. Generating Statements
    a. Brainstorming Task:
        i. Generate short phrases or sentences in response to the follow focus prompt which defines the scope of conceptualization.
            1. "Based on your experience and knowledge, please comment on what effective integration means to you"

2. Structuring Statements
    a. Sorting Task:
        i. Sort index cards representing individual statements "in a way that makes sense to you" and record contents of each pile with a title or topic name.
    b. Rating Task:

i. Rate each statement on a 5-point likert scale in terms of the following prompt: “rate the importance of each statement for effective integration from ‘1’ to ‘5’ where 1 = relatively unimportant, 2 = somewhat important, 3 = moderately important, 4 = very important, 5 = extremely important.”

c. These tasks provide the data needed to carry out concept mapping analyses and generate maps and displays.

3. Analysis
    a. Group Similarity Matrix: Cell values represent the number of participants who grouped a given pair of statements together - input for Multidimensional Scaling (MDS).
    b. MDS: Creates a bivariate plot of X-Y values, or a map of points representing each statement based on two coordinates along with their identification number. Statements sorted together most often are located in closer proximity in two-dimensional space, whereas those sorted together less often are further apart.
    c. Hierarchical Cluster Analysis: Uses X-Y MDS coordinates to group or partition individual statements on the point map into nonoverlapping clusters of statements that reflect similar underlying concepts.
    d. Rating data is averaged across participants for each statement and for each cluster, and overlaid on the point and cluster maps.

4. Interpretation and Utilization
    a. Sequential introduction of maps to participant group
    b. Directed interpretive tasks such as examining and naming clusters of statements and discussing potential applications

Reference:

Kane, M., & Trochim, W.M.K. (2007). *Concept Mapping for Planning and Evaluation* (Applied Social Research Methods Series; Vol. 50). L.Bickman & D.J. Rog (Eds.). California, USA: Sage Publications, Inc.

Appendix D

DEMOGRAPHIC FORM

1. Gender : ☐ Male ☐ Female ☐ Other

2. Please list the name of the program or organization with which you are affiliated below :

3. Please check the option that best captures your current position :

   _____ Management

   _____ Service Provider

   _____ Research

   _____ Policy

   Other: _____

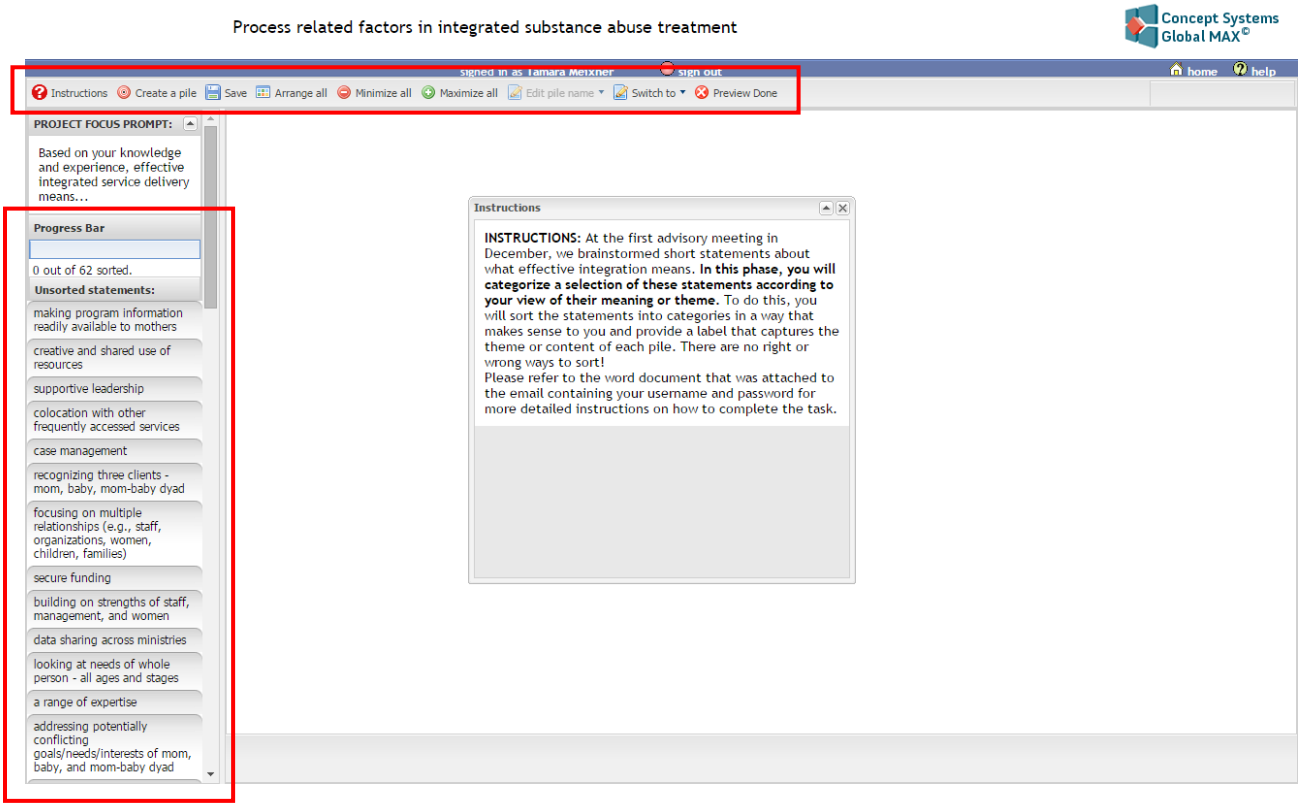
4. For how long have you held this position?

5. How would you describe your area of service delivery (e.g., addiction, infant development, public health, policy, research):

Appendix E

TIPS FOR SUCCESSFUL SORTING

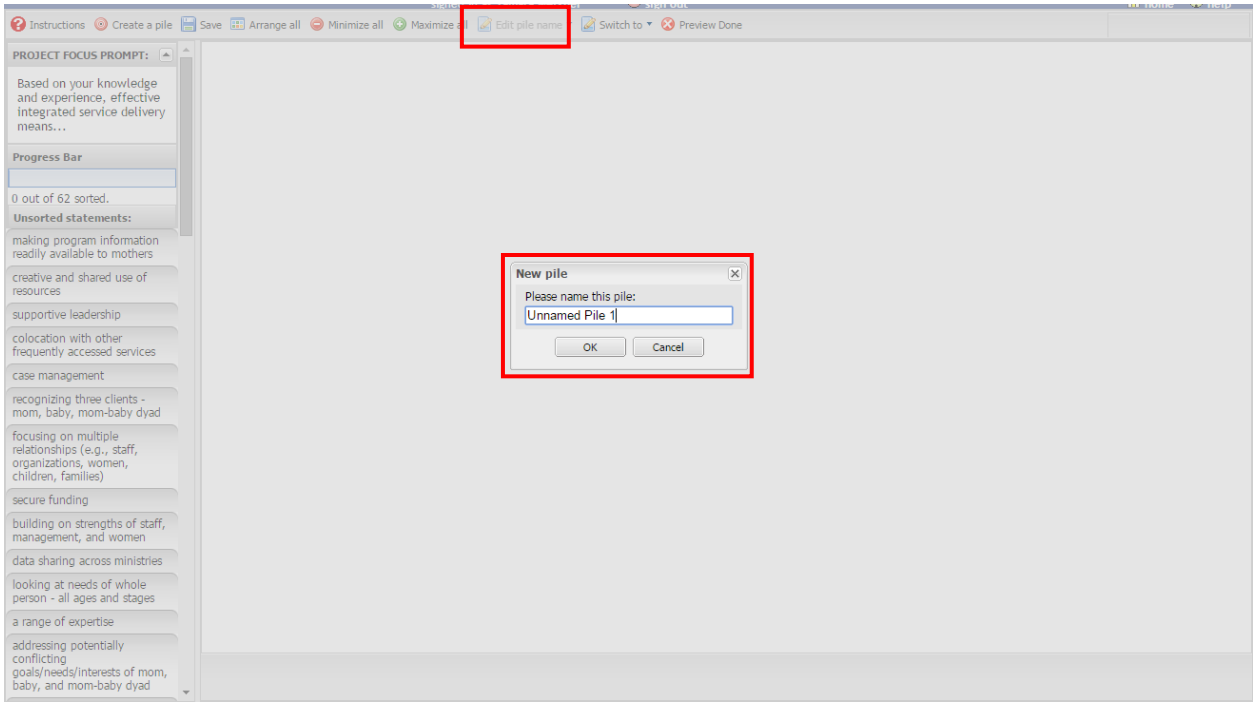
Note: you can choose to sort the statements using drop down or table top view, we recommend using table top. You can move between these views by clicking on the "switch to" button located in the toolbar along the top of your screen. Please ensure that you save your work before switching!



1. First, read through all of the statements located on the left-hand panel of your computer screen.

2. Create a new pile by dragging and dropping a statement from the list to the blank area or by clicking on the 'create a pile' button located on the toolbar at the top of your screen.

3. You will be prompted to provide a name for each pile. This should capture the main theme or content of the pile. Our suggestion is to wait until you have created all of your piles, and then go back and name them at the end. For example, leave the name as 'unnamed pile 1' until you are happy with the contents and then modify this by clicking on the 'edit pile name' button located on the top of your screen.



4. Group statements that you think belong together (e.g., similar theme or content). You can use as many piles as you need, and there are no right or wrong answers.

5. Once you have placed each of the 62 statements into piles, please review to ensure that you:

- Have not created categories according to priority or value, such as ‘important’ or ‘hard to do’ or ‘other/miscellaneous.’
- Each pile has more than 1 statement and less than 60 statements. People vary in how many piles they create, but generally 5-20 works well.

6. Once you are happy with your piles, provide a name for each that best captures its theme or contents (if you did not do so already) by clicking on the ‘edit pile name’ button. These are simply to give us a general idea of what you view each pile to represent.

6. Save your work by clicking on the 'save' icon located on the tool bar at the top of the page. You will also be automatically prompted to do this throughout.

Please Note: You can minimize all piles or maximize all piles using the buttons at the top of your screen or click ‘arrange all’ to organize them.

Thank you for your participation!

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