INFORMATION EXCHANGE FOR INTERPROFESSIONAL COLLABORATION
AMONGST MENTAL HEALTH AND WELLNESS SERVICE PROVIDERS FOR PEOPLE
AGE 50 AND OVER IN RURAL SOUTHERN INTERIOR BRITISH COLUMBIA

by

Verity Samantha Teagle
B.A., Bath Spa University, 2005
M.A., Swansea University, 2010

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The following individuals certify that they have read, and recommend to the College of Graduate Studies for acceptance, a thesis/dissertation entitled:

INFORMATION EXCHANGE FOR INTERPROFESSIONAL COLLABORATION AMONGST MENTAL HEALTH AND WELLNESS SERVICE PROVIDERS FOR PEOPLE AGE 50 AND OVER IN RURAL SOUTHERN INTERIOR BRITISH COLUMBIA

submitted by Verity Samantha Teagle in partial fulfillment of the requirements of the degree of Master of Social Work.

Dr. Nelly Oelke, School of Nursing

Supervisor

Dr. Edward Taylor, School of Social Work

Co-Supervisor

Dr. Carolyn Szostak, Barber School of Arts and Sciences

Supervisory Committee Member

Dr. Heather Gainforth, School of Health and Exercise Sciences

Supervisory Committee Member

Dr. Colin Reid, School of Health and Exercise Sciences

University Examiner
Abstract

Mental illness has a significant impact on individuals, families, and society as a whole, both emotionally and economically. There are more adults in Canada age 65 and over than there are children under the age of 15, and there are significant levels of mental illness amongst this population of adults. Canadians living in rural areas have poorer determinants of health and it is thought that to meet the mental health needs of people aged 50 and over in rural communities, improved interprofessional collaboration between mental health and wellness service providers is needed. Using a mixed method approach that includes qualitative content analysis, thematic analysis, and social network analysis, this study describes how limited information exchange amongst mental health and wellness service providers reduces the quality of interprofessional collaboration and impacts service accessibility and delivery for community members. The ability of adults age 50+ in rural communities with mental health concerns to access services is impeded by poorly designed informational materials and systems; lack of social support; and stigma. For service providers, barriers to information exchange include: difficulties engaging key partners, in particular general physicians and wellness service providers; the lack of a platform for confidential information exchange between providers; lack of time or resources to spend on collaborative efforts, including the coordination of up-to-date organization and program information for both service providers and clients; and stigma. Social network analysis can identify key influencers in existing networks of service providers and can support or challenge service provider perceptions about which organizations are most active and central in the collaboration. It is hoped that elucidating the barriers to collaboration and providing recommendations for improved information exchange will contribute to a growing body of knowledge regarding what is needed for successful health service collaboration.
Lay Summary

Studies have shown that in order to give people with mental health worries or problems the help they need, organizations need to work together. It is even more important for organizations to work together if they are in rural communities or if they work with people age 50 and over. Mental health and wellness organizations in a region of rural British Columbia were asked how much they talk to one another about what they do and if they have any difficulties sharing information. Their answers are described in this study using words and maps. Along with the description of the relationships, this study explores how the organizations might be able to collaborate more often and easily. At the moment, there is a lot of interest in how collaboration can be used to improve health services for the public and this study will contribute information to the discussion.
Preface

This study is a secondary analysis of data collected in a 2017 study (Oelke et al.) This writer was not involved in the identification and design of the original research program but is responsible for the identification and design of this secondary analysis. This writer was, however, highly involved in data collection and analysis for the original 2017 study and co-wrote the resulting report.

The original 2017 study was approved by the UBC Behavioural Research Ethics Board (BREB) and the local health authority’s Research Ethics Board. Ethics approval was not required for this secondary analysis.
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Chapter 1: Introduction

By 2030, mental health issues will be the leading cause of disability in high-income countries like Canada (Roberts & Grimes, 2011). Primary solutions for combatting the unsustainable costs of mental illness include the promotion of mental wellbeing, and the availability of early interventions for mental illness (Roberts & Grimes, 2011). Whilst mental illness is defined as a health condition that affects thinking, emotion, and/or behavior to the point of distress or impaired functioning (Public Health Agency of Canada [PHAC], 2015) mental wellness is less consistently defined. Mental wellness can imply a more “holistic” approach to mental health, with a greater emphasis on positive states rather than the absence of negative ones; mental wellness involves pleasure, meaning and engagement in one’s life (Canadian Institute for Health Information [CIHI], 2009, p.9; World Health Organization [WHO], 2017). It is a term that might better represent the way some members of Canada’s Indigenous populations think about mental health (CIHI, 2009) who define it as “a balance of the mental, physical, spiritual, and emotional . . . enriched [by] purpose . . . hope . . . a sense of belonging . . . [and of] meaning” (Health Canada, 2015, p. ii). In this study, mental wellness is similarly used to refer to community members’ sense of safety, satisfaction and belonging, regardless of whether they do or do not have a mental health diagnosis. A biopsychosocial approach to the management of both mental and physical disorders, in which service providers work to increase the chances of people experiencing better mental health, is recommended in the literature (Thomas et al., 2016; WHO, 2017).

Mental illness can affect people of all ages, including those age 50 and over. Research shows that a higher percentage of “elderly” adults consult physicians about mental health problems than do younger adults or children, and that the highest suicide rates in Canada are in
men over the age of 80 (MacCourt, Wilson, & Tourigny-Rivard, 2011, p. 17). People living in rural and northern Canada are known to experience greater health disparities than their urban counterparts, and interprofessional collaboration is considered to be a “vital response to meet[ing] the mental health related demands in rural and northern Canada” (Goodwin, MacNaughton-Doucet, & Allan, 2016, p. 181). Unfortunately, the collaborative approach needed to provide effective mental health services – particularly for adults age 50 and over and those in rural areas – is often lacking, and was recently found to be so in rural southern interior British Columbia (Oelke et al., 2017; Oelke & Schill, 2015).

In 2017, representatives of a variety of mental health and wellness services in a rural area of Southern British Columbia (BC) participated in a series of interviews and meetings to discuss the state of collaboration amongst providers of mental health and wellness services for people age 50 and over in their region (Oelke et al., 2017). What constitutes mental health and mental wellness services is explained later in the chapter, but it is worth noting here that services for Alzheimer’s and dementia are not included in the definitions. The study found services to be limited, with very few mental health services specifically for people age 50 and over and a number of barriers to the accessibility of these services. Collaboration amongst service providers was considered to be weak. Data collected at focus groups and community meetings from the study undergo secondary analysis here to ascertain how information exchange affects collaboration between the area’s providers of mental health and wellness services. This study employs social network analysis (SNA) to further elucidate the existing state of collaboration.

There is a well-established body of research regarding collaborative service delivery in certain health areas, including youth mental health, but less that is specific to the mental health needs of adults. This study will contribute to the need for the latter, as well as to an emerging
interest in the use of SNA in health research. Furthermore, it aims to aid understanding of service provider and older service users’ needs in rural communities and to contribute to the improvement in collaboration amongst the service providers in the region studied.

**Background and Context**

What follows is a short summary of the findings of the original 2017 Oelke et al. study on which this secondary analysis is based; the Executive Summary can be found in Appendix 1. Contextual information is then provided by way of a very brief overview of mental health support systems in Canada generally.

Oelke et al. (2017) found that although collaboration was good amongst service providers based in a small urban centre of southern BC, it was much more limited in three nearby rural towns (Communities 1, 2 and 3). Many specialist services were only available in the urban centre, requiring clients to travel to access them. Travel, poverty, stigma, and the difficulty of navigating a complex network of organizations and programing, were identified as barriers to clients accessing the services they needed. The majority of services were found to be delivered by not-for-profit organizations and the funding constraints of such organizations, as well as the health authority, were seen as contributing to some of the difficulties in collaboration. Lack of funding to offer permanent contracts or competitive salaries led to high staff and program turnover and, in turn, difficulty keeping track of organizational contacts and available services. Staff were perceived as overworked with little time to commit to developing relationships with other mental health and wellness service providers in the region. Not only was communication across organizations seen as limited, communication within some organizations was considered to be weak. Understanding what kinds of organizations had a role to play in the delivery of mental health and wellness services was also thought to complicate collaboration; participants
reported that mental and physical health symptoms were often regarded as mutually exclusive, resulting in clients receiving services for one or the other, but not both. Furthermore, interactions between general practitioners (GPs) and mental health and wellness providers were seen as infrequent. Finally, participants commented on the lack of a platform through which to share confidential information across organizations and the absence of a central hub to coordinate information dissemination or the tracking of referrals. Of the seven recommended actions, at least four indicated a need for improved information exchange amongst service providers and between providers and community members:

- Action 1: Improved collaboration through interprofessional teams and the creation of a Hub or Collaborative
- Action 2: Education and support for general public, service providers, and caregivers
- Action 5: System navigation
- Action 6: Information accessibility through print and electronic means

Thus, information exchange was selected as the focus of this secondary analysis.

The “fragmented” (Oelke et al., 2017, p. 11) state of collaboration amongst mental health and wellness service providers is not unique to southern interior BC. To understand how the limited, disjointed service availability and delivery identified in Oelke et al.’s study came to be, a brief overview of recent mental health care service history is warranted. This very brief history of the mental health support systems in Canada is limited to the last 200 years and, due to the scarcity of academic literature pertaining to the historical perception and treatment of mental health issues amongst Indigenous Canadians, focuses disproportionately on the practices of European settlers. Whilst a range of literature relating to Indigenous mental health is available, the majority relates to existing services (including the ways colonialism intersects with them) and
prevalence and causes of mental health (again, with a focus on the impact of colonialism) (see Nelson & Wilson (2017) for a critical review of research).

Before contact with Europeans, First Nations Canadians in BC are said to have enjoyed whole health, including ceremonial, spiritual and physical elements. Small communities, traditional diets, specialist healers (such as midwives, herbal healers, and shaman) and a physically active lifestyle are thought to have contributed to this (First Nations Health Authority, 2018). Discord between European models of psychiatry and North American Indigenous approaches to mental well-being have been noted (First Nations Health Authority, 2013; Kirmayer, 1994; McIsaac, 2006; Stewart, 2008) as have the unique and tangible challenges to mental wellness experienced by Indigenous Canadians as a result of historical and contemporary trauma and discrimination (Nelson & Wilson, 2017). In BC, Indigenous people with treaty status are more likely to be hospitalized for schizophrenia, delusional disorders, mood- and stress-related disorders, or mental and behavioural disorders due to substance use than other inhabitants of the province (First Nations Health Authority, 2013, p. 3).

Throughout the world, Indigenous populations have been found to experience disproportionately poor mental health compared to their non-Indigenous counterparts (McIntyre et al., 2017). Unsophisticated portrayals of dichotomies between Indigenous and western world views unhelpfully reinforce the stereotypes of colonialism, whereas respectful and accurate regard for Indigenous perspectives in health research is essential (Nelson & Wilson, 2017). All too often the Indigenous voice is left unheard and research into the unmet healthcare needs and service preferences of this population is inadequate (McIntyre et al., 2017). Some research has shown that churches and traditional healers are often favoured over mental health specialists, and that online resources have been shown to be an effective way to share information with some
Indigenous communities (McIntyre et al., 2017). That said, culturally appropriate health information online has been found to be lacking (McIntyre et al., 2017).

It has always been the case that some people who are mentally ill and living in Canada have resided in a community setting, but the proportion of those in the community versus those living in institutional settings has changed over the last 200 years. Nineteenth century Canadian society offered few supports for the mentally ill and, exhausted by the burden of responsibility, many families relinquished members with mental illness to the new system of institutionalization (Kaiser, 2009). The establishment of mental hospitals may have been “humanitarian” in nature, removing as it did some individuals from prisons and poor houses to a more suitable setting (PHAC, 2006, p. 152) but there is no doubt that many 19th century hospital practices would be unacceptable today, such as opening for tourism and exploiting residents for free labour (Kaiser, 2009). By the early 20th century, the institutions had become much larger and less personal, serving primarily to conceal mental illness from others rather than treat it (PHAC, 2006).

The poor standards and high costs of these institutions combined with, in the 1950s, the increased ability to pharmaceutically treat patients with anti-depressants and anti-psychotics, led to deinstitutionalization and an emphasis on treatment in the community. Although the number of patients in psychiatric hospitals dramatically decreased with the closure of the institutions, the number of psychiatric beds in general hospitals increased almost seven-fold as individuals were displaced, many onto the streets or, eventually, to prison (PHAC, 2006).

In 2003, the WHO recognised that to be effective, deinstitutionalization involves higher costs than institutionalization because of the expense of establishing sufficient community services before closing the institutions (as cited in Wilson, 2013). Unfortunately, the benefits of hindsight are cold comfort in relation to the inconsistent and inadequate community health care
system that still pervades, decades after the ill-planned and ill-funded move to
deinstitutionalization (Kirby & Keon, 2006; PHAC, 2006; Wilson, 2013). These inadequacies are
not only found in the Canadian health care system, but in other Western countries too: lack of
access to services for all but the most severely mentally ill; lack of knowledge and compassion
from healthcare professionals; and discrimination and stigma, are identified in reports in
Australia, New Zealand and Canada (Wilson, 2013). Research has shown that between 50% and
80% of adults in Canada with mental health needs do not seek services (Cohen & Peachey, 2014;
El-Gabalawy, Mackenzie, & Sareen, 2016). Sunderland and Findlay (2013) calculated that over a
million Canadians’ mental health needs had been only partially met in 2012, and over 600,000
had not had their needs met at all.

In rural and northern Canada, residents have poorer determinants of health than their
urban counterparts (Goodwin et al., 2016) but may not have a statistically different prevalence of
diagnosed mental disorders (DesMeules, 2006). However, with lower levels of education and
income and higher levels of unemployment (Goodwin et al., 2016; Hart, Larson, & Lishner,
2005), rural communities are more susceptible to economic insecurity and poverty, which are
known to be risk factors for poorer mental health (McIntyre, Kwok, Emery, & Dutton, 2016) as
well as barriers to receiving care (Slaunwhite, 2015). Furthermore, stigma may prevent rural
residents from accessing services to a greater degree than for urban community members
(Brenes, Danhauer, Lyles, Hogan & Miller, 2015; Stewart, Jameson, & Curtin, 2015). Provision
of, and access to, mental health services in rural areas has long been poorer for rural community
members than for urban populations. A government funded report into rural mental health needs
and services in 1977 found a high need for mental health services in rural BC, with extremely
low access to services, a lack of outreach services, and often times, a reliance on the local GP as
the only mental health resource (DeVries & Maddess, as cited in Maddess, 2006). These issues remain, with rural populations experiencing more barriers to receiving services – lack of availability, information, coordination, transportation – than urban dwellers (Brenes et al., 2015; DesMeules, 2006; Goodwin et al., 2016; Stewart et al., 2015; Zayed et al., 2016). Recent research shows this to be the case in rural southern BC, where mental health services are few and fragmented, and collaboration amongst providers and organizations is weak (Oelke & Schill, 2015).

In 2016, 1.8 million Canadians over the age of 60 were living with a mental health concern (Mental Health Commission of Canada, 2018). Older adults tend to be reluctant to seek mental health services (Gonçalves, Coelho, & Byrne, 2014), particularly those living in rural communities (Bartsch & Rodgers, 2009). Mental health problems complicate chronic physical health conditions, which are more common in older populations. Comorbidity can – for example in the case of depression – increase mortality rates due to suicide or complications of cardiac disease (Frederick et al., 2007). Towns in the rural area of southern BC studied have a higher than average concentration of older adults (those age 50 and over) with the mean average age of community members ranging from 50.9-51.9 and the median from 55.1-58.0, as compared to 42.3 and 43.0 respectively in BC (Statistics Canada, 2017).

Interprofessional mental health collaborative practice (IMHCP) is an emerging and favoured response to improving mental health outcomes, not only in rural and northern Canada (Addiction & Mental Health Collaborative Project Steering Committee, 2014; Goodwin et al., 2016) but on a global scale, with the WHO advocating for collaborative care as part of primary care reform (Bland, 2014). Unfortunately, collaboration amongst mental health service providers
in rural southern BC is limited, with information exchange identified as a significant barrier to collaboration (Oelke et al., 2017).

**Definition of Concepts**

Consultation amongst research team members in the original study (Oelke et al., 2017) led to the establishment of the following definitions which informed the categorisation of network members and will be used throughout this secondary analysis. It is acknowledged that some organizations’ services cross between categories. For example, massage can be accessed for relaxation purposes, or to contribute to mental wellness, but is also indicated for therapeutic use for mental health concerns such as depression and anxiety (Bahrami et al., 2017; Rapaport et al., 2016).

**Mental health services:** services that provide therapeutic approaches, interactions, courses or workshops that specifically target mental illness. This includes, for example: psychologists; psychiatrists; counsellors; mental health charities; addictions services; crisis/help lines; mental health outreach teams; social workers; organizations providing services for mental illness (such as psycho-education and peer support); and organizations providing services for victims of trauma and/or violence.

**Mental wellness services:** services that are of benefit to, but do not directly target, an individual’s mental health. Examples include, massage; services for persons with disabilities; caregiver support groups; family services; volunteer organizations; housing organizations; faith groups; libraries; and organizations that provide advocacy, education, life skills, social connections, fitness services, and recreation.

**Health services:** services that meet physical health needs, including: the regional health authority; physicians; pharmacies; hospitals; health centres; emergency medical services;
disease-specific support groups; community health nursing; home care services and supports; dietitian services; physiotherapy; rheumatology; hearing services; and medical insurance companies.

People age 50 and over / adults 50+: these phrases refer, interchangeably, to people age 50 and over. At times, the terms “seniors” or “older adults” will be used. In these instances, the terms are used to accurately reflect the terminology used in a cited piece of research. The majority of research classifies adults as those aged 18-59 or 18-64, and seniors/older adults as those aged 60, or 65, and over. It is noteworthy that much of the research explored in the Literature Review in Chapter 2 pertains to only a subsection (those 60 or 65 and over) of the population being considered in this study (those 50 and over).

Information exchange: in the original 2017 study, participants of focus groups mapped their connections to other individuals and organizations that provide mental health and wellness services to people over the age of 50. They were invited to depict five different types of linkages: referrals; information exchange; funding; joint services; other reasons. Information exchange refers to:

- the formal or informal exchange of information between representatives of organizations regarding: services; organizational mandates; awareness of local and provincial issues and policies; and treatment plans or client needs.

Interprofessional collaboration: the Canadian National Interprofessional Competency Framework defines interprofessional collaboration as “the process of developing and maintaining effective interprofessional working relationships with learners, practitioners, patients/clients/families and communities to enable optimal health outcomes” (Canadian
Interprofessional Health Collaborative [CIHC], 2010, p. 8). Collaboration and integration are often used interchangeably and inconsistently (Boon, Mior, Barnsley, Ashbury, & Haig, 2009). Boon et al. (2009) define collaboration as a group of autonomous professionals working together to “deliver optimal patient care” (p.720), as distinct from an integrated model in which professionals are supported by a single overarching organizational structure. In the 2016 Select Standing Committee report about child and youth mental health, integrated care is described as a “hub” of services under one roof (Thornthwaite, 2016). In their report on Integrated Models of Primary Care and Mental Health and Substance Use Care in the Community (Flexhaug, Noyes, & Phillips 2012), the BC Ministry of Health defines collaboration as communication between independent providers, effectively case managed by the client themselves, and suitable for less complex health conditions, as distinct from an integrated care model in which one team member of a multidisciplinary team is accountable for ensuring a single care plan is followed (suitable for higher risk, more complex conditions). Collaboration does not rely on integration (Boon et al., 2009) and integration and co-location is not a guarantee of improved collaboration (Flexhaug et al., 2012), though single-entry points for services are often favoured in the literature and in government guidelines (A. Berland Inc, 2008; Dembo, Walters, & Meyers, 2005; KPMG Consulting, 2001). Aligning with the CIHC (2010) and Boon et al. (2009), the present study considers interprofessional collaboration to be interactions between professionals that seek to improve health and wellbeing outcomes for shared client and/or community members. Collaboration requires common goals, transparent and equitable decision-making, and effective communication (Kates et al., 2011).
**Social network analysis:** SNA is increasingly being used to understand, and change, behaviours within healthcare service delivery and health service collaboration; it seeks to explain how the structure of a network affects the flow or distribution of information (Borgatti, 2011). Numbers and types of relationships (ties) amongst people or organizations (actors, or nodes) in a given community (or network) are explored in an attempt to provide an indication of how attitudes, beliefs and behaviours spread within that network (Valente, 2010). SNA provides a graphical display of a network and uses “mathematical formalism” (Valente, 2010, p. 26) to provide graphical and numerical representations of complex communication networks in an effort to understand the “causes, consequences, and implications of social connectedness” (Valente, 2010, p. 238). Valente notes that an understanding of social networks is often lacking in behaviour change programs, leading to an inability to identify “whether program success or failure was dependent in part on who delivered the message” (2010, p. 218). It may be equally important, when seeking to maximize the functioning of a collaboration, to have the right person or organization(s): championing the collaboration aims; facilitating the development of relationships; and conveying the collaboration’s messages to the wider community. SNA may assist in identifying the influential person or organization.

**Rationale for the research**

There is a strong appetite and need for this research. By 2030, mental health issues are projected to be the leading cause of disability in Canada (Roberts & Grimes, 2011) and by 2036, adults age 65 and over will outnumber children for the first time in Canada’s history, representing almost a quarter of the population (MacCourt et al., 2011).
The complexities of rural health needs are well known and “political actions must be based on rural data and research that explains a certain population’s specific needs and circumstances” (Weinhold & Gurtner, 2014, p. 202). BC’s Ministry of Health has stated that the implementation of interprofessional primary and community care teams is a healthcare priority (BC Ministry of Health, 2014) and research shows integrated, collaborative treatment models to be preferential, particularly for older adults with mental health disorders (Bartels et al., 2004; El-Gabalawy et al., 2016; Gonçalves et al., 2014; Weinhold & Gurtner, 2014). This research is therefore timely, will contribute much-needed knowledge, and be highly relevant to the local population as well as to rural populations more broadly. In addition, it responds to a dearth of research in rural health and health services delivery (White, 2013) particularly in relation to people age 50 and over with mental health concerns (Oelke et al., 2017).

The aim of this study is to augment and expand upon the findings from the earlier Oelke et al. study (2017), providing more nuanced insight into one of the types of links between providers of mental health and wellness services in rural southern BC; that of information exchange. This type of link is particularly important because collaboration “tends to be built most readily around shared information” (Provan et al., 2003, p. 658). Not only was information exchange a recurring theme in discussions with service providers in the region, it has also been identified in the literature as important to the success of interprofessional collaboration. Successful collaboration depends upon organizations sharing and understanding information about each other’s services (Goodwin et al., 2016). This study will therefore contribute to a more general body of knowledge regarding best practice in interprofessional collaboration.
Research Questions

1. What is the current state of information exchange between mental health service providers for people age 50 and over in rural southern BC?

2. What is the association between current information exchange and interprofessional collaboration?

Summary

This chapter has demonstrated that interprofessional collaboration is a priority both within BC and globally, as outlined by the WHO. In 2012, more than half a million Canadians’ mental health needs went unmet (Sunderland & Findlay, 2013). With mental health issues set to soon become the leading cause of disability, the failure to provide accessible and effective services cannot be allowed to continue. It is particularly important that services are improved in rural areas where there are already greater barriers to accessing services than in urban areas. Furthermore, these services need to be easily available to older members of society, who are less likely to seek specialist mental health services than other community members. Information exchange between service providers is considered to be fundamental to the success of a mental health collaboration. The next chapter provides a more detailed summary of recent literature regarding mental health in adults age 50 and over, mental health in rural populations, and collaboration in mental health.
Chapter 2: Literature Review

A comprehensive literature review of articles relating to mental health in Canada was conducted, with preference given to articles published in the last 5 years. The titles and key terms of over 300 articles were surveyed for references to mental health in adults, particularly those age 50 and over, or in retired populations; mental health in rural populations; collaboration of mental health services; and history of mental health services in Canada. Abstracts of over 120 articles were selected for closer reading, and finally, some 40 articles were selected to be read in full, along with a number a government and organizational reports identified by the articles and in conversations with this writer’s supervisors. Literature review was ongoing throughout the study. The following literature review has been divided into three sections: mental health in adults age 50 and over, mental health in rural populations, and collaboration in mental health.

Mental health in adults age 50 and over

Although literature regarding the mental health of people over the age of 65 is relatively plentiful, there is very little research that considers mental health in people aged 50 and over and few targeted community services (Oelke et al., 2017). The WHO (2017) recommends prevention and management of age-associated chronic diseases, including mental, neurological and substance use disorders, as one of four primary strategies for addressing the mental health needs of older adults. In addition they recommend the promotion of active and healthy aging. As people age, they are more likely to suffer from chronic illness and mobility issues, and more likely to experience life changes, such as retirement, a drop in socioeconomic status, and bereavement, that can lead to isolation, loneliness, and distress (Fuller-Thomson, Hollister, & Burnes, 2015; WHO, 2017). Statistics Canada’s 2014 data shows that people aged 45-64 are more likely to have a mood disorder (9.5% compared to between 4.5-8.3% in the other age categories) and are more
likely to rate their perceived mental health as only fair or poor (6.9% of this age group compared to between 4.5-6.4% in the other categories) than any other age group from 12 to 44 and 65 and beyond (Statistics Canada, 2014). The estimated economic burden of mental illness in Canada, including healthcare costs, lost productivity, and reductions in health-related quality of life, is $51 billion (CAMH, n.d.). Of all working-age adults in Canada, those aged 45-64 are the most vulnerable to poor mental health. Given this, and the WHO’s emphasis on prevention when it comes to mental illness in older people, it seems prudent to consider the needs of adults age 50+, not just 65+.

The MHCC identified four “distinct populations living with mental illness in later life” (MacCourt et al., 2011).

1. Those with recurrent, persistent or chronic mental illness
2. Those experiencing late onset mental illness
3. Those living with symptoms associated with Alzheimer’s disease and related dementia
4. Those with chronic medical problems with known correlations with mental illness

Many adults who have lived with mental illness throughout, or for much of, their lives (those in the first category) are likely to have experienced the disjointed services that emerged after deinstitutionalization (see Chapter 1). As they age, and perhaps experience hospitalization more frequently (for example, patients with bipolar disorder or schizophrenia often require more specialized care as they age; MacCourt et al., 2011) a fragmented and often confusing array of services meets them following discharge from hospital. Discontinuity and inadequacy of care after hospitalization is common among seniors who have lived with schizophrenia for most of their lives (PHAC, 2006). Research shows that one of the barriers to rural-dwelling adults in the 50+ age group accessing mental health services is mistrust of mental health providers (Brenes et
Indeed, older Canadians are known to seek specialist mental health services at a lower rate than general services, even though specialist services provide more effective treatment (El-Gabalawy et al., 2016). This may in part be due, in part, to the inconsistent and inadequate care faced by clients over the course of their lives. Comments from participants of the Oelke et al. 2017 study support this idea: many of their clients exhibit a strong resistance, based on fear or mistrust of mental health service providers, having had unhelpful and even damaging experiences in the past. In addition to this, the stigma – both self and societal – of mental illness prevents many adults 50+ from accessing services. This will be considered under the next heading, ‘Mental health and rural communities’.

Common mental health concerns amongst adults 50 and over include depression, anxiety, and alcohol misuse. Depression is the most common mental health problem amongst older adults (Sussman et al., 2011) with 15% of those living in the community experiencing “substantial depressive symptoms” and 44% of older adults in residential homes with an established depression diagnosis (MacCourt et al., 2011, p. 17). Anxiety, though less well researched in this population, is also thought to be commonplace, with between 5-10% of people age 65 and over experiencing anxiety symptoms and an estimated 29-54% of older community members experiencing age-specific anxiety about falling. Further, people age 65 and over have the highest rate of hospitalizations due to anxiety disorders (MacCourt et al., 2011). Finally, 6-10% of older adults have problems with alcohol use (MacCourt et al., 2011). Estimates for the prevalence of mental health disorders in older people in long-term care facilities are much higher than in the community, with 80-90% of residents with a diagnosed mental health disorder (MacCourt et al., 2011). Though this statistic includes Alzheimer’s and related dementia symptoms, this study does not consider services for clients with those diagnoses.
Mental health concerns, particularly anxiety, are frequently comorbid with physical conditions such as arthritis, cardiovascular disease, and gastrointestinal disease (El-Gabalawy et al., 2016). Major depression, as an example, occurs in about 40% of patients following an acute stroke (MacCourt et al., 2011). The interaction between physical and mental health concerns can complicate both diagnosis and treatment, requiring additional knowledge and expertise on the part of the service provider, and more time allowed for appointments with the client (MacCourt et al., 2011; Oelke et al., 2017). The higher prevalence of chronic health conditions in older adults (MacCourt et al., 2011) may serve as part of the explanation for them more often seeking healthcare from generalists – usually their physician – rather than specialists. As in other age groups, this population might not always be able to distinguish their mental health symptoms from their physical ones, and it might be difficult for their physician to differentiate too (McMillan, 2005).

Even when an adult age 50+ does identify a specific mental health concern, they are more likely to seek services from their primary care physician (El-Gabalawy et al., 2016; Gonçalves, 2014; Kates et al., 2011) perhaps for reasons of trust, stigma, or habit, or – in rural communities – lack of choice. However, primary care physicians are known to “often under-detect mental health problems in older adults” (Karlin & Fuller, as cited in El-Gabalawy et al., 2016, p. 628) either due to the aforementioned complexities of co-morbid conditions (Sussman et al., 2011) or because of what one participant of the 2017 Oelke et. al study described as “therapeutic nihilism”: the assumption that an older person will, as an inescapable part of their stage of life, be bored, grumpy, sad, and/or lonely. A 2015 study of interviews with nine GPs found that whilst they did view depression in older adults as understandable given the financial, familial or social disruptions that often come with aging, they did not view the condition as acceptable or
undeserving of treatment (Strachan, Yellowlees, & Quigley, 2015). However, GPs have consistently been found to underdiagnose depression (Goldsmith & Robinson Kurpius, 2015). Indeed, GPs in the UK were found to rely on their own intuition rather than on validated tools when considering depression symptoms in older patients, and were reluctant to diagnose depression, either because of concern about offending the patient or because they had little belief that the condition could be effectively treated (McMillan, 2005). Nevertheless, there is consensus in the literature that GPs play a key role in providing mental health services for adults age 50 and over (Davis, 2014; Fleury et al., 2012; Kates, 2011; Maddess, 2006; Oelke et al., 2017; Panazzola & Leipert, 2013) and that there is a need for improved collaboration between GPs and other mental health service providers (El-Gabalawy et al., 2016; Kates & Craven, 2002; Oelke et al., 2017; Sussman et al., 2011).

**Rural communities and mental health**

In Canada, rural and northern residents rate their health lower than their urban counterparts (Mitura & Bollman, 2003). There is little difference in the rates of chronic disease and functional health between urban and rural Canadians, but rural Canadians are more likely to smoke, be overweight, and suffer from asthma and arthritis (Mitura & Bollman, 2003). Furthermore, Canadians living in small towns are less likely to act to improve their health than are other Canadians (Mitura & Bollman, 2003). With the exception of depression, for which there are higher rates in northern Canada than elsewhere (Mitura & Bollman, 2003) the prevalence of mental disorders is not higher in rural Canada (DesMeules, 2006). However, rural populations face additional challenges when trying to meet their healthcare needs, such as lower incomes, older populations, fewer services, and limited transportation (Goodwin et al., 2016; Oelke et al., 2017).
The shortage of mental health services and resources in rural communities is well documented (Goodwin et al., 2016; Maddess, 2006; Oelke et al., 2017; Zayad et al., 2016). In the 1970s, the BC government funded research into rural mental health issues (Devries & Maddess, 1977, as cited in Maddess, 2006) which identified a lack of outreach services and limited transportation as significant problems. These problems were still identified 40 years later by participants in the 2017 Oelke et al. research, of which this study is a secondary analysis. Along with difficulties travelling to services – or lack of services that will travel to them – rural residents have fewer services from which to choose and lower incomes from which to pay for services (if no extended medical coverage is available for fee-for-service therapies). Moreover, older adults living in rural communities are more likely to cite stigma as a barrier to accessing services than are urban adults, even accounting for differences in education, employment, and income (Stewart et al., 2015). One US study showed that older adults are particularly vulnerable to self-stigmatization, believing that they should not need help (Brenes et al., 2015). Added to embarrassment and a concern about what others will think if they seek mental health services, many older adults in rural communities do not trust mental health providers or believe that treatment will be effective (Brenes et al., 2015).

Information regarding barriers to accessing mental health services for low-income Canadians is also relevant when considering the rural population in this study because the median income of households in the region studied was significantly less in 2015 than in the rest of the province ($57,069 compared to $69,995) with 30% of those with low income status aged 65+ compared to 17% province-wide (Statistics Canada, 2017). Poverty is related to adverse impacts on mental health (McIntyre et al., 2016). A 2015 Canadian study showed differences between men and women’s reports of barriers to service access. Men with low incomes were
more likely to report acceptability barriers (stigma around mental health, concerns about usefulness of service) whereas women with low incomes were more likely to report availability or accessibility barriers (such as transport, or childcare; Slaunwhite, 2015). Women in rural areas are thought to be more at risk of mental health problems than men and are particularly vulnerable to loneliness and negative social concept (Panazzola & Leipert, 2013).

Another factor to consider in relation to the particular rural communities in this study – as well as in relation to Canadian communities more generally - is immigrant populations. Two of the three towns considered in this study have an 18-20% immigrant population and the smallest of the three towns has an 8% immigrant population (Statistics Canada, 2017). Older immigrants experience mental health inequities (Guruge, Thomson, & Seifi, 2015). Lack of culturally or linguistically appropriate services, financial difficulties (Guruge et al., 2015), fear, shame, and a desire to protect family honour have been identified as barriers to accessing services (Koehn, Jarvis, Sandhra, Bains, & Addison, 2014). The importance of outreach services is again proposed when considering how to reduce barriers to accessing services for this population (Koehn et al., 2014). Unfortunately, culturally responsive community programming to address health issues in this population is typically under-resourced and marginalized, making collaboration and appropriate referrals difficult (Koehn et al., 2014).

The marginalization of mental health service organizations and workers was also reported in the 2017 Oelke et al. study. Other factors affecting the success of collaboration in rural areas include the low numbers of professionals across large geographic areas; difficulty recruiting and retaining well-qualified staff; continuity of services; inefficient referral processes; limited information exchange and coordination; and lack of physician training in mental health treatment (Goodwin et al., 2016; Maddess 2006; Oelke et al., 2017; Zayad et al., 2016).
Mental health collaboration

Community-based services that address not only biomedical needs, but also psychosocial needs (such as health promotion and prevention, and transportation) are needed to support seniors’ mental health (MacCourt & Tuokko, 2005). Collaboration may be one way to achieve more effective services without additional resources (Goodwin et al., 2016). Collaboration should include paraprofessionals, consumers, professional health service providers, and community and family members (Goodwin et al, 2016; Mooney & Lashewicz, 2014; WHO, 2013). Importantly, the engagement of GPs is widely posited as an essential component for improving mental health service delivery to older and rural populations (El-Gabalawy et al., 2016; Goodwin et al, 2016; Kates, 2002; Kates, 2011; Maddess, 2006; Oelke et al., 2017; Zayad et al.).

Key tenets of effective mental health collaboration.

Though recommendations for effective collaboration vary depending on the field and aims of the organizations involved, there is consensus in the literature regarding some key areas of collaboration. These are outlined in the following paragraphs.

Successful collaborations include diverse and multi-sectoral membership (Addiction and Mental Health Collaborative Project Steering Committee, 2014; Foster-Fishman, Berkowitz, Lounsbury, Jacobson & Allen, 2001) that might include: ‘informal’ and paraprofessional parties such as service users and their families, community members, religious leaders, faith and traditional healers, and local nongovernmental organizations (Federal/Provincial/Territorial Ministers Responsible for Seniors, 2007; Kates, 2011; Koehn et al., 2014; Mooney & Lashewicz, 2014; WHO, 2013). Social support is a protective factor for mental health and is likely to increase the chances of a person accessing health services (Baiden, Dunnen, & Fallon, 2017;
Mikkonen & Raphael, 2010) but more than other age groups, seniors are at risk of social isolation (Federal/Provincial/Territorial Ministers Responsible for Seniors, 2007). Not only does a collaboration need to work within existing support systems to reach their target audience; they may also need to facilitate the availability of support systems for those individuals who do not have them. Finally, service users should be involved in the organization, delivery, monitoring and evaluation of services (WHO, 2013).

Collaboration members need knowledge and skills in good collaborative practice (Addiction and Mental Health Collaborative Project Steering Committee, 2014; Foster-Fishman et al., 2001) and are more likely to be committed if projects are introduced, encouraged, or mandated by regional and provincial planners (Kates, 2011; Oelke et al., 2017). A culture of commitment is also helped if members view the collaboration as an essential part of their professional standards, and not as extraneous or extra-curricular (Goodwin et al., 2016). As well as sharing these values, members need a strong understanding of the mandate, commonalities, and differences of one another’s roles (Foster-Fishman et al., 2001; Goodwin et al., 2016). However, a collaboration cannot only look inwards; information needs to flow smoothly both amongst members of the collaboration and between the members and consumers (Kates, 2011).

A sense of equal investment and worth in the collaboration is generated when leadership and decision-making is shared and equitable (Foster-Fishman et al., 2001; Goodwin et al., 2016; Kates, 2011; WHO, 2013). Members may need to undertake training to address practice-knowledge gaps. In a collaborative care model for mental health, particularly in rural areas, physicians may need education regarding existing mental health resources and/or training to deliver mental health support (Maddess 2006; Oelke et al., 2017; Zayad et al., 2016).
Lastly, when considering a model for a collaboration working towards the needs of people over the age of 50, it is worth noting that this population has shown greater commitment to integrated mental health treatment models (co-located services) compared to “enhanced referral models (i.e. expedited referrals, scheduling and transportation to external mental health services)” (Bartels et al., as cited in Gabalawy et al., 2016, p. 633).

Key benefits of effective mental health collaboration.

There is also consensus in the literature about some of the benefits of effective interprofessional collaboration. These include:

- Improved patient care and health outcomes (Addiction and Mental Health Collaborative Project Steering Committee, 2014; Goodwin et al., 2016). For example, one study shows that mental health care was enhanced when GPs had at-a-distance collaboration with psychotherapists and psychiatrists to support their management of patients with mental illness (Rockman, Salach, Gotlib, Cord, & Turner, 2004).
- Improved capacity to support more complex cases (Addiction and Mental Health Collaborative Project Steering Committee, 2014).
- Improved understanding of communities’ needs and resources (Lasker, Weiss, & Miller, 2001).
- Enhanced cost effectiveness (Addiction and Mental Health Collaborative Project Steering Committee, 2014; Goodwin et al., 2016).
- Enhanced professional development across health specialities, alleviating professional isolation (Addiction and Mental Health Collaborative Project Steering Committee, 2014; Goodwin et al., 2016).
- Increased job satisfaction and staff retention (Goodwin et al., 2016).
Summary

The literature review highlights the importance of the involvement of GPs in the provision of mental health services to people age 50 and over in rural communities. Of all the age groups in our working population, those aged 45-64 are the most vulnerable to mental health challenges. Prevention of mental health problems, and promotion of healthy aging is a WHO priority, yet there is a scarcity of literature pertaining to the specific needs of people in this age group, and virtually no services that target the mental health needs of people aged 50 and over. Older adults are less likely to trust or visit a mental health specialist, instead favouring their GP. In rural communities, where mental health resources are limited or unavailable, a visit to the GP may be the only option for residents. Unfortunately, GPs are known to under-detect mental health problems in older adults. Along with traditional healers, faith leaders, family members and service users, GPs are an essential part of the diverse membership needed for successful interprofessional collaboration. Additionally, information flow between members is necessary to establish an effective and accessible network of services for users. The next chapter outlines a mixed method approach to analyzing the network of information exchange between mental health and wellness service providers in rural southern BC.
Chapter 3: Methodology

Introduction and Overview

The purpose of this study is to understand the state of information exchange between mental health and wellness service providers for people age 50 and over in rural Okanagan. In this secondary analysis of data from a 2017 study (Oelke et al., 2017) a mixed method approach, including qualitative content analysis (QCA), thematic analysis (TA) and social network analysis (SNA), seeks to illuminate the strengths and weaknesses of the current network of information exchange and to consider these in relation to relevant knowledge and recommendations from existing literature.

The original 2017 study collected data in three ways: via an environmental scan of community-based mental health and wellness services for adults 50 and over in rural southern BC, at focus groups in which network maps were created and conversations recorded, and at community meetings in which provisional results were shared with providers and discussions recorded. Over the three phases of data collection, 37 different service representatives participated, with 30 from amongst the original list of 66 environmental scan invitees, and 7 invited as a result of snowball sampling. During focus groups, participants created a map of their connections to other community service providers, distinguishing between five different types of linkages: information exchange, referral, funding, joint services, and other reasons.

Secondary analysis of the focus group and community meeting data sought to improve understanding of the types of information exchange perceived as important by the service providers, and the enablers or barriers to this exchange. SNA was employed to enhance understanding of the structure of the network and identify members with the most influence when it comes to instigating new practices, or initiating a network intervention (Valente, 2010).
This chapter outlines the theoretical framework for the methodology of this study and discusses key aspects of QCA, TA, and SNA. Additionally, it explains the research design and considers issues of trustworthiness and reliability.

**Theoretical Framework**

Qualitative research is concerned with interpretation (Schreier, 2012) and description (Bloomberg and Volpe, 2012). It is premised on the ontological assumption that social worlds are highly complex (Bloomberg and Volpe, 2012) and it is not always possible to identify, observe or quantify objective, generalizable truths. Rather, in-depth knowledge is derived from gathering and describing information-rich data (Patton, 2002) taken from real-life contexts. Qualitative research explores and accepts multiple and shifting meanings and interpretations (Schreier, 2012) and highly values the perspectives of participants (Bloomberg & Volpe, 2012) positioning them as experts who co-produce data alongside researchers (Schreier, 2012).

This study operates through the paradigmatic lenses of both critical theory and pragmatism. Pragmatism allows for multiple methods of data collection and analysis, often employing both quantitative and qualitative methods to gain a thorough understanding of a situation (Bloomberg & Volpe, 2012). QCA and TA offer rich description and interpretation while SNA provides more quantitative measures of the state of collaboration amongst mental health and wellness organizations in rural southern BC. The research design did not seek to identify a solution to the problem of unmet mental health needs; rather the intention was to improve understanding of the current state of collaboration and to open up, and offer direction to, conversations about how to move towards improving mental health and wellness services for people 50 and over in rural southern BC.
Research conducted using the critical theory paradigm takes an ideological stance to describing and interpreting a problem, ideally engaging marginalized individuals in the design and execution of the research (Bloomberg & Volpe, 2012). One in five older adults experience mental health disorders (MacCourt & Tuokko, 2005) and these individuals are at risk of marginalization on the basis of both their age and their mental illness. In fact, service collaboration and delivery may be affected by ageism (MacCourt, 2008). This study shares with the critical paradigm the ontological assumption that our social reality is shaped by political and cultural forces and that critical theorists have a duty to assist in the emancipation of dominated and oppressed individuals (Bohman, 2016). Although one community member was invited to input ideas and provide feedback throughout the original study, data were not collected directly from any other people aged 50+ with mental health concerns. However, there was a consensus amongst the participants who contributed the data that aspects of their identity intersect to negatively affect their credibility with other, particularly medical, professionals. Almost all of the participants were women, many identified themselves as being in the 50+ age group, and the majority represented not-for-profit organizations (Oelke et al., 2017) all of which, they argued, sometimes leads to marginalization and stigmatization. In this secondary analysis, the influence of the critical paradigm’s aim of giving voice to, and emancipating, disadvantaged populations (Bohman, 2016; Edwards, O’Mahoney, & Vincent, 2014) and increasing awareness of injustices (Patton, 2002; Weaver and Olson, 2006) is evident in that it seeks to represent and serve the interests of individuals marginalized by their age, location, and/or mental health, as well as describe the diverse and valuable observations of service providers who themselves struggle to be heard, occupying as they do social positions that are not afforded the credibility of those more powerful.
With its relatively prescriptive processes for mapping and analyzing, SNA could be perceived as fitting into the positivist paradigm, yet its concern with the “social-theoretical nature and implications of networks” (Buch-Hansen, 2013, p. 307) and underpinning assumption that individual behaviours cannot be extracted from their relational contexts or webs of interactions (Valente, 2010), speaks to its ability to be applied – as it is in this study – in a non-positivist fashion (Buch-Hansen, 2013). In fact, for Valente (2010), SNA’s set of assumptions, methods, tools and techniques for addressing social and behavioural issues, makes it a paradigm in its own right, “useful for complementing other research methods” (p. 6).

Although QCA is frequently referred to as a “method” (Cho & Lee, 2014; Elo & Kyngas, 2007; Graneheim, Lindgren, & Lundman, 2017) it is also attributed epistemological and ontological assumptions that, arguably, position it as both method and methodology. Indeed, Berterö (2015), describes QCA as, “a method that has been used as a movement” (p. 1). Graneheim et al. (2017, p. 29) describe how the epistemological basis of QCA is the idea that “data and interpretation are cocreations of the interviewee and interviewer” and that the text “is assumed to imply more than one single meaning.” Although TA is sometimes perceived as a tool for qualitative analysis, it is also argued to be a method in its own right (Braun & Clarke, 2006). Free of theoretical assumptions, it can be used alone, or alongside a theoretical framework such as the one described here, to identify, organise, interpret, analyse and report themes (Braun & Clarke, 2006).

**Qualitative Content Analysis and Thematic Analysis**

As is typical of qualitative research (Schreier, 2012), a large quantity of data was generated in Oelke et al.’s 2017 study. QCA reduces data by focusing only on aspects of the material that are relevant to the research question. In TA, this may be described as a deductive
approach, in which a particular interest – in this case information exchange – drives the search for themes (Braun & Clarke, 2006). The coding of data necessarily involves a degree of abstraction and loses some of the specificity of the information (Schreier, 2012) but neither QCA nor deductive TA seeks to describe or summarise data in its entirety. Rather, it “specifies the angle from which you examine your data” (Schreier, 2012, p. 4). When an inductive approach to analysis is taken, the data itself drives the coding. This approach is best suited when the aim is to provide a thematic description of the whole dataset (Braun & Clarke, 2006). In this secondary analysis, a more “detailed and nuanced account of one particular theme” (Braun & Clarke, 2006, p. 83) was sought and thus an inductive approach was largely employed. TA requires explication of assumptions about the data (Braun & Clarke, 2006) and in this case, a key assumption (as a result of the findings in the original analysis of the data in 2017) was that information exchange is important to the success of collaboration and was of significance to participants in the study. Therefore, coding of the data was deductive, seeking to support or challenge this assumption. Although a provisional coding frame informed early coding, the data itself influenced the creation of new codes and the organization of codes under thematic headings and thus, the approach was, to a lesser degree, also inductive. Movement between inductive and deductive approaches has been described as “abductive” (Graneheim et al., 2017, p. 31). When employing TA, the tendency is to identify themes at either a semantic level or a latent level, but the method is not rule-driven and allows for flexibility (Braun & Clarke, 2006). In this study, themes were primarily identified at a semantic level but some latent content, in particular relating to stigma and cultural norms and expectations, informed the formulation of the themes. This movement between data-driven, manifest meaning, and theoretically-informed latent content is characteristic of the abductive approach (Cho & Lee, 2014).
The abductive approach enables “meaningful underlying patterns” to be identified and “surface and deep structures” to be integrated (Elo & Kyngas, 2007, p. 31), a necessary endeavour when an ontological assumption is that reality is “not only here and now, but it is also something that could be realized and which is suggested as a vague possibility” (Eriksson & Lindstrom 1997, p. 196). QCA recognises the complexity of constructed realities (Thorne et al., 2004) and aims to provide “a better understanding of complex experiential…phenomena” (Berterø, 2015, p. 1). By answering “what, why and how,” (Heikkila & Ekman, 2003, as cited in Cho & Lee, 2014, p. 6) QCA “leads to [an] understanding of social reality or [a given] phenomena” (Cho & Lee, 2014, p. 17) and only with this level of understanding, can practical, social, clinical, or political change, be instigated, an aim aligned with both the pragmatic and critical paradigms. As well as giving voice to the social reality (Cho & Lee, 2014) of the service providers and, by proxy, users, this study seeks to influence tangible improvements to policy and practice (Blackstone, 2014; Patton, 2002; Weaver & Olson, 2006) by bringing about increased awareness and a change in collaboration practices in rural southern BC.

**Social Network Analysis**

SNA explores the numbers and types of relationships (ties) amongst people or organizations (actors, or nodes) in a given community (or network) (Prell, 2012; Valente, 2010). It involves the creation of maps to depict linkages between nodes and can involve varying degrees of statistical analysis, from generating simple descriptive statistics such as the average path length between nodes in a network (APL), to more complex tests of probability using, for example, exponential random graph models to determine how likely the network properties are to have occurred by chance (Prell, 2012; Valente, 2010). SNA is increasingly being employed by policy makers to understand “local, regional, societal, even global” problems (Prell, 2012, p. 2).
and to understand and change behaviours within healthcare service delivery and health service collaboration (Borgatti, 2011; Valente, 2010). Instead of relying only on an “intuitive understanding” of how individuals or organizations interact (Prell, 2012), decision-makers can anticipate from SNA an explanation of how attitudes, beliefs, and behaviours spread within a network (Valente, 2010), how information is distributed amongst network members (Borgatti, 2011), and the interventions that might work to improve the structure of the network or the relationships within it. Collaboration “tends to be built most readily around shared information” (Provan, Nakama, Veazie, Teufel-Shone, & Huddleston, 2003, p. 658) so an understanding of the current state of information-flow amongst rural southern BC providers will offer foundational knowledge on which to design interventions for improving information flow, collaboration, and, ultimately, service delivery.

In this study, a number of centrality measures were used to interpret the network data. Centrality measures show how integrated and centrally positioned nodes are. Diffusion of innovations – a widely used theory in both public health and SNA (Valente, 2010) – posits that the more integrated a node is, the more influential it is. The flow model (Borgatti & Halgin, 2011) adopts centrality measures to explore numbers of connections, centrality, and influence in a network. According to diffusion of innovations theory, a node’s degree of integration will affect the likelihood of it adopting a behaviour early (Valente, 2010). So, identifying well integrated nodes can help to determine where to focus interventions.

Some network measures are applied at an individual level, and some at a network level. Individual-level measures consider an individual node’s position, role and relationships within the network. Network-level measures provide information about the overall properties of a network, including but not limited to: size; density; reciprocity; average path length;
centralization; clustering; and core periphery. Though some of these terms are also found in ecological theory, here they are defined in accordance with their use in SNA. Below, is a summary of the measures selected for use in this study.

**Network-level measures**

**Network density.**

- This key attribute should always be included in a network analysis (Valente, 2010). It is calculated by dividing the total number of network links by the total number of possible links. The density of subgroups – such as each of the three communities in the study - can also be calculated.
  - *Dense* network: usually enables more effective diffusion but can also lead to superfluous communications and the members may become less inclined, or have less time, to look outside of their immediate network (Valente, Chou & Pentz, 2007). Increased network communication and connectedness does not necessarily lead to improved adoption of practices (Valente et al., 2007).
  - *Sparse* network: may be more open to outside sources of information and resources (Granovetter, 1973, as cited in Valente, 2010; Valente et al., 2007).

**Reciprocity.**

- Can be calculated at both network and individual-level and measures whether ties are symmetrical (if A links to B, and B ties back to A, it is symmetrical; if A links to B but does not receive a tie back, it is asymmetrical).
  - *High degree of reciprocity*: can indicate stronger ties, but this does not always enable greater flow, since it may be an indication of groups clustering together and choosing to hear only those in their immediate group.
Individual-level measures

Direction of ties.

- Provides an indication of individual influence.
  - One-directional ties: may indicate the person sending out the tie (out-degree) is selecting the other and thus has power, and that the receiver (in-degree) may be influenced by the sender (Hall & Valente, 2007; as cited in Valente, 2010).

Centrality: degree and closeness.

- Centrality measures indicate how influential a node is and can contribute to understanding network structure and patterns of influence and behavior. Nodes with high centrality can significantly influence diffusion but are also at risk of being overly burdened. Furthermore, their organization, or the network as a whole, can become vulnerable if they are unavailable.
  - Degree: the number of links to and from a node, indicating the extent to which they are connected.
    - In-degree: the number of ties a node received.
    - Out-degree: measures the number of links the node sends out and gives some indication of their sociality, or expansiveness.
  - Closeness: provides the average distance between the node and everyone else in the network. Nodes with high closeness can communicate ideas to others rapidly.
    - Out-closeness calculates the distance from a given node (X) to others
    - In-closeness shows the distance it takes others to reach the given node (X).
**Research Sample and Setting**

Secondary analysis was carried out on data collected at focus groups and community meetings that occurred in the original 2017 study. All of the organizations invited to participate in the environmental scan were invited to participate in the focus group, as were organizations identified in snowball sampling at the environmental scan phase. Following this, all of the focus group participants were invited to participate in a community meeting and any organization identified in a network map was – assuming contact details were publicly available – invited too. Data from netmaps were entered into matrices and provisional network maps created for each of the different linkage types (information exchange, referral, funding, joint services, and other reasons). At focus groups, the guided discussion following creation of the netmaps was recorded, transcribed and analysed for overall themes. The guided discussions at the community meetings were likewise recorded, transcribed and analysed. Discussion guides for the focus groups and community meetings can be found in Appendices 2 and 3. The data offered the rich qualitative descriptions necessary to understand the current state of information exchange, as well as the “complete network data” (Valente, 2010, p. 46) that are suited to SNA. Complete network data were obtained by asking as many members of the network as possible (in this case, the 18 service provider representatives who agreed to participate in the focus groups) with whom they share information about mental health services for people age 50 and over in rural southern BC. Such network data can be gathered with a specific census, in which participants are provided with a checklist of all network members against which they mark all of their personal linkages, or with a general census, in which participants recall, without prompting from a proffered list of network members, their linkages. Little difference in specificity between general and specific (with a roster) census has been found but specific census data does indicate even the weakest of ties,
whereas general census data may not (Valente, 2010). The unique approach taken to collecting the data in Oelke et al.’s 2017 study (i.e. collecting it in a focus group setting rather than in the more usual one-to-one interview setting) meant that participants identified from memory other network members with whom they had linkages (as in the general census approach) but also recalled linkages as a result of discussion with other focus group members (more similar to the specific census approach).

**Research Design**

The research was designed as follows.

**Ethics approval**

UBC Behavioural Research Ethics Board (BREB) and the local health authority’s research ethics board reviewed and approved Oelke et al.’s 2017 study. Signed consent forms were obtained from all study participants. All participants were made aware, via the consent forms, that the results of the original 2017 study would be published in this thesis and available on the internet, but that no personal or organizational identifying information would be included. All members of the original research team study, including this author, completed the Tri Council Policy Statement 2 Tutorial Course on Research Ethics. All research materials continue to be stored securely in a UBCO designated research area, where they will remain for 5 years after the results of the study have been published, upon which they will be securely deleted or shredded.

**Data collection**

This study is a secondary analysis of data collected in semi-structured focus groups, and loosely structured community meetings (Oelke et al., 2017). Only data pertaining to information exchange were selected for coding.
Data analysis: Social network analysis

In the original study, information from the netmaps – organization names and types of ties between them – was converted into matrices, entered into UCINet and then presented graphically using NetDraw. These matrices included all organizations named across all netmaps, regardless of tie type. In this secondary analysis, the data regarding information ties were reviewed and new matrices created as deemed necessary. For example, matrices for only the organizations with information ties, and for each of the three towns, were created. SNA software UCINet was then utilized to calculate specific measures, including: density and centralization; reciprocity; direction of ties; closeness; betweenness; and degree.

Data analysis: Qualitative content analysis

Using a structure from Schreier (2012, p. 6) and guidelines for thematic analysis (Braun & Clarke, 2006) as a guide, QCA proceeded as follows:

1. Familiarisation with the data (Braun & Clarke, 2006): the focus group and community meeting transcripts were reviewed, and notes made regarding information-related comments and observations that were repeated or emphasized by participants.

2. A basic coding frame was devised (Schreier, 2012) to encompass comments pertaining to information exchange. The four main categories of the frame were:

   i. current state of collaboration: barriers to clients accessing information

   ii. current state of collaboration: barriers to information sharing amongst service providers

   iii. ideas about improving information sharing

   iv. who or what currently facilitates information sharing for collaboration.
3. Generating initial codes (Braun & Clarke, 2006): systematic coding of the data with codes organized as subcategories under the basic frame categories. Memos were written to expand on key themes or to capture data not otherwise included in the coding frame, as advised by Schreier (2012) and advocated by Braun and Clarke who recommend writing as an “integral part of analysis, not something that takes place at the end” (2006, p. 86).

4. Searching for themes (Braun & Clarke, 2006): codes were loosely organized under the original frame headings and new headings added and reorganized until a revised coding frame was formed to reflect identified themes. The resulting frame can be found in Appendix 4.

5. Reviewing themes (Braun & Clarke, 2006): the frame was revised for uni-dimensionality, mutual exclusiveness, and saturation (see Schreier, 2012). Categories were renamed and elements of the data re-coded and reclassified accordingly so that a list of provisional themes was identified.

6. Defining and naming themes (Braun & Clarke, 2006): a highly experienced health researcher, who was the research lead for the original study, reviewed the list of themes and a final list was mutually agreed.

7. Producing the report (Braun & Clarke, 2006): “compelling extract examples” were identified to highlight key themes related to the research questions and literature (Braun & Clarke, 2006, p. 87).

8. QCA and SNA analyses were compared and triangulated to answer the research questions.
Rigour

In qualitative research, which deals with descriptive forms of text and other forms of descriptive data (e.g. photographs), rather than numbers and statistics, rigour must be found in “the research design and the appropriateness of the method to answer the questions” (Cypress, 2017, p.254). The following discussion of validity and reliability therefore focuses chiefly on the approach to data collection and the design of this study.

Validity

Validity, or ‘credibility’ as Bloomberg and Volpe alternatively describe it, refers to whether the researcher “has accurately represented what the participants think, feel, and do” (Bloomberg & Volpe, 2012, p. 112). In the original 2017 Oelke et al. study, the present author engaged in “repeated and substantial involvement in the field” (Bloomberg & Volpe, 2012, p. 113) over a 6-month period. She conducted all of the environmental scan telephone interviews, liaised with all of the participants in the arrangement of focus groups and community meetings, and co-facilitated all of those groups and meetings. Furthermore, she undertook administrative tasks and telephone interviews from within the offices of one of the participating organizations, interacting closely with members of that organization, to learn not only about the community and context, but also about the issues faced by community organizations and community members with mental health concerns. In this way, the present author engaged substantively in the field, observing first-hand the experiences of some of the participants.

Cypress argues that validity is achieved by “gaining knowledge and understanding of the nature of the phenomenon under study” (2017, p. 257). In this secondary analysis, this understanding and the final representation of the participants’ experiences, knowledge and concerns are arrived at via a process of triangulation. After adjusting the coding frame in
accordance with feedback from an experienced qualitative researcher, the coding results were triangulated with those of the SNA and with the feedback given to this researcher by participants during the focus groups, community meetings, and her time working in the field. The findings of the original 2017 Oelke et al. study were also considered. The researcher engaged in reflexive practice in an effort to reduce the impact of her own biases on her analysis and presentation of the results. This triangulation facilitates the accurate representation of what the participants “think, feel, and do” (Bloomberg & Volpe, 2012, p. 112).

Reliability

Reliable qualitative research is based on careful “application of research practices” (Cypress, 2017, p. 256), explicit explanation of the process of data collection and analysis (Bloomberg & Volpe, 2012) and awareness and discussion of the limits of the findings (Cypress, 2017). Rationale for the selection of the data for secondary analysis is provided earlier in this chapter under the heading of ‘Qualitative Content Analysis’ and the process for data analysis is outlined under the heading of ‘Research Design.’ All the components of the analysis were documented on qualitative data analysis computer software package, NVivo 11™, including the coding and memos. As outlined in the ‘Research Design,’ final coding and themes were agreed between this researcher and an experienced qualitative researcher.

Reliability in SNA cannot be measured by replication because networks are inherently transitory. SNA “tends to measure stronger ties more reliably than weaker ones,” and thus, networks with more reciprocal ties (which are usually an indication of more confirmed relationships) are considered more reliable (Valente, 2010, p. 77). Research shows that degree centrality tends to be consistent across interviews, which is to say that the number of ties
attributed to a given node may differ from one interview to the next whereas the overall ranking of who has higher and lower numbers of ties tends to be more consistent (Valente, 2010, p. 78).

**Transferability**

Although qualitative research does not seek to generate generalizable findings, it is hoped that results are sufficiently descriptive and rich as to present a “holistic and realistic picture” that enables the reader to consider the extent to which the context of the study matches another (Bloomberg & Volpe, 2012, p. 113). Rather than generalizability, there is an effort to create transferability. Some argue that, to be distinct from textual analysis, QCA should “always aim to make inferences that go beyond the actual content” (Schreier, 2012, p. 180) and certainly a desire to interpret data in terms of the wider societal context aligns with the critical paradigm. This study seeks to present rich description and insightful commentary on relationships and their possible implications so that the reader can transfer the information to their own context and learn from it. Transferability has limits and the data will not be of value to all readers, but it could have implications for a broad range of interests and contexts pertaining to healthcare collaboration, rural health, mental health and aging studies. By combining the visual and quantitative data generated in SNA with the more descriptive results of QCA and TA, supplemented by direct quotations from participants (found in later chapters) and the historical information in the introductory chapter, a more fulsome, holistic picture is created from which readers can draw information most pertinent to their own circumstances.

**Summary**

A mixed method approach of QCA, TA, and SNA explored the strengths and weaknesses of information exchange amongst the current network of mental health and wellness service providers in rural southern BC. In the next chapter, the results of qualitative content and thematic
analysis of the transcripts are summarized, and results of SNA are presented in an effort to identify influential members of the existing network who might be well positioned to instigate change.
Chapter 4: Results

This chapter presents results from the social network analysis followed by a comprehensive description of the qualitative content and thematic analyses, with references to relevant findings from the SNA embedded within it. The data undergoing secondary analysis are the 18 netmaps created at the focus groups and the seven transcripts that resulted from five focus groups and two community meetings. At some focus groups and community meetings there was more than one representative from a given organization; in total, the number of different organizations represented by participants in the transcripts is 20.

SNA: Network description and participants

Personal netmaps were created by 18 individual participants representing 13 different organizations. In their netmaps, participants documented their own organization’s ties with others as well as the ties they perceived other organizations to have between one another. Different colours were used for information, referrals, funding, joint services, and other reasons. A total of 147 organizations/organization representatives were recorded across the 18 maps. More than half of these organizations/organization representatives (93 organizations; 63%) were depicted in the maps as organizations who participate in information sharing. Organizations named in the network maps as having ties for at least one of information sharing, referrals, joint services, funding, or other reasons, are referred to as ‘organizations in the overall network,’ and the organizations identified as sharing information are referred to as ‘organizations in the information sharing network.’

Whole network measures for the overall network were compared to those of the information sharers’ network and found to be the same, except for average degree and density. Average degree and density in the overall network were expectedly less than in the information
sharing network since the latter included exclusively organizations perceived as having information sharing ties, whereas the former included organizations without. Another matrix for participants only was also analysed. This matrix included only the ties between the 37 different organizations/organization representatives who participated in at least one stage of the study (one or more of the environmental scan, focus groups, community meetings). The participants’ network was analysed and found to use a greater proportion of all possible ties (7.6% density) than were used in other networks (between 1.0-3.8 % density). Higher percentages of two reciprocity measures were also noted in this network compared to the others, suggesting a correlation between participation in the study and activity within the network. A comparison table that includes the participants’ network can be found in Appendix 5 (Table A4).

Each service in the overall network was allocated a code to indicate the following attributes: the town where they could be accessed, type of organization, and affiliation (see Appendix 6). The proportion of these codes in each of the maps were compared and were generally on par. The only notable difference was that 30.6% of organizations in the overall network map were wellness organizations for all ages (code 102) compared to only 24.7% of organizations in the information sharers’ map.

This results section and the discussion that follows is concerned primarily with the information sharers’ network map and data, supplemented by comments, where pertinent, on the individual networks for each of the three towns: Community 1, Community 2, and Community 3. Each town’s map includes only services that can be attended in that town. For example, if an organization is based in the small nearby urban-centre but has services delivered in Community 2, it will be included in Community 2’s map; an organization based in the urban centre that can only be accessed in that centre would not be. Services that are delivered in more than one of the
towns are included in each of the relevant towns’ maps. Services available at a provincial level – such as helplines – are also included in each of the towns’ maps.

**Network level measures**

Network level measures enable comparisons to be drawn between different maps, as can be seen in Table 1. The results are described in more detail under the headings that follow.

<table>
<thead>
<tr>
<th></th>
<th>Network 1 Information-sharers</th>
<th>Network 2 Community 1</th>
<th>Network 3 Community 2</th>
<th>Network 4 Community 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average degree</strong></td>
<td>3.538</td>
<td>0.290</td>
<td>1.122</td>
<td>1.077</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>0.038</td>
<td>0.010</td>
<td>0.015</td>
<td>0.021</td>
</tr>
<tr>
<td><strong>Average distance</strong></td>
<td>3.322</td>
<td>1.357</td>
<td>2.888</td>
<td>3.527</td>
</tr>
<tr>
<td><strong>Arc reciprocity</strong></td>
<td>0.869</td>
<td>0.667</td>
<td>0.892</td>
<td>0.893</td>
</tr>
<tr>
<td><strong>Dyad reciprocity</strong></td>
<td>0.769</td>
<td>0.500</td>
<td>0.804</td>
<td>0.806</td>
</tr>
</tbody>
</table>

The network of information sharers as a whole has considerably more ties and is noticeably denser than any of the individual towns. Reciprocity is high amongst organizations in the information sharers’ map and even higher within the towns of Community 2 and Community 3, which may be an indication of close relationships (Valente, 2010). However, reciprocity is noticeably less in the much smaller network in Community 1.

**Average degree.**

Average degree measures the mean number of ties per node and results show that, overall, very few information exchanges take place in the existing collaboration of mental health and wellness services in rural southern BC, though there is a lot variation from one provider to
another. The rural southern BC information sharers’ network, which includes services only available in the nearby urban centre, has a conspicuously higher mean average number of ties per node. Although this may in part be due to the greater range in the information sharers’ network (between 0-22 ties per node; see Table 2) the mode average of one is still better than in any of the three individual towns, where the mode average is zero.

Table 2

<table>
<thead>
<tr>
<th>Organizations with Two Or More Ties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Network 1</td>
</tr>
<tr>
<td>Info-sharers</td>
</tr>
<tr>
<td>Network 2</td>
</tr>
<tr>
<td>Community 1</td>
</tr>
<tr>
<td>Network 3</td>
</tr>
<tr>
<td>Community 2</td>
</tr>
<tr>
<td>Network 4</td>
</tr>
<tr>
<td>Community 3</td>
</tr>
<tr>
<td>No. of Orgs with 2-4 ties</td>
</tr>
<tr>
<td>No. of Orgs with 5-9 ties</td>
</tr>
<tr>
<td>No. of Orgs with 10-14 ties</td>
</tr>
<tr>
<td>No. of Orgs with 15-19 ties</td>
</tr>
<tr>
<td>No. of Orgs with 20-22 ties</td>
</tr>
<tr>
<td>Mean average degree</td>
</tr>
<tr>
<td>Mode average degree</td>
</tr>
<tr>
<td>No. of Orgs with 2-22 ties</td>
</tr>
<tr>
<td>As a % of total network Orgs</td>
</tr>
<tr>
<td>No. of Orgs in Network</td>
</tr>
</tbody>
</table>

Note: where number of out- and in-degree ties differ for an organization, the highest of the two figures is used to determine the place in the table.

Communities 2 and 3 have a greater range (0-11 and 0-9 respectively) than Community 1, which may in part explain why they also have a higher mean average of ties than Community 1. That said, in each of the three town’s networks, having no information ties is the norm. Information sharing is more common when organizations from the nearby urban centre are included in the network. Also of note is the much smaller size of the Community 1 network (31 nodes compared
to 74 in Community 2 and 52 in Community 3) which aligns with one focus group participant’s perception that, “you don’t get services in [Community 1]. You go to [the nearby urban centre]” (Participant, Focus Group 5).

**Network density.**

A dense network usually enables more effective diffusion of information but can also lead to inefficiencies and superfluous communications (Valente, Chou & Pentz, 2007). Low network densities are an indication that efforts may be needed to improve information sharing (Valente, 2010). Results show that just 3.8% of the possible ties in the information sharers’ network are being utilised. In the three towns individually, just 1-2% of available ties are used for information exchange. This lower rate in the individual towns compared to the information sharers’ network is to be expected because the maps include organizations named in the overall network as having any type of tie, not just information exchange (as are exclusively represented in the information-sharer’s network). Network density typically decreases as the size of the network increases (Valente, 2010) making Community 1’s density – the lowest of all the maps – more notable. Whilst “the optimal density for an organization to achieve certain outcomes might be difficult to determine” (Valente, 2010, pp.17-18) density of information exchange in rural southern BC is clearly sub-optimal and might be improvable.

**Average distance.**

Shorter average distances between all the nodes in the network are associated with more cohesive and efficient networks in which information has less distance to travel before it affects behaviours. Networks with low density are more vulnerable to a loss of cohesion if ties are removed (Valente, 2010) which, in terms of the current state of collaboration in rural southern BC, could mean that if the more active nodes are removed from the network, the ability for the
remaining nodes to collaborate could be dramatically diminished. This vulnerability can be seen in Figure 1 in which the limited information exchange in Community 1 is shown to be centred around just two organizations that are unconnected to one another.

The average number of steps between organizations in the information sharers’ map is 3.32. At 1.36, Community 1’s average distance is lower than this, and lower than in the other towns. A low average distance can be an indication of a more cohesive network or, alternatively, an indication that there are branches of the network that are “mostly inaccessible to others in the network” (Valente, 2010, p. 135). The graphic display of the Community 1 network suggests the latter (Figure 1). Netmaps for Communities 2 and 3 can be found in Appendices 7 and 8; whilst the quantitative data from SNA of Communities 2 and 3 are frequently referred to in the text and tables of this chapter, the pictorial information in the maps does not enhance the discussion.

*Figure 1*: Network of mental health and wellness organizations that deliver services in Community 1. Arrow heads denote whether information is flowing into a node, out of a node, or reciprocated between nodes.
In Figure 1, the larger of the groups, with Organization 6 at the centre (a not-for-profit organization based in the nearby urban centre, providing wellness services to older adults) consists of two provincial crisis lines, community services for persons of all ages with disabilities and a province-wide not-for-profit chronic illness support organization; very little is tailored to the residents of the town. Almost three times as many organizations providing services in Community 1 (listed at the left of the sociograms) are excluded from the information sharing network as are participating in it.

**Reciprocity.**

Arc reciprocity measures the proportion of outgoing ties that are reciprocated, and dyad reciprocity provides the proportion of dyads with reciprocated ties. High levels of reciprocity are common to the information sharers’, Community 2, and Community 3 networks (see Table 1). Community 1 has less reciprocity, another feature visible in Figure 1 where the direction of ties is indicated by the arrow heads, with reciprocal ties having double-ended arrow heads. Higher reciprocity can be an indication of stronger ties, but stronger ties do not always enable greater flow; instead, it could be an indication of groups clustering together, choosing to hear only those in their immediate group.

**Individual network measures**

Individual network measures can draw attention to particularly well connected, or isolated, organizations. Individual network measures consider the degree of centrality of nodes, that is to say, the extent to which organizations are positioned centrally within a network (Valente, 2010). The “most useful measure available to researchers” is employed here to identify opinion leaders and popular network members (Valente, 2010, p. 82).
**Out- and in-Degree centrality.**

High out-degree centrality is associated with a node’s influence in the network and high in-degree centrality is a sign of prominence or prestige (Valente, 2010). In-degree is “probably the most useful measure available to researchers” (Valente, 2010, p. 82) because it identifies opinion leaders.

Throughout the networks, out- and in-degree ties are the same, to within 1-tie, for almost all of the organizations, and this high degree of reciprocity is seen in the previous network level measures section. Although most organizations in the networks have very poor average centrality, for all but the Community 1 network, a sizeable proportion of the networks (19-44%) do have two or more ties. These organizations are the most central and a summary of the number of well-tied organizations in each network can be found in Table 2 (p. 46) which highlights that relatively few organizations in the individual towns are highly tied, compared to the number of well-tied, or central, organizations in the information sharers’ network. Members of the Community 1 network are highly unlikely to have two or more ties. This demonstrates the way in which organizations are tending to operate in isolation from one another, especially in the individual towns and more especially in Community 1.

Not-for-profit services, and one health authority service, with programs tailored for adults over the age of 50, are the most influential across all the networks. In the information sharers’ network, the highest out- and in-degree centrality scores are held by two organizations, Organizations 2 and 5: both are not-for-profit agencies providing mental health services for adults age 50 and over; both are based in the small urban centre nearby with one delivering services only in that centre, and the other providing outreach in Community 2 and Community 3. These organizations each hold almost 7% of the total information-sharer map ties. The outreach
service (Organization 2) is also the most central organization in Community 2’s network but, differently, has just 2-4 ties in Community 3. The most central organization for sharing information in Community 3, and the other most highly tied in Community 2, is a department of the health authority that provides services targeted at people aged 50+ with mental health concerns (Organization 14), which also features strongly (with 10-14 ties) in the information sharers’ network. The organization with the most ties in Community 1 is a not-for-profit organization based in the urban centre that delivers wellness services to seniors in Community 1 (Organization 6).

Although several participants perceived difficulties engaging the health authority and local GPs in the information network, the combined centrality of the health authority (when adding the ties of each separately named division together) and of GPs, is 60 out-degree and 59 in-degree ties; around 18% of all ties identified in the information sharers’ network. The health authority division with the highest degree of centrality was the Organization 14, holding 4% of all information ties in the network.

**Closeness.**

Out- and in-closeness measures (see Table 3) show the average distance between a node and all other individuals in the network. The higher the closeness score, the more easily a node can be reached by others in the network and/or the more easily that node can reach others. Overall there is not a lot of variability between individual closeness scores in any of the networks. Out- and in-degree scores correlate positively with closeness scores (Valente, 2010). In the individual town networks, average degree scores are low (between zero and one) so it is expected that most nodes have a low closeness score. Organizations with the highest closeness
Table 3

Out and In-Closeness measures in Networks 1, 2, 3, and 4

<table>
<thead>
<tr>
<th></th>
<th>Network 1 Info-sharers</th>
<th>Network 2 Community 1</th>
<th>Network 3 Community 2</th>
<th>Network 4 Community 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Out-closeness</td>
<td>0.255</td>
<td>0.336</td>
<td>0.163</td>
<td>0.134</td>
</tr>
<tr>
<td>Mean In-closeness</td>
<td>0.248</td>
<td>0.336</td>
<td>0.164</td>
<td>0.135</td>
</tr>
<tr>
<td>Mode Out-closeness</td>
<td>0.125</td>
<td>0.333</td>
<td>0.143</td>
<td>0.111</td>
</tr>
<tr>
<td>Mode In-closeness</td>
<td>0.125</td>
<td>0.333</td>
<td>0.143</td>
<td>0.111</td>
</tr>
<tr>
<td>Range Out-closeness</td>
<td>0.125-0.385</td>
<td>0.333-0.336</td>
<td>0.143-0.207</td>
<td>0.111-0.172</td>
</tr>
<tr>
<td>Range In-closeness</td>
<td>0.125-0.350</td>
<td>0.333-0.349</td>
<td>0.143-0.212</td>
<td>0.111-0.180</td>
</tr>
<tr>
<td>No. Orgs in Network</td>
<td>93</td>
<td>31</td>
<td>74</td>
<td>52</td>
</tr>
</tbody>
</table>

scores are more likely to be able to disseminate information efficiently (Valente, 2010) and are therefore well positioned to initiate change.

Overall there is not a lot of variability between individual closeness scores in any of the networks. Out- and in-degree scores correlate positively with closeness scores (Valente, 2010). In the individual town networks, average degree scores are low (between zero and one) so it is expected that most nodes have a low closeness score. Organizations with the highest closeness scores are more likely to be able to disseminate information efficiently (Valente, 2010) and are therefore well positioned to initiate change.

**Summary of SNA findings**

The information sharers’ network is much busier than the networks in each of the individual towns. That is to say, there are more ties in the network and more of the possible ties are being made. That said, with only 3.8% of possible ties being made in the information sharers’ network, it is operating far below optimum capacity. On the other hand, it is not uncommon for
organizations in the information sharers’ network to have two or more ties, indicating an existing network of ties that can potentially be built on. This is in stark contrast to the situation in Community 1, where very few organizations have any ties and almost none have more than two ties. Smaller networks are typically correlated with higher density (Valente, 2010) yet as the smallest network, Community 1 has the poorest density. These results are evidence that organizations in Community 1 are operating in isolation from one another, more so than in the other networks. Reciprocity in the information sharers’, Community 2’s and Community 3’s networks is high, but it is not possible to determine from SNA alone whether this is an indication of strong ties or of inward looking silos (Valente, 2010).

**Qualitative Content and Social Network Analysis Results**

At all stages of the study – environmental scan interviews, focus groups, and community meetings – participants spoke passionately and knowledgeably about their work and communities. Analysis of the transcripts of the focus groups and community meetings resulted in the identification of the following main themes:

- What is working now
- Issues specific to people age 50 and over in rural towns
- Difficulties engaging key partners
- Lack of central coordination of information

**What is working now**

There are some highly enthusiastic and well-connected members of the rural southern BC network, in particular Organizations 1, 2, 5, 6, 12, 14, 47, 54, and 147, as can be seen in the information sharers’ network map (Figure 2). Three of these are health authority services and the rest are not-for-profit organizations.
Figure 2: Information sharers’ network map (Network 1)

Key for Figure 2

<table>
<thead>
<tr>
<th>Symbol or Colour</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of node</td>
<td>Larger the node, larger the out-degree score</td>
</tr>
<tr>
<td>Grey</td>
<td>Out-closeness &lt; mean average of 0.255</td>
</tr>
<tr>
<td>Blue</td>
<td>Out-closeness &lt; 0.256-0.300</td>
</tr>
<tr>
<td>Pink</td>
<td>Out-closeness &lt; 0.300-0.350</td>
</tr>
<tr>
<td>Green</td>
<td>Out-closeness &lt; 0.350-0.385</td>
</tr>
<tr>
<td>Square</td>
<td>Town in which service can be accessed: at least one of Communities 1, 2 or 3</td>
</tr>
<tr>
<td>Diamond</td>
<td>Town in which service can be accessed: the small nearby urban centre only</td>
</tr>
<tr>
<td>Circle</td>
<td>Town in which service can be accessed: Other</td>
</tr>
</tbody>
</table>
Not-for-profit organizations – representing 43% of organizations in the network - contribute strongly to information exchange in rural southern BC. Almost 60% of all ties in the network are attributable to not-for-profits, and 62% of the top 21 closeness scores (scores over 0.300) are not-for-profit organizations. These statistics align with participants’ own impressions that not-for-profit organizations are at the centre of mental health and wellness services in rural southern BC.

Another strength of the network is the high degree of reciprocity, indicating that for those who have information sharing ties, the ties are strong (Valente, 2010). Nevertheless, a caveat: strong ties do not necessarily indicate effective flow of information. With one exception, all of the aforementioned best-connected organizations had a representative participate in some stage of the study, further supporting the impression that there is a core of very well connected, enthusiastic organizations that may be well suited to instigating or propagating new knowledge, ideas, or protocols.

The network for information exchange in the nearby urban centre was perceived as highly functional, with well attended monthly executive director meetings, and another meeting for community service providers to discuss overlaps and gaps in services. Services delivered exclusively in this urban centre made up 50.2% and 40.2% of all out and in-degree ties in the information sharing network, respectively. However, urban centre organizations were 35.3% of the total service providers, so these figures are disproportionately high and may reflect a lack of service availability in the three towns and/or prioritization of urban centre providers, or possibly service users, over those in the targeted towns.

Participants agreed that the opportunity to attend the research meetings themselves helped to facilitate information exchange, with participants sharing information about services, knowledge of the area, ideas about treatment, and contact details. In this way, information
exchange took place informally between participants at the research meetings, just as it does within the community: “there's a lot of informal connections that . . . facilitate . . . the various things for clients” (Participant, Focus Group 4). It was noted that clients contribute to this informal exchange of information too.

It's often the client . . . telling us about a resource or it's a presenting problem that we have to figure out that triggers the reach out. You know, often there could be things out there in the community but until we need to access it . . . we're not even aware of it, right. (Participant, Focus Group 4).

Finally, passion for the work was cited as an existing and important facilitator to collaboration and information exchange.

Without stating the obvious, just people's passion for what they're doing and in our rural communities . . . there's . . . you really have to kind of step and think outside the box in terms of trying to figure out ways to . . . have things be . . . functional at times, right. (Participant, Focus Group 4).

**Issues specific to people age 50 and over in rural towns**

Participants expressed concerns regarding the suitability of the information available to clients age 50 and over. They explained that the majority of information regarding services and eligibility is online and that this presents some clients with a range of barriers. Some clients are unable to afford a computer or the internet, or have low motivation for using computer-based resources, preferring paper-based materials or in-person exchanges: “With this age, our age group, is that we just don’t want to learn, right? We just like...I don’t care, I’ll keep writing everything out by hand. I don’t want to know anything about it” (Participant, Community Meeting 1). Some participants reported that clients have difficulty navigating websites either due
to low competence with computers, or poorly organized websites (one participant described the information on the health authority website as “gobbledygook”). Participants suggested that large-print, paper-based materials be available in simple language, perhaps accompanied by images to assist with comprehension and memory for those with lower literacy levels, language barriers, or cognitive impairment. Alongside this, there was a suggestion that support be made available for those community members who want to access computer-based resources. One provider explained that IT learning-sessions at the college were “full every time” but then “what happens is, a lot of the seniors, they go and then they forget” (Participant, Community Meeting 1).

Adults age 50 and over with mental health concerns may be finding over-the-phone or face-to-face information exchange difficult too. They may have difficulties hearing, remembering or understanding what they are told, or may not have the confidence, practical tools, or emotional or practical support to follow-up on the informal referral to another service or information source that they have been given. Furthermore, participants reported that clients who seek information by phone are often redirected to the internet. For many clients, taking the first step to contact a service provider about a mental health concern is a hard-earned outcome of overcoming fear, anxiety or embarrassment. If they are redirected to an online resource, told to phone another organization, or unable to understand, process or remember what they are told, they may not make another attempt to find a service. As discussed later in this chapter, there is no central ‘hub’ for information about mental health and wellness services for people over the age of 50, which means that there is no central tracking of client inquiries; the number of clients who make first contact and then fail to have any further interactions with services is unknown.
Whether due to financial, transport, social or emotional impairments, clients were described frequently as “disconnected” and “isolated.” There seemed to be a consensus that simply giving a client the number of an organization that might be able to help them is not enough; instead they need someone to guide them – whether in practical or emotional terms - to the services they might benefit from. After participating in this research, one wellness organization representative said she had begun working towards providing a “seniors’ consultant” to “interview individuals and help match them up to programs and services that would provide them with the benefits of recreation and social inclusion” (Participant, by email).

Although in an ideal world, outreach workers would be available to encourage and transport clients to sources of information and/or services, participants explained that in small communities that carries a risk; the outreach worker would become known to community members and there could be a stigma to being seen with them. Some participants expressed a wish for the “old days,” when, they supposed, professional intervention would not be necessary:

\[
\ldots \text{communities were very tight and small and insular} \ldots \text{I imagine that people were more responsible for each other to some extent. There was maybe a tighter level of} \ldots \text{a sense of responsibility for your neighbour} \] (Participant, Community Meeting 2).

Conversely, others asserted that the more tight-knit communities seen in the past, and to some extent in present rural populations, contribute to the problem as they lead to greater stigma and inhibition.

Client concerns about stigma and privacy are frequently cited in the literature and this was echoed by participants. In fact, they noted that stigma impacts the flow of discussion and information not just amongst community members but also amongst service providers:
“the different agencies don’t really talk about mental health. And particularly in older people” (Participant, Focus Group 1). One participant observed that the majority of the service provider representatives in her network were age 50 or over and that this may contribute to their reluctance to discuss mental health.

In some ways I think it would be a new thing for them to discuss their mental health . . . And so that is one thing about the system that I think is maybe . . . you know as far as collaborating on mental health, well if you’re from a generation where you didn’t talk about that stuff, you know, that’s a huge thing to overcome (Participant, Focus Group 1).

Participants made very similar comments about the attitudes of clients age 50 and over towards mental health, stigma, and shame and considered it a barrier to them seeking information: “they are thinking, I don't belong in that category, mine's not a problem . . . some of the age groups come from a time when you didn't air your dirty laundry” (Participant, Focus Group 5). Even when individuals do reach out, their self-stigma can result in a reluctance to describe their situation or symptoms fully, which in turn leads to them failing to meet eligibility criteria. It’s not only mental health that is stigmatized: difficulties with communicating in English, illiteracy, hearing or sight loss, or cognitive impairment can all create a sense of shame in clients: “they didn’t understand a word we were saying to them . . . And they're too embarrassed to say so” (Participant, Focus Group 4).

Overall, participants were concerned not only about the quality and suitability of available information sources, but about the level of independence, self-awareness and motivation required of clients to access them. Furthermore, the stigma of mental health seems to affect the flow of information amongst service providers as well as between them and community members. Clients from smaller communities especially may have concerns about
obtaining information discreetly and people age 50 and over may be particularly vulnerable to the stigma surrounding mental health, as well as carrying some embarrassment about what they may perceive as personal inadequacies (in relation to finances, language, hearing, sight, physical ability, cognitive functioning).

**Difficulties engaging key partners**

Stigma may contribute to difficulties engaging key partners in the information sharing network, in particular wellness providers such as seniors’ centres, libraries, friendship or community action groups, and faith groups. Participants agreed that a significant number of clients are not in need of specialist mental health services, but rather age-appropriate wellness services to help them maintain their sense of connectedness. However, many such wellness services do not see themselves as being contributors to the mental health and wellbeing of community members. For example, no seniors’ centres agreed to participate in the study. Other wellness organizations enthusiastically acknowledged their role in the mental health and wellbeing of people age 50 and over, but either did not feel well connected to other service providers, did not know how to share their organizational information with other providers, or did not know how, or whether, to portray their services to community members as being part of the mental health continuum. One representative from a community wellness organization acknowledged the importance of opportunities to socialise and exercise for maintaining mental wellness but explained that it was not in her organization’s mandate to facilitate client access to their services: “we are at the wellness end and it’s up to them to find us” (Participant, Focus Group 3). Even so, both Community 2 and Community 3 have wellness organizations that are better than averagely well connected, with six or seven out- and in-degree ties each. In particular, a coalition focused on health and wellbeing was seen as being a significant factor in the success
of collaborative information exchange in one town: “we do have really good community meetings here” (Participant, Focus Group 2). For some participants, the degree to which wellness organizations contribute to the network was a surprise, “I was surprised that the community centres . . . were the main hub of where this information seems to flow from . . . [and that they] see themselves as needing to be recognized or part of the community conversation” (Participant, Community Meeting 2).

The ambiguity around whose ‘job’ it is to share information with clients and service providers about mental health, or indeed what constitutes a mental health or wellness service, may help to explain why wellness services participated in the study proportionately less than mental health organizations; 52% of invited mental wellness organizations participated, whereas 75% of invited mental health organizations participated. Although a higher proportion of organizations on the information-sharer’s map provided mental wellness services (34%) than mental health (18%), they provided proportionately fewer ties (22% of total out-degrees) than mental health organizations (46% of total out-degrees). These statistics support the point participants made about the need to raise awareness about what mental health and wellness is, and what kinds of services are involved in supporting it.

Not-for-profit representatives suspected that the difficulties they find exchanging information with health practitioners may also be a result of prejudice:

Maybe [there is a] perception that [not-for-profit employees are not] well-educated or whatever . . . but this industry has more highly-educated people in it than for-profit businesses . . . And I think it . . . might also come from the fact that there's . . . 75% of the people that work in this industry are female . . . And that that is . . . associated with [being seen as] . . . not really that credible . . . or important (Participant, Focus Group 5).
However, participants did not mainly attribute the difficulty to adverse judgments. Instead, lack of resources, time, and competing priorities were thought to be the main barriers to engaging key partners. There were many comments regarding the need for improved collaboration with health care providers, in particular with GPs. One participant commented that health authority staff had previously been “forbidden to attend any outside committees” (Participant, Focus Group 4) thus curtailing the flow of information between them and other service providers, but that this ban had since been lifted and information exchange was improving. However, there remained a sense that the health authority is less engaged than participants would like and that the relationship between not-for-profits and the health authority is not balanced or reciprocal.

The most frequently expressed concern regarding difficulties with information flow to and from a key provider was in relation to GPs: “I think that the biggest lack we have is that relationship with the physicians” (Participant, Focus Group 3). In the information sharers’ network, GPs were responsible for just 3% of the total out- and in-degrees. Participants were very conscious that GPs tend to be the most significant and trusted service provider for clients age 50 and over:

There's a ton of information out there but the people who need to be giving that information out are the physicians . . . and they're busy . . . And so, if they were more aware of this stuff, which we're trying . . . if they were more aware, then they could be that . . . connection for . . . the patient but it's not happening (Participant, Focus Group 5).

Although the time constraints of GPs were recognized, participants also described the lack of connection as “resistance from the medical community” (Participant, Community Meeting 1) and as evidence that “they don’t get it” (Participant, Focus Group 3). Participants were aware of the increased instances of chronic illness in people aged 50 and over, as compared with younger
populations, and felt that interactions with GPs and other available health authority services tended to prioritise physical needs over mental needs and rarely addressed both together.

Some participants identified collaboratives that had successfully engaged GPs and speculated that when a directive comes from a high-profile national organization, physicians are more likely to engage. Indeed, one such nation-wide organization was amongst the top 12 best connected organizations in terms of out-degree and in-degree. Additionally, several participants indicated that collaboratives involving physicians usually offered “huge incentives” (Participant, Community Meeting 2) such as dinners and other events. As one participant put it, “there needs to be some kind of carrot” (Participant, Community Meeting 2). Indeed, participants stated that as network members they would also be more likely to participate in a collaboration if incentives were offered, suggesting the provision of lunch or the possibility of earning continuing professional development credits for their attendance.

Lack of time, resources, and incentives were also thought to impact on information sharing with Indigenous organizations. A representative from a First Nations service provider explained,

Because of turnover...we wear a lot of hats and we're expected to do the work that's commensurate with mainstream services, on top of doing restoration and reconciliation . . . we're . . . stretched thin, so it's really difficult for us to participate [in research] . . .

So, that's why we don't get stats because we're not part of the studies because we can't physically be a part of it. And so, then we're lost in the stats and then . . . in a harsh way, the ongoing genocide in Canada just gets to continue and soon . . . you know, they'll be dead or assimilated and then we have . . . no voice (Participant, Community Meeting 2).
Additionally, the language used in relation to mental health, the perception of it, and the issues for people age 50 and over, may be different in Indigenous communities.

“Well, I think that there is something to the language because in . . . [our] Territory, to talk about mental health or mental wellness in those kinds of . . . like, someone who's living with schizophrenia, for a First Nations person, that could be a very spiritual kind of experience” (Participant, Community Meeting 2).

And,

“I know for our older population . . . Elders, as you age you get busier in the community. So, unless there’s . . . an issue with intergenerational trauma and residential school experience in terms of how you could get isolated from that experience, it's a little bit of a different picture for our older population” (Participant, Community Meeting 2).

**Lack of central coordination of information**

Participants felt strongly that a lack of central coordination of information relating to mental health and wellness services in rural southern BC was a barrier to information flow and collaborative success. Currently, “there isn’t one organization that is saying let’s talk about mental health, in our community. That’s not what is happening” (Participant, Focus Group 1). Participants believed that “someone has to facilitate” (Participant, Community Meeting 1) this and that funding would be needed to compensate this person or organization. For participants, the appeal of central coordination included: reliable up-to-date information about available services and organizational representatives; time efficiency; elevated status of collaboration; and the ability to exchange confidential information.

Lack of funding contributes to fluxes in programming and difficulties retaining staff, many of whom have only temporary contracts and/or are poorly paid: “the person at
[organization name] and five times in the last year” (Participant, Focus Group 5). This leads to difficulties maintaining accurate information about programs and organizational contacts. As one participant said, “who has time to do that? There isn’t anyone that is kind of tagged as a person that updates that information or to disseminate that information out to our partners” (Participant, Focus Group 4). Furthermore, there is no overview of the number, type and availability of different services: “who is overseeing to make sure that the groups and services are kind of spaced out in a way so that there’s coverage for the entire year, and not better services at some time of year than other times of the year?” (Participant, Community Meeting 1). Organizational representatives had experiential knowledge of what is needed for improved mental health and wellness services for adults age 50 and over, including better transition from secondary to primary care; more information exchange and referral between not-for-profit organizations and GPs; and mental health expertise amongst long-term residential care home staff. However, there was no indication that information about needs was being systematically collected or that a regional approach was being taken. In fact, conversations between participants usually revolved around current difficulties for clients in accessing information or services, and current barriers to sharing information between organizations, but very rarely touched on the strategic question of how to determine accurately what type of services are most needed.

Participants observed that one of the consequences of insufficient funding was the need for service provider employees to fulfil several different roles simultaneously: “one person will wear five hats . . . you know, so that complicates the issues” (Participant, Focus Group 5). It can also result in certain individuals becoming the ‘go-to’ person, and potentially to a disproportionate burden being placed on them to share knowledge and information. The network
maps offer evidence of three particular ‘go-to’ people, in that Organizations 2, 14 and 147 are all central and well connected. Here, the organization numbers really represent a particular individual – one from a not-for-profit, and two from the health authority. These individuals had been in their roles for substantial periods of time and were often referred to on maps or in focus group discussions by their name, rather than their organization’s name. Between them, the two health authority employees were responsible for 35% of all health authority out-degrees and 32% of the in-degree ties. All three of these centrally connected individuals were recognised as being fundamental to the delivery of services to clients in rural southern BC. In particular, the not-for-profit representative - arguably the most influential member of the information sharers’ map – was praised: “I was trying to think of anyone else like her but right, we really need a lot more of . . . like, that kind of advocacy” (Participant, Focus Group 2). The reliance of a network on just one individual is risky because their absence could lead to a reduction or cessation of collaboration. One participant commented that collaborative success relies on organization-wide ties, not just individual ties. It may be possible for this highly influential network member to delegate some of her collaborative responsibilities to a network coordinator, if one were available.

Participants recognized that active network membership takes time and the representative from Organization 2 commented that the mandate of her role and the autonomy that she has allows her to build and maintain relationships with both service providers and clients. Other participants acknowledged that relationship building often falls to the side: “we're so busy doing the job of what we're assigned to do that one of the things that falls off our desk quite frequently is that relationship building” (Participant, Focus Group 4). Another added, “we either (a) don’t have the connections or (b) can’t make the connections for whatever reasons, being financial,
time, staffing . . . whatever . . . or we don’t know what those connections may be” (Participant, Focus Group 3). Central coordination might facilitate the formation of these connections in a more time-efficient fashion. Furthermore, if properly coordinated, a collaboration can also use meeting times efficiently, minimising the risk, cited by one participant, of attending meetings that are just “spinning . . . wheels in the dust . . . not really moving forward” (Participant, Community Meeting 2).

Central coordination of the network of service providers could clarify the purpose and goals of collaboration and thus, elevate its status. Most of the participants who attended the focus groups and community meetings were accountable to managers or executive directors and several stated that their managers might not always see the value in them spending time building relationships. Understandably, in a cash-strapped service, participants reported having to justify networking time to their managers. For some, the value of a meeting might be measured only by the tangible actions resulting from it, whereas the value might instead lie in the unquantifiable area of enhanced relationships and improved network cohesion. As a result of monthly executives’ meetings, information flow amongst executive directors of the urban centre-based organizations was perceived as good, providing evidence that some managers recognize the value of taking time to network and exchange information. However, it was noted by both executives and non-executives that information from this meeting might not always be passed on to the non-executive staff and that staff ‘on the ground’ are not always afforded the same opportunities to build relationships.

It was evident that the existing mental health and wellness service providers in rural southern BC lack an infrastructure through which to share information confidentially and that some have misconceptions about the parameters of confidentiality. Thus, providers felt unable to
discuss legitimate client needs with other organizations. This has resulted in a system of informal referrals in which clients are handed an organization’s name and number on a piece of paper and left to follow-up by themselves. When a client first makes an enquiry related to their needs, some providers feel unable to make calls and introductions on their behalf, and clients are left to navigate their own way through the complex system.

X2: So basically, you’re putting it then back to the client or the person...

X: And you’re a senior with a little bit of dementia, so you’re not going to remember everything that they told you and get it mixed up and . . . yak, it’s just a circle, isn’t it?

X4: ...And it’s not only those seniors…navigating this very complex stuff is extremely challenging for anyone. (Participants, Community Meeting 1).

Participants recognized that clients often need the support and encouragement of caregivers, family or friends to seek information about how or where to address their mental health needs but believed that confidentiality policies prevented them from reaching out to members of clients’ support networks: “we can’t talk to them because it’s confidentiality” (Participant, Community Meeting 2). Furthermore, when providers refer a client to another organization, they are unable to follow-up to find out whether or not the client accessed the service. Not only does the organization not know, for future reference, whether their referral was accurate in terms of matching the need to the service, there is no region-wide tracking of the number of enquiries made versus the number of services accessed, so service demand and uptake is not measured or understood. This could lead to redundancy in some areas of service and underservicing in others. It also has implications for funding, with organizations operating in isolation to apply for funding, without having a more general sense of what is needed or already available. These are issues that might be addressed through more cohesive coordination. It is
important to add that strong opinions were also expressed about confidentiality being used as a smokescreen.

As service providers, we hide behind privacy and confidentiality and consents and all of these things . . . we don't actually even need a signed release. You know . . . I mean, the Mental Health Act is very clear . . . that we can talk to collateral. (Participant, Community Meeting 2).

Central coordination of the collaboration might lead to implementation of a confidential sharing protocol and/or training for service providers about existing confidentiality policies and their real-world implications.

**Summary**

Key factors affecting the ability for organizations to share information between one another and with service-users have been identified and recommendations for addressing these can be found in the following chapter. SNA provides quantitative data that supports or challenges the QCA of the transcripts. For example, there are numerable comments from participants in the transcripts about lack of health authority engagement in the current network of service providers, but SNA showed active engagement, with 18% of all ties in the information sharers’ network attributable to the health authority. Whilst more health authority engagement might still be desirable, SNA has shown that a base already exists and, furthermore, has pinpointed which individuals in the health authority are best connected in the network. Additionally, SNA can provide numerical and graphical information that supports comments from the qualitative data. For example, participants believed GPs should be, but were not, central to the network and sociograms and network data clearly depicted their minimal engagement,
compared with other, better connected, not-for-profit organizations and specialised mental health services.
Chapter 5: Discussion

In this chapter, the research questions will be answered, key findings and limitations explained, and recommendations for further action made. First, the current unsatisfactory state of information exchange between mental health and wellness service providers for people age 50 and over with a mental health concern in this rural area in southern BC (made up of three rural communities and one small urban centre) will be described.

SNA has shown that collaboration between organizations in the information exchange network is far below optimum and that collaboration between service providers operating within each of the three communities is even weaker. In particular, Community 1 has very few dedicated service providers, even fewer of which exchange information. This shortage of services is consistent with the findings in the literature review regarding a long-term lack of mental health services in rural areas (Goodwin et al., 2016; Maddess, 2006; Zayad et al., 2016).

The information sharing network is stronger than the sum of its parts (the three individual communities), most likely because of stronger collaboration amongst small urban centre-based service providers. Whilst accounting for 23% of the organizations in the information sharers’ network, small urban centre-based organizations create 50.2% of out-degrees and 40.2% of in-degrees, demonstrating that they are more active and influential in the network than organizations based in the three communities of interest. Organizations 1, 6, 12, 47, 54, 147 and, especially, 2, 5 and 14, are the best connected in the information sharers’ network. Of these, Organizations 2, 5, 6, 12 and 47 are all based in the small urban centre. These five urban-based organizations alone are responsible for around 25% of all information sharers’ network ties. Without these organizations, the information sharing network would be considerably less active. Further analysis would need to be undertaken to understand whether these organizations are
essential or detrimental to the area’s information sharers’ network. On the one hand, the urban organizations may be liaising with and between organizations in Communities 1, 2 and 3, effectively binding the network together, on the other, the urban centred-based organizations might be communicating preferentially amongst themselves, excluding the organizations in the rural communities from the centre of the network. Their contribution may not be dichotomous, but the possibility is worthy of exploration.

As discussed in the literature review, recruiting and retaining well-qualified staff tends to be more difficult in rural communities than in urban centres, and continuity of services tends to be less reliable (Goodwin et al., 2016; Maddess, 2006; Oelke et al., 2016; Zayed et al., 2016). Organizations based in the small urban centre may on the whole have more experienced staff with more time available for, and expertise in, collaboration. These staff perhaps stay in their roles longer than some of the staff members of organizations based in the three towns, allowing for the development of collaborative relationships over time. The specific context, needs, and resources of a rural area must be intricately understood before implementing a collaborative healthcare system (MacCourt et al., 2011; Weinhold & Gurtner, 2014). Thus, an increase in the active participation in the information sharers’ network by organizations in Communities 1, 2 and 3 is arguably essential to the success of any future collaborative efforts, since those organizations likely hold the contextual knowledge needed to ensure its success. This need was voiced by representatives of organizations in these towns, who perceived their local networks to be poorly connected both locally and to relevant organizations outside of the town.

Enthusiasm for improved collaboration was tangible amongst participants of the focus groups and community meetings. Indeed, the participants’ network was denser and had the least average distance and highest level of reciprocity of all the maps (see Table A4). Information was
exchanged, and relationships built over the course of the research meetings, indicating a readiness and willingness amongst this core hub of service providers to begin the work of improving collaboration in this rural area in southern BC. Of note, was how well connected two wellness organizations in Community 2 and 3 were, indicating that some mental wellness providers already have an awareness of the contribution their services make to the mental health of individuals over the age of 50. The literature supports the importance of social activities in improving mental health outcomes for people age 50 and over; one study showed that when individuals aged 40-60 increase their physical activity from low to moderate, mental health functioning improves (Holstila, Mantry, Rahkonen, Lahelma, & Lahti, 2017). Another study, a systematic review of the impact of leisure activities on the mental health of people aged 65 and over, also cautiously concluded a correlation between leisure activities and protection against depression, and lack of leisure activity and increased risk of depression (Hitch, Wright, & Pepin, 2015). As outlined in the results though, the majority of the wellness organizations invited to participate in the study and identified by other participants as being part of the whole network of the rural area’s providers, chose not to participate. The ambiguity surrounding whose ‘job’ it is to be involved in the provision of services and the communication of information about mental health and wellness is discussed later in this chapter. This is important because social factors, along with psychological and biological factors, are “generally agreed” to be an essential part of understanding and responding to a person’s mental health (Stallman & Wilson, 2018, para. 2). A biopsychosocial approach implements “psychological and social symptom and risk reduction strategies within a context of strategies to address the biological drivers of mental health problems” considered “likely to improve the efficacy of mental health intervention” (Stallman & Wilson, 2018, para. 5). Sharing information about these three domains of a client’s life is
necessary when taking a biopsychosocial approach yet presents challenges to confidentiality boundaries (Goldsmith & Robinson Kurpius, 2015), as discussed later in this chapter.

This secondary analysis has established the poor state of information exchange between mental health and wellness providers in the rural area in southern BC. The argument will now be made that efficient and accurate information exchange is necessary for effective and improved interprofessional collaboration. Without the flow of information through a network, collaborative decision-making and effective targeted action will not occur (Goodwin et al., 2016; Kates, 2011; King et al., 2016). Interprofessional teams are increasingly recognized as the preferred approach to meeting the needs of populations with complex health needs (Addiction & Mental Health Collaborative Project Steering Committee, 2014; Bartels et al., 2004; Bland, 2014; El-Gabalawy et al., 2016; Gonçalves et al., 2014; Goodwin et al., 2016; Weinhold & Gurtner, 2014). Across all age groups with mental health issues, the interprofessional approach requires communication between service providers and users to be “highly effective” and, ideally, “supplemented with decision-support tools that enable shared decision making” (Goodwin, 2017, p. 202). When working with clients age 50+, interprofessional teams need information and assessment tools that consider clients’ point of life and capabilities. Unfortunately, participants in this study felt: they could not rely on the accuracy of available information about services; confidentiality impeded their ability to communicate with network members about individual client needs; they could not guarantee sensitivity or knowledge about the needs of the 50+ population from all service providers; they encountered barriers sharing information about their organization with key stakeholders such as GPs, long-term care facilities, seniors’ centres, and, for some, the health authority. One concerning outcome of this lack of cross-organizational knowledge is the possible under-referral of clients to appropriate services, or duplication of existing services.
Representatives from not-for-profit organizations reported their marginalized status within the mental health sector. They considered that as female not-for-profit employees, often age 50 or over, they were not always seen as credible, in particular by medical professionals. It is a concerning possibility that some services are under-utilized because their employees’ social status or credentials are not valued by network members with more privileged social or professional statuses.

Further, and perhaps because there was no central coordinator of information or mechanism for confidential sharing, no data regarding client demand and uptake across the three towns was being gathered. Understanding what resources are required is “paramount for effective delivery” (Rosson & Hassoun, 2017, p. 1) and necessary for decision-making and planning regarding the types of services needed and the most effective use of funding. Just as this research has found, a study of collaboration for school mental health identified limited coordination mechanisms as a barrier to success (Weist et al., 2012). Changes in leadership, inconsistent availability of resources and programming, and lack of clarity around roles and responsibilities were all symptoms of poor coordination and collaboration (Weist et al., 2012). This comparison with the 2012 school mental health study illustrates that poor coordination of information has been found to impact collaboration in other instances. In the case of these rural communities, providers of mental health and wellness services lack knowledge about each other’s programming and the lack of confidence in the accuracy of information regarding organizational contacts probably contributes to the disjointed, patchy service provisions. When organizations are unaware of each other’s mandates, strategies, plans, and programs, they are unlikely to join together to develop joint services or joint funding applications. Results from the original study indicated that organizations tended to work in silos to apply for funding and were
often competing against one another, rather than working together to best meet the overall mental health and wellness needs of the area’s 50+ population (Oelke et al., 2017). It can therefore be concluded with considerable confidence that the lack of information exchange amongst the area’s mental health and wellness service providers contributes enormously to the poor state of collaboration and fragmented delivery of mental health and wellness services.

Key Findings

This section will consider more broadly what this study tells us about collaboration amongst mental health and wellness providers for people age 50 and over in rural communities.

A proactive and holistic approach to mental health and wellness is needed

Mental health will soon be the leading cause of disability in Canada and, as the population of older adults grows ever bigger, the mental health of adults age 50 and over is a high priority. A proactive approach, involving the promotion of mental health and wellness and healthy aging, is an important part of addressing the mental health needs of this population (Roberts & Grimes, 2011; WHO, 2017). Participants felt passionately that a more proactive approach would be of benefit to adults age 50 and over with mental health concerns, commenting that clients were often ineligible for services during the earlier stages of mental illness and had to become severely mentally ill before they could access services - a situation borne out in the literature (Wilson, 2013).

Participants also felt strongly that a more holistic, whole-person approach to client-care and service provision was needed. As explained in Chapter 4, participants expressed concerns about social isolation amongst people age 50 and over with mental health concerns, and about the need for an integration of physical and mental health treatments along with consideration of an individual’s support network, place in community, and sense of purpose. For convenience,
this approach is referred to here as a holistic approach, but it aligns with the description of some Indigenous populations’ view of mental health given in Chapter 1. Many physical illnesses have been shown to have psychological and social components (McInerney, 2018) and chronic illness and mental health disorders have been found to have a reciprocal interrelationship in which the pre-existence of one can contribute to the development of the other in older adults (Chen, Lee, Su, Mullan, & Chiu, 2017). Therefore, the need for ongoing assessment and treatment of both physical and mental health in order to facilitate better quality of life for older adults is recognised in the literature as well as by this study’s participants (Chen, Lee, Su, Mullan, & Chiu, 2017). Physical activity in older adults has “generally been shown to be protective against the development of chronic disease” and “may also protect mental health by reducing anxiety and depression” (Linardakis, Papadaki, Smpokos, Micheli, Vozikaki, & Philalithis, 2015, p. 7). This fact lends weight to Oelke et al.’s inclusion of wellness organizations that provide sport and exercise services in the study of mental health and wellness organizations in this rural area of southern BC (2017). There are persuasive but ultimately inconclusive findings about the impact of social participation on mental health symptoms in older adults. Social participation has been shown to reduce depressive symptoms amongst older adults (Chiao, Weng, & Botticello, 2011); a trusting relationship with neighbours has been associated with lower chances of developing major depression, but the effect was not significant (Fujiwara & Kawachi, 2008). Frequent church attendance has been associated with lower prevalence of depression in women but higher amongst men (Norton et al., 2006) and engagement in paid or volunteer work was related to fewer depressive symptoms amongst men, but not women (Sugihara, Sugisawa, Shibata, Harada, 2008). Again, this information validates the decision to include a wide range of wellness organizations, such as churches, friendship groups, volunteer organizations and community
service organizations in the study (Oelke et al., 2017) and supports this chapter’s claim that wellness organizations should be included in a collaboration of mental health and wellness services for people age 50 and over in these rural communities.

The MHCC’s Guidelines for Comprehensive Mental Health Services for Older Adults in Canada recommend mental health promotion be “embedded in all policies, programs, and services for all older adults (including those with mental illness) and their caregivers, and encompass anti stigma strategies, public awareness, education, and training” (MacCourt et al., 2011, p. 22). This necessarily involves the engagement of non-traditional mental health and wellness service providers, such as those coded ‘wellness services for all ages’ in this study. As previously mentioned, many such wellness providers do not see mental health promotion or discussion as part of their mandate. Those that did recognise their organization’s role in mental health and wellness commented that people typically need to be well to find out about, and have the independence or confidence to attend, their programs. Such organizations tended not to promote the positive mental health benefits of their programs explicitly nor have community members referred to them: instead, they saw their programs as contributing to the maintenance of mental wellness amongst those who are already mentally well. This situation would almost certainly need to be challenged if a cohesive collaboration of mental health and wellness services were to be formed in the area studied. As one recent study of social participation and physical and mental health amongst older Irish adults concluded, “holistic approaches to disease management and mental health interventions in older age should include programmes to facilitate and maintain social and leisure time activities” (Leahy, McGarrigle, Carey, & Kenny, 2017).
Promotional and informational materials about what mental health and mental wellness is, and where help can be sought, must be user-friendly. It is critical that the needs, abilities and preferences of the target population – adults age 50 and over with mental health concerns, in small, rural communities – are considered when devising these materials. Some adults in this group prefer paper-based information, others prefer face-to-face contact, and others may find over-the-phone or online information more suitable. Whichever is preferred, the information needs to be presented in plain language and, if written, in clear print preferably accompanied by illustrations. When developing materials, the following possibilities must be considered: cognitive or visual impairment, low levels of literacy, reading in a second language, or simply a wish to obtain information quickly to avoid the embarrassment of being seen seeking help. In addition, the service user may, as a result of low confidence, or low cognitive functioning, need guidance to identify appropriate information, understand it, and follow the next steps. Some service users, especially those for whom mental health is highly stigmatized, may have difficulty identifying their own symptoms or needs, and any provider of information needs to behave with sensitivity and discretion. Due to physical (disabilities, lack of transportation), emotional (anxiety, fear, shame), or financial constraints (unable to afford internet, transport, or fee-for-service programs), adults age 50 and over in rural communities may need information to be brought to them, with a member of their family, social group, or care team taking the initiative to introduce the topic of mental health and follow-up with relevant information. Older people have “complex biopsychosocial needs” that embed them “within a web of health and social networks, of which family is an important part” (Jones & Peisah, 2015, p. 489). Family members often play a key role in helping clients to make decisions about their treatment, so informational materials and campaigns need to target family and friends of older adults with mental health concerns, not
just the older adults themselves. Some older adults, especially those with more severe mental health symptoms, are more difficult to reach and tend to refuse most community health services or interventions. For these individuals, support may come via a non-traditional provider, but always as a result of a trusting relationship (Yang, Garis, & McClure, 2005). One study showed that training individuals who work with at-risk adults, such as law enforcement, postal carriers, apartment managers, and more traditional providers such as case managers and GPs, to sensitively introduce help to vulnerable older adults resulted in increased referrals, acceptance of previously refused services and decreased isolation, to name a few outcomes (Yang, Garis, & McClure, 2005). Florio and Rauschko’s 1998 Gatekeeper Case Finding Model took a similar approach, teaching non-traditional community referral sources such as utility workers, bank personnel and pharmacists, to identify high-risk individuals and refer them for services. Individuals living alone were much more likely to be referred by non-traditional gatekeepers than by medical or other sources. However, there was a greater gap between needed services and service receipt amongst clients referred by non-traditional gatekeepers than for clients referred by more traditional gatekeepers, such as medical professionals. This aligns with the observation made by participants in this study that certain kinds of organizations and individuals have a lower status within the collaboration (such as not-for-profit employees, or wellness providers) network than others (such as medical professionals).

Participants expressed concerns about clients needing to have severe mental health symptoms before qualifying for any services or progressing up a wait list. They agreed that promotion of mental health, mental wellness and healthy aging needs to reach community members before their lives begin to change substantially (i.e. before retirement, before typical onset periods for chronic illness), which is why it is important to consider how to reach
individuals age 50 and over, not just those aged 65 and over. Furthermore, information about what constitutes healthy aging and mental wellness, how to recognize mental illness, and what kind of services are available, needs to reach all members of the community, so that those involved in an older adult’s support network, such as family, friends and neighbours, are knowledgeable and supportive. Such knowledge must also be accrued by: health professionals like GPs, clinic staff, long-term care residential home staff, ophthalmologists, massage therapists, and pharmacists; mental wellness organizations such as seniors’ centres, libraries, community service groups, exercise groups; and other community service providers such as banks, food banks, hair salons, and cafes. The BC Association of Community Response Networks (BC CRNs) offers a workshop on an adapted version of the Gatekeeper Program. This program, originally designed in 1978 to enable general community service providers to identify vulnerable adults and confidentially refer them to a mental health agency, is still considered a promising practice model (Oelke et al., 2018). The BC CRN workshops aim to teach community service providers who have regular contact with seniors and vulnerable adults to respond to signs of abuse and neglect, but none of the focus group or community meeting participants seemed familiar with the program (BC CRNs, n.d.). It is possible that the implementation of a program like the Gatekeeper Program could facilitate the flow of information through the targeted network as there would be more informants contributing information and these individuals would also be in a position to disseminate service information directly to the community members who might benefit from it. In addition, it could open up the conversation about mental health and wellness, contributing to the de-stigmatization of the topic.
A diverse range of collaboration members are needed, including general practitioners

Participant contributions concurred with the findings of the literature review regarding collaboration membership. A well-functioning collaboration is thought to consist of a diverse range of members including: professional health service providers, paraprofessionals, religious leaders, faith and traditional healers, community members, and service users themselves (Federal/Provincial/Territorial Ministers Responsible for Seniors, 2007; Goodwin et al., 2016; Kates, 2011; Koehn et al., 2014; Mooney & Lashewicz, 2014; WHO, 2013). The importance of representatives of mental wellness organizations, such as recreational services, community and seniors’ centres has already been discussed. As in the literature, participants advocated for the inclusion of faith groups in the collaboration, seeing them as central to the role of some community members’ lives and, in some cases, well connected to not-for-profit organizations to which they made referrals, or offered space or donations. The implementation of a community education and action program such as the Gatekeeper Program could assist with the recruitment of diverse, non-traditional, and paraprofessional members.

Indigenous communities in Canada were underrepresented in the literature identified in the literature review and are known to be poorly, inaccurately, or incompletely represented by data (McIntyre et al., 2017). A First Nations representative participating in this study spoke of the difficulties of having Indigenous voices heard, and also referred to some differing assumptions and perceptions of mental health in adults age 50 and over in Indigenous communities. A mental health collaboration in the studied area of southern BC, or any part of Canada, should aim to seek guidance from local Indigenous community members, service users and service providers as to what type of involvement they would like to have in the network. One
First Nations organization was amongst the top 14 service providers for number of out and in-degree ties, and a representative from another First Nations organization participated in a community meeting, so there are existing relationships between Indigenous and non-Indigenous service providers in the network studied that could be built on.

There is consensus in the literature and amongst study participants that an effective collaboration for mental health and wellness services for adults age 50 and over would need GPs represented in its membership (Davis, 2014; El-Gabalawy et al., 2016; Fleury et al., 2012; Gonçalves, 2014; Kates et al., 2011; Kates & Craven, 2002; Maddess, 2006; Panazzola & Leipert, 2013; Sussman et al., 2011). Relative to younger adults and urban dwellers, older adults and rural dwellers tend to seek the advice of GPs over specialist mental health service providers (El-Gabalawy et al., 2016). Unfortunately, GPs are known to under-detect mental health problems in older patients (Karlin & Fuller, 2007, in El-Gabalawy et al., 2016). It is promising to see that the health authority and GPs have multiple linkages in the information sharers’ network even though participants discussed their absence from the network. Prell (2012) states that SNA can provide an understanding of networks that supplements what may seem intuitive and it seems that here, SNA has indeed contributed something to the understanding of the current state of collaboration in this rural area that may have been missed through qualitative data alone. Difficulties engaging the health authority and GPs were strong themes in focus groups and community meetings, but SNA shows there is an admittedly small but existing foundation for information exchange with GPs. As previously mentioned, there are also many ties with the health authority overall, in particular, and appropriately, with the health authority division that works with seniors’ mental health. This offers hope that the health authority can make an effective contribution to the distribution of information and behaviour change amongst network
members. It must be noted, however, that whilst the connectedness of some parts of the health authority is visible, it is highly unlikely to be optimum.

**A choice between collaboration and integration needs to be made**

As discussed in Chapter 1, a distinction can be made between a collaborative and an integrative approach to mental health services. A collaboration ideally involves a group of professionals, paraprofessionals and community members devising and working towards common goals through a process of transparent and equitable decision-making (Kates, Mazowita, Lemire, Jayabarathan, Bland et al., 2011). In this model, clients are usually their own case-manager whereas in an integrated care model, one member of an interprofessional team is supported by an overarching organizational structure (Boon et al., 2009). The latter is thought to be more effective for more complex or co-morbid conditions and, further, co-located services are thought to elicit greater commitment from older adults (Gabalawy et al., 2016). Whether a collaborative or integrated model, the literature recognises, as did the study participants, the need for a biopsychosocial approach to mental health, not just a medical one (Goldsmith & Robinson Kurpius, 2015; MacCourt & Tuokko, 2005).

The study participants agreed that leadership was needed if accuracy and flow of information was to improve within the network of mental health and wellness service providers and between them and clients. They endorsed the idea of ‘hub’ but did not define their vision. Would this be a hub of information for service providers or for community members? Would the hub of information be found online, or would print materials be located in a nominated building in each of the towns, for example in community or seniors’ centres, libraries, medical clinics, or similar? Perhaps the hub would simply take the form of regular meetings of service providers? Would the hub encompass service delivery as well as information; more of an integrated, single-
entry-point location for services? Adults age 50 and over in rural areas are more likely to seek help from GPs, either due to lack of other service options, lack of trust of other health professionals, or, more likely, because seeking medical attention is less stigmatizing than seeking mental health attention (El-Gabalawy et al., 2016; Goldsmith & Robinson Kurpius, 2015; Gonçalves, 2014; Kates et al., 2011). When identifying which health professionals have the greatest need for access to information about the mental health needs of adults age 50 and over and the services available to them or choosing where to position a hub of information or services for community members, this fact should be considered.

Whichever approach to improving mental health service delivery is taken – collaborative or integrative – support and leadership are needed at the point of inception to sustain the network. In Australia, the Mental Health Professionals Network (MHPN) funded by the federal government, embarked on a project to improve interdisciplinary collaboration between GPs, psychologists, social workers, occupational therapists, mental health nurses, paediatricians and psychiatrists. This involved interdisciplinary workshops; the formation of self-sustaining interdisciplinary clinical networks; and a website, web portal, and toll-free telephone information line (Fletcher et al., 2014). The initiative was implemented nationwide and involved local workshops to educate and inform a range of professionals. At least four GPs and three different types of mental health professionals were invited to each local workshop. Following the workshops, 81% of participants joined a local network of providers and each network appointed a coordinator who was provided administrative support and leadership guidance from the MHPN. Each network received $500 towards annual venue and refreshment costs. Focus group and community meeting participants of this study spoke of the need to incentivise commitment to a collaboration and the MHPN seemed to recognise this, offering to pay those in private
practice for attending the first workshop, and providing a meal for all workshop attendees, in addition to access to an online community and virtual network of service providers. While the national scale of the MHPN initiative distinguishes it from this study, it may yet suggest a model that would address the priorities and concerns of the study area’s participants.

One of the expected outcomes of effective mental health collaboration is long term cost efficiencies (Addiction and Mental Health Collaborative Project Steering Committee, 2014; Goodwin et al., 2016). However, with service providers already overstretched and fulfilling multiple roles, it would be unrealistic to expect one individual or one organization to take on the further responsibilities of coordinating a collaboration and maintaining accurate and updated information. Therefore, there is likely to be a cost involved in dedicating all, or a portion of, an individual’s time to facilitating successful collaboration. There may also be costs involved in incentivising participation in the collaboration, and in devising or procuring educational or technological resources to facilitate knowledge, networking, and the sharing of information. The formation of an integrated service model and a single-entry-point location would involve significantly greater costs still.

**Limitations and Strengths**

In this study, data from participants’ individual netmaps were collated to form a selection of whole network maps. As in all social network analyses, these individual netmaps represented only the participant’s perception of ties between network members; there can be no guarantee of the extent to which these perceptions reflect actual communications amongst network members. In fact, research shows that when participants are asked, as in Phase 1 of this study, to name which network members have a certain type of tie, less than 50% consistency is found between the network they generate and the whole network (Valente, 2010). Differences arise as a result of
differential experiences, limitations of memory, differing perceptions about what defines a tie, and missing data. Since the creation of the netmaps took place in a focus group setting, it is conceivable that there is more agreement between the individual netmaps, and consequently between any one individual netmap and the whole network map than is usual. However, this was not assessed as part of this study. It is not known whether the focus group setting – which enabled discussion between participants and some limited input into one another’s maps - enhanced the accuracy of individual netmaps or compromised them. Furthermore the statistical analyses included in the results section must be viewed with caution since the sample size of 18 netmaps was small. For this reason standard deviations and other measures of dispersion are not reported. While the limited sample size compromises the value of statistical analysis, it also made possible the identification of key nodes that need to be nurtured in future.

Some aspects of the focus group setting may have impacted the accuracy of the data collected. The group setting may have allowed less opportunity for facilitators to ensure each participant had a clear understanding of the distinction between ties; in particular, for some participants, information exchange ties and referral ties may have been conflated. This could have led to a stronger emphasis on confidentiality as a barrier to information sharing than if the two types of ties were more clearly differentiated on individual netmaps. Although confidentiality concerns may be a barrier to sharing information about client treatment plans or referrals, there is little to no need for confidentiality when sharing information about organizational mandates or services, or general information about policies or community needs. It cannot now be interpolated whether confidentiality was disproportionately emphasised in relation to information exchange (as a result of conflating information exchange and referrals) or whether a high proportion of needed information exchange is in fact confidential. Furthermore,
the relatively busy focus group setting prevented facilitators from giving equal attention to each participant, resulting in some participants making careful, well-informed decisions about how to classify types and strengths of ties, and other participants possibly making less well-considered, or less confident classifications.

There are no objective optimal levels for network density or reciprocity; it will always depend on the type, size and purpose of the network. Thus, whole network measures are most meaningful when compared to whole network measures from other, similar networks. Although the SNA data quantifies aspects of the existing network of mental health and wellness service providers in our study area, it cannot indicate what these network measures ought to be to improve the functioning of the network.

Although key concepts were defined for participants during the information gathering stages, differences in their understanding and use of key concepts, and ambiguous use of key terms inevitably remained. Notably, there was inadequate clarification of the term ‘hub,’ used by several participants when describing their view of what was needed to improve collaboration amongst service providers. Therefore, when formulating recommendations that accurately reflect participants’ informed opinions, it was not possible to determine whether there was interest in a physical hub or a virtual one; an intermittent hub, such as a regular meeting of providers, or a permanent hub, such as centre or an office open to clients; a hub that provides information, or a hub of services located under one roof.

There is a paucity of literature on the mental health needs and vulnerabilities of adults in the 50-64 age group compared to those in the 65+ age group. Participants occasionally spoke of their perceptions of the specific needs of adults in their 50s but, as with the literature, discussions usually centred around “older adults” or “seniors.” The study did not collect quantitative data
from participants regarding the demographics of the clients they typically work with. As such, there are no data outlining the extent to which participants work with adults in their 50s versus those in their 60s, 70s, or older. Additionally, there are no data regarding the proportion of service users with serious versus mild mental health concerns, or the number of clients seeking mental wellness services versus mental health services, and so forth. This study cannot draw any conclusions, therefore, about whether or not what is needed for a successful mental health and wellness collaboration is the same for clients in their 50s as for clients in their 80s.

Finally, there are no data from the target population of clients – adults age 50 and over with a mental health concern living in rural southern interior BC – with which to contextualise and supplement the findings of the study. It is therefore not known whether there is alignment between service providers’ interpretations of the current state of collaboration and service users’ experiences of accessing programs. What service providers believe is needed may or may not be an accurate reflection of what service users want. For example, some service providers commented that residents of Community 1 are satisfied with having to travel to the small urban centre for services, whereas others know clients for whom this is a barrier. Not knowing whether or not it matters to most residents if services are delivered in Community 1 leads to ambiguity around the aims of collaboration. If residents are not concerned about travelling to the small urban centre, there may not be value to the mental health and wellness network in the target area as a whole in seeking to improve connectivity between Community 1’s network members. Similarly, it may not be a priority to residents to increase the number of programs delivered in Community 1. To what extent should services delivered only in the small urban centre be considered part of the whole area’s network of mental health and wellness services; does their inclusion lead to a perception of a service-rich region when residents of the three communities
would report the contrary? Without the contribution of service-user data, confidence in the
direction and goals of collaboration is weakened.

On the other hand, the present study has a number of counter-balancing strengths. As a
secondary analysis, it significantly increases the value of the primary research without additional
financial cost or demands on the time of volunteers and other service providers. The ability to
derive further insights and recommendations from a single original data source is engagingly
efficient in a context of limited resources.

It has been noted that service users – adults 50 and over with mental health needs living
in rural communities – were not consulted as part of the primary research. Nevertheless, service
providers were passionate, knowledgeable and committed representatives of this generally
marginalized group. Insofar as it results in actionable recommendations, then, this research could
be said to serve the cause of social justice. Furthermore, by including liberal quotations from
original interview transcripts, this thesis gives voice to service providers who are themselves
somewhat discounted or patronized by medical professionals.

In scholarly terms, this research makes a positive contribution to knowledge by
demonstrating the potential of SNA in health research, albeit that it supplements this innovative
approach with more familiar modes of qualitative analysis. The analytical rigour that results from
the triangulation of multiple modes has been further enhanced by the conscious reflexivity of the
author, who has consistently sought to identify and compensate for her own subjective biases.
Subject to the qualifications listed above, then, this study is compelling in terms of both
methodology and implementation.
Recommendations

The majority of the recommendations made by study participants for moving forward with a mental health and wellness collaboration in this rural area of southern BC had to do with education. They also made suggestions regarding the coordination of the collaboration. In addition to these recommendations, this section outlines recommendations for further research.

1. Education

Client care plans, programming information and availability, eligibility requirements, and organizational mandates are all important types of information that need to flow amongst service providers, as well as between providers and community members. To motivate network members to share this information, and community members to seek and interpret this information, education is needed. Service providers - including GPs who have not always had recent or comprehensive mental health training (Goodwin et al., 2016; Maddess 2006; Zayad et al., 2016) - need to be educated about the specific mental health needs of people age 50 and over in rural areas. Better knowledge of vulnerabilities, symptoms, treatment approaches, and age- and culture-specific factors could lead to a reduction in some GPs’ tendency to underdiagnose (McMillan, 2005) mental illness in this population, or dismiss it as an inevitable part of aging. Increased awareness of the risk factors and impact of mental illness and benefits of mental wellness activities, as well as access to up-to-date knowledge of available services may encourage increased participation from GPs, long-term residential care staff, and seniors’ community groups in the network. Participants suggested that regular mental health check-ups for people age 50 and over become a routine part of a GP’s interaction with them, a biopsychosocial approach that is supported by the literature (Leahy et al., 2017; McInerney, 2018; Thomas et al., 2016).
Service providers who are already highly active in the network would benefit from clarification of confidentiality policies and advice on how to communicate client information safely. Such education would seek to mitigate the risks of breaching confidentiality policies whilst also teaching providers how to share as much information as appropriate and necessary in an efficient and accurate fashion. Ultimately, this could put an end to clients navigating information and referrals without needed assistance and support. As well as this, education about stigma and sensitivity training would, according to participants, benefit the majority of service providers. Finally, education for clients, their caregivers, and other community members is essential to: reducing stigma; raising awareness about mental health risks and symptoms; convincing providers, clients and their peers of the benefits of mental wellness activities and mental health treatment programs for people over the age of 50. Less stigma and improved awareness increase the chances of people with mental health concerns successfully pursuing information or connecting with a member of their support network who can assist with this.

2. Coordination and leadership

To improve the navigation of the current system of mental health and wellness services in the area studied, and to provide time-efficient means for providers and community members to access accurate service information, participants expressed a desire for central coordination of information. Weist et al. suggest regular meetings of a small core team that addresses collaboration challenges and goals, sets mutually convenient meeting times, and fosters a culture of near-compulsory participation in the collaboration (missing a meeting should be a ‘very rare event’ (2012, p. 101). This aligns with participants’ desire for collaboration to be considered a fundamental part of their role, not an add-on, and that meetings be focused and time-efficient.
It was apparent that the existing network would also benefit from the development or procurement of a confidential process for sharing information amongst collaboration members. Although a cross-organizational secure online portal for sharing confidential information seems like an obvious step towards breaking down the barrier of confidentiality, it is worth noting that it could not in itself be relied upon to improve collaborative relationships: if interprofessional relationships are not already an “embedded…way of working, the introduction of ICT [has been shown to] exacerbate differences rather than overcome them” (Pereira & Soares, 2007). This reinforces the notion, expressed by participants, that culture, relationships and passion, are at the heart of collaboration and that confidentiality can be used by reluctant network members as an excuse not to participate, as Weist et al. (2012) also discovered.

Although leadership and decision-making within a collaboration would ideally be shared and equitable (Foster-Fishman et al., 2001; Goodwin et al., 2016; Kates, 2011; WHO, 2013), collaboration needs to be structured, not ad hoc (Holwerda, Fokkens, Engbers, & Brouwer, 2014). There likely needs to be an individual or organization responsible for coordination and administration. For leadership to be shared, members need knowledge of collaborative good practice, as well as an understanding of the mandate of the collaboration (Addiction and Mental Health Collaborative Project Steering Committee, 2014; Foster-Fishman et al., 2001; Goodwin et al., 2016). Involvement in an effective collaboration is likely to increase the professional development, job satisfaction, sense of connectedness, and retention of staff members (Addiction and Mental Health Collaborative Project Steering Committee, 2014; Goodwin et al., 2016), all of which are typically compromised in rural settings. Improved staff retention would contribute to the stability of network members, and possibly of programming too, thus facilitating the ongoing success of the collaboration.
A well-coordinated collaboration could investigate what structure of services is most suitable for adults age 50 and over with mental health concerns in the three participating communities: a mental health collaboration with a goal to incentivise and assist the flow of information amongst network members or the development of one-stop integrated hubs in each of the three communities. It could also explore the possibility of BC Community Response Network Gatekeeper training to help engage wellness organizations in identification of vulnerable adults.

Through SNA, influential network members can be identified. These members are more integrated than others and therefore better positioned to adopt new behaviours and facilitate change among other network members (Valente, 2010). Such members were identified in this study. A not-for-profit advocacy organization from the small urban centre, delivering services in two of the communities was, according to all individual level measures, the most influential node in the information sharing network. The representative from this organization had the highest number of ties in both the information sharing network and Community 2’s network. Comments about this service provider from other participants further endorsed her status in the network. Although comments about the health authority’s level of participation in the information network were mixed, two individuals were frequently cited amongst participants as being strong networkers and advocators and, again, were held in high regard. All three of these influencers were participants and contributed knowledgeably and passionately to the study and therefore may be excellent candidates for galvanizing change.
3. Further research

Two areas of further research are recommended: the mental health attitudes and needs of people aged 50 and 64, and the utility of SNA in evaluating and improving mental health collaborations.

There is very little research about the mental health needs of people between the ages of 50 and 64. The majority of literature on older adults’ mental health contains data pertaining to adults aged 65 and over. If healthy aging is to be promoted and mental health prioritised, more needs to be understood about the particular needs of pre-retirement age adults. Although serious mental illnesses are not caused by environmental factors, they can be exacerbated by them (Taylor, 2015). Life changes that typically occur around the age of 50, such as changes in income, job, the departure of children from the family home, illness or death of parent, can increase a person’s vulnerability to depression or anxiety. Additionally, chronic diseases found in higher rates amongst adults age 50+ than in younger adults, such as cancer, diabetes and heart disease (Healthcommunities.com, 2012), increase the risk of mental health symptoms (National Institute of Mental Health, n.d.). An understanding of how to reduce risk factors for severe mental health symptoms in adults age 50 and over can only be developed if both the 50 to 64-year-old population and the 65+ population are studied.

Secondly, social networks are best interpreted through comparison with other, similar, networks. Therefore, to evaluate the possible role of SNA in understanding and improving mental health collaborations, the approach would need to be employed more often so that the results of networks perceived by members as effective could be compared to those of networks perceived as ineffective. In this way, characteristics and attributes of effective networks, or effective network members, may be identified.
SNA assisted in the evaluation of the current state of mental health collaboration in this rural area of southern BC, most notably by identifying which members of the network might be the most influential and quantifying the extent to which services are centred outside of the three rural communities in the nearest urban centre. The process of creating a netmap encourages participants to reflect on their personal or organizational connectivity within the network. In this study, participants created their netmaps in a focus group setting that enabled them to discuss their perception of the network with others, share experiences of connections, and remind each other of ties they might otherwise not have recalled. The focus group setting facilitated a conversation about members of the networks and types of interactions that could not have occurred if participants had created their maps in a one-to-one setting with a researcher, as is typical in SNA methodology. Further experimentation with netmapping in focus group settings could lead to a more complete evaluation of the usefulness of SNA not only in assessing mental health collaborations, but as a possible intervention to encourage them.

Conclusion

With 147 nodes in the whole network map, this rural area in southern BC may look well resourced, but there are very few local services for residents of the three communities. Moreover, there are some striking examples of poor information sharing, as seen in the two unconnected small groups in Community 1’s network map (Figure 1). Substantial resources, financial and human, are already dedicated to this region by the health authority and the not-for-profit sector and some of the recommendations included here would involve significant costs. The strong views of study participants about how services could be better coordinated for the benefit of clients have given substance to these recommendations, but in the absence of evidence
from service users themselves – about whether travel to the small urban centre is truly a barrier, for example – it is difficult to determine priority actions.

The enthusiasm of study participants for the research itself, and the way they took advantage of the opportunity it afforded to forge new connections, indicates that measures to enhance collaboration will be received with enthusiasm, at least among the central network members. Even so, supporting an aging population with growing mental health needs in a rural area with limited services presents real and practical challenges. Detailed analysis of the current flow of information exchange through the network using a combination of qualitative content analysis, thematic analysis and social network analysis, together with mental health and wellness workers’ own words, thematically organized and distilled, has yielded a precise, if transient, assessment of the perceived state of collaboration in this rural area in southern BC. The research process gave participants the chance to identify and articulate barriers they have experienced when working to support the mental health needs of people age 50 and over in three rural BC communities. Their observations and descriptions were rich and passionate and frequently aligned with findings from the literature review, implying a degree of transferability to the findings of this study. Implementing the recommendations based on the participants’ insights and the present findings would richly reward the compassion, dedication and hard work of all those who treat mental illness and support wellness in these rural communities in southern BC.
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*London Journal of Primary Care, 8*(1), 3-9.
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Appendices

Appendix 1

Executive Summary (Oelke et al., 2017)

Mental health is an important health issue. One out of every four people will experience a mental health issue at some point in their lives. By 2020, mental illness will be the leading cause of disability in the western world, with mental health problems predicted to account for 15% of the global burden of disease.¹ Seniors in Canada report mental health rates of 20%.² Chronic disease increases a person’s vulnerability³ for mental health issues while mental health concerns impact physical health, and social and mental functioning.⁴ Older adults with mental health concerns also use more health care services overall.⁵ Despite these issues, mental health is often not addressed in adults 50 and over. Furthermore, unique challenges exist in rural communities. Populations are older,⁶,⁷ they have higher rates of chronic disease,⁸ income and education levels are lower,⁹-¹¹ and there are more challenges accessing services.⁹,¹⁰,¹² Previous research on mental health services and supports for this population has shown that a lack of community services/supports and collaboration were significant issues in [rural Southern Interior BC].¹³

The aim of this research was two-fold: 1) to identify current services and supports available for adults 50 and over with mental health concerns in [rural Southern Interior BC]; and 2) to understand the linkages between identified services and supports available for this population in [rural Southern Interior BC]. This study took place in [rural Southern Interior BC] including the three smaller communities of [Community 1, Community 2, and Community 3] and the surrounding rural areas.

An environmental scan was conducted to identify services and supports for this population. Telephone interviews were conducted along with a search of public websites. A
Resource Guide with a listing of all services and supports available was created. Based upon the organizations identified, representatives were invited to participate in focus groups in each of the smaller communities. Each focus group participant created an individual NetMap\textsuperscript{14} outlining their linkages with other organizations for funding, referrals, information exchange, and joint services. Following the completion of the individual netmaps, participants were asked to share their perspectives of their maps, as well as discuss facilitators and challenges to collaboration among the organizations within their networks. Community meetings, as the final phase of data collection, were completed with all focus group participants as well as other organizations that were seen as essential to the overall network. Two community meetings were held to share the results of the environmental scan interviews and focus groups.

During the environmental scan, 68 organizations were identified and 27 participated in telephone interviews. Only 4\% of organizations provided mental health services specifically to adults 50 and over. Organizations that focused on wellness services often did not see themselves as contributing to mental health and well-being. Of the three communities, [Community 1] had the least number of services available; none of which addressed mental health specifically.

In addition to the numbers of organizations and types of services provided, a number of themes were identified through the telephone interviews. Participants stated that there were a number of barriers to clients accessing services: lack of client insight to the need for services and support; stigma; the lack of advocacy to enable individuals to navigate the system and obtain services they needed; inability of clients to use and/or afford technology; and lack of transportation since clients often needed to travel significant distances within towns, outside of towns, or to services offered only in [the nearby urban centre]. Organizations were also hampered in providing services. They were often understaffed (lack of staff, lack of physicians,
and high turnover); staff did not always have sufficient training; and there was a lack of communication across organizations. Service gaps were also noted. There was an overall lack of services available for adults 50 and over with mental health concerns. Participants also noted a lack of affordable housing and employment options and services. Social isolation was also noted as a major concern, with a lack of social support available to clients. Finally, poverty was a significant issue across all three communities.

Focus group data were analyzed to create network maps and identify common themes. Over a hundred different organizations were involved in providing services and supports for adults 50 and over with mental health concerns; most of these were not-for-profit organizations. Collaboration was a complex, multidimensional concept, and was impacted by a number of variables. Collaboration among [nearby urban centre-based] organizations that served [the area of rural Southern Interior BC] were well connected, but overall, collaboration among organizations within our three target communities was limited. [Community 2] was seen to have stronger connections within their community. While some collaborative meetings already occurred, information was not always shared with other staff within the organizations. Constant changes in staffing and programs also made collaboration more difficult. Other barriers to collaboration included: time of both staff and executive directors, funding constraints, confidentiality policy constraints, and lack of a platform to exchange confidential information. Limited collaboration with physicians was also noted, due in part to lack of time on their part, but deemed as very important considering most clients in this age group would only see physicians for health care needs.

Network maps for information exchange showed that [Community 2 and Community 3] were relatively well connected within their respective communities with some linkage to outside
organizations. [Community 1], with few services, only had reciprocal ties with services in [the nearby urban centre] and others outside of [rural Southern Interior BC (e.g., a major urban centre)]. Network maps also showed that few joint services were offered across all communities. In addition, funding for organizations and their services was provided by a variety of organizations from various locations.

Referrals occurred across a continuum, from informal (e.g., giving a client the name and phone number of an organization) to formal referral processes. There were no formal ways of tracking referrals, and employees often did not have time to follow-up on their referrals. For referrals, [nearby urban centre-based] services were central to the network. [Community 2] appeared to be well connected to services within the community as well as outside of the community.

Additionally, focus group participants stated that mental health was often “omitted” from health care discussions, and that it was not always equated with well-being services. A number of barriers to accessing services for adults 50 and over with mental health concerns were identified: despite significant changes occurring in this age group, the gradual decline in mental health was not always recognized; these individuals were often treated only for other chronic conditions (e.g., diabetes). Poverty, stigma, and the need for assistance to attend a service or program were other identified barriers. Participants also talked about the need to be proactive in seeking help - before things became worse or before becoming older when it was more difficult to obtain care (e.g., mobility, dementia).

Rural challenges were also identified by participants. There were fewer services overall. It is difficult to recruit highly qualified staff, and retention of staff is challenging. In addition,
there is a lack of recognition from funders of the time needed to travel to care for individuals from the target community.

Community meeting participants identified and prioritized key actions for moving forward services and supports for adults 50 and over with mental health concerns. Actions are outlined below in order of priority.

- **Action 1**: Improved collaboration through interprofessional teams and the creation of a Hub or Collaborative
- **Action 2**: Education and support for general public, service providers, and caregivers
- **Action 3**: More emphasis on community development and outreach of services provided locally
- **Action 4**: Mental health initiatives for men
- **Action 5**: System navigation
- **Action 6**: Information accessibility through both print and electronic means
- **Action 7**: Changing language from mental health to mental wellness or whole person wellness

There were several strengths and limitations to the study. An overall limitation was the small number of participants at all levels of data collection, particularly with organizations from [Community 1]. It is recognized that all organizations are busy and that the time required from the study was significant. Despite the limitations, there were a number of strengths to the study. The study involved diverse community organization representatives at all stages of the study. Rich data were collected throughout the study. A comprehensive Resource Guide was developed; it is available in hard copy and an online version is available that can be posted on
community organization websites. A set of seven actions was created to help services and supports for this population in these [rural Southern Interior BC] communities to move forward.
Appendix 2

Discussion Guide for Focus Group (Oelke et al., 2017)

<table>
<thead>
<tr>
<th>Topic Area</th>
<th>Guiding questions</th>
</tr>
</thead>
</table>
| Current state of collaboration among community organizations | - Tell me about how you collaborate with other organizations in your community to address the mental health needs of adults 50 and over  
  ▪ level of collaboration  
  ▪ type of collaboration (e.g., referral, other)  
  - What have been the results of these collaborations?  
  ▪ for community members (e.g., better outcomes, improved access)  
  ▪ for providers (e.g., job satisfaction)  
  ▪ for community organizations (e.g., better able to support the needs of this population, increased capacity)  
  ▪ for the health and social care systems (e.g., decreased duplication) |
| Structures and processes in place for collaboration      | - What structures and processes are in place to support collaboration among organizations?  
  - What structures and processes are missing?  
  - What would be helpful to support collaboration? |
| Challenges to collaboration                              | - What are the challenges you and your organization have experienced in trying to collaborate with other service providers/other organizations?  
  ▪ capacity  
  ▪ rural issues |
| Enablers of collaboration                               | - What things facilitate collaboration among providers and organizations? |
| Future collaboration                                     | - What do you think needs to happen to improve collaboration among organizations |
| Other comments                                           |                                                                                                                                             |
Appendix 3

Guide for Community Meeting (Oelke et al., 2017)

Community Meeting Agenda

1. Welcome and introductions

2. Presentation of preliminary study results by research team

3. Feedback on results
   - Use of various activities to obtain feedback on results such as:
     o Individual feedback using sticky post it notes
     o small group discussions
     o Large group discussions

4. Networking break

5. Discussion on future collaboration

6. Priority setting

7. Conclusion/Next steps
i. **Current state of collaboration: barriers to clients accessing information**

- Aspects of current service delivery model that make it difficult for clients to access information
  - Confidentiality – service providers can’t share their info
  - Lack of advocacy/outreach
  - Not user-friendly in terms of navigation

- Characteristics of population that impact access to information
  - Ability to use or access technology
  - Cognitive impairment
  - Financial restrictions
  - Lack of confidence or support
  - Language or literacy
  - Stigma and concerns about privacy
  - Visual impairment

ii. **Current state of collaboration: barriers to information sharing amongst service providers**

- Confidentiality
- Geographical location
- Need for more input from key organisations/providers
  - First Nations organisations
- May view the issues differently
- Stretched resources
  - Health Authority
    - Don’t share the same priorities
    - Info not flowing out of HA to others
    - Info not flowing within HA
    - Were not allowed to participate in community meetings in recent past
  - Physicians
    - Need incentives to collaborate
    - Not enough time
    - Resistance
- Information flow within organisations
- Lack of up-to-date information
  - Change or ambiguity of contact
  - No central coordination
- Stigma
  - Lack of comfort discussing mental health
  - Service providers are stigmatized
- Time limitations (general comments)
  - Can’t spend time at unproductive meetings
  - Finances don’t allow
  - Not part of the role
iii. Ideas about improving information sharing

- What kind of information needs to be shared
  - Education
    - Community and clients
    - Service providers
  - Goals of collaboration need to be shared
    - Within organisations
  - Information should be client-centred
  - Learning about what other organisations do
  - Need face-to-face meetings
  - Responsibility for coordinating
    - Funding is needed

- Who needs to be included in the information sharing network
  - Faith leaders
  - First Nations
  - More outreach
  - Pharmacists
  - Physicians
  - Social workers
iv. Who or what currently facilitates information sharing for collaboration?

- Clients
  - Normalizing
- Community centres
- Community meetings in Community 2
- Informal connections
- Outreach advocacy worker
- Passion
- PIC meetings in small urban centre
- Raising the Profile project, provincially
- Research
- Service provider passion
- Wearing multiple hats
- Working models in Child & Youth
Appendix 5

Table A4

Whole Network Measures of Centrality, including Participants’ Network

<table>
<thead>
<tr>
<th></th>
<th>Network 1</th>
<th>Network 2</th>
<th>Network 3</th>
<th>Network 4</th>
<th>Network 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Information-sharers</td>
<td>Community 1</td>
<td>Community 2</td>
<td>Community 3</td>
<td>Community 3</td>
</tr>
<tr>
<td>Average degree</td>
<td>3.538</td>
<td>0.290</td>
<td>1.122</td>
<td>1.077</td>
<td>2.730</td>
</tr>
<tr>
<td>Density</td>
<td>0.038</td>
<td>0.010</td>
<td>0.015</td>
<td>0.021</td>
<td>0.076</td>
</tr>
<tr>
<td>Average distance</td>
<td>3.322</td>
<td>1.357</td>
<td>2.888</td>
<td>3.527</td>
<td>2.171</td>
</tr>
<tr>
<td>Arc reciprocity</td>
<td>0.869</td>
<td>0.667</td>
<td>0.892</td>
<td>0.893</td>
<td>0.950</td>
</tr>
<tr>
<td>Dyad reciprocity</td>
<td>0.769</td>
<td>0.500</td>
<td>0.804</td>
<td>0.806</td>
<td>0.906</td>
</tr>
</tbody>
</table>
# Appendix 6

## Attribute Codes

### Where service is delivered
Organizations are coded according to where they deliver services, not according to where their main office is located. For example, if an organization is based in small urban centre but delivers outreach services in Community 1, it will be coded 200.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Communities 2 and 3</td>
</tr>
<tr>
<td>150</td>
<td>All three communities – Communities 1, 2, and 3</td>
</tr>
<tr>
<td>200</td>
<td>Community 1</td>
</tr>
<tr>
<td>300</td>
<td>Community 2</td>
</tr>
<tr>
<td>400</td>
<td>Community 3</td>
</tr>
<tr>
<td>500</td>
<td>Small Urban Centre</td>
</tr>
<tr>
<td>600</td>
<td>Large Urban Centres in BC</td>
</tr>
<tr>
<td>700</td>
<td>Larger Urban Centre approximately 100 kms away</td>
</tr>
<tr>
<td>800</td>
<td>Province-wide</td>
</tr>
<tr>
<td>900</td>
<td>Other</td>
</tr>
</tbody>
</table>

### Affiliation

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>Private for profit</td>
</tr>
<tr>
<td>502</td>
<td>Faith based</td>
</tr>
<tr>
<td>503</td>
<td>Registered charity/not for profit</td>
</tr>
<tr>
<td>504</td>
<td>First Nations organisations</td>
</tr>
<tr>
<td>505</td>
<td>Health Authority &amp; GPs</td>
</tr>
<tr>
<td>506</td>
<td>Provincial</td>
</tr>
<tr>
<td>507</td>
<td>Municipal/regional</td>
</tr>
<tr>
<td>508</td>
<td>Other</td>
</tr>
</tbody>
</table>

### Type of organisation
If an organization offers mental health or wellness programs open to all ages as well as programs that are designed specifically for adults age 50 and over, they will be coded 201 or 202.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Mental health services available for all ages</td>
</tr>
<tr>
<td>102</td>
<td>Wellness services available for all ages</td>
</tr>
<tr>
<td>103</td>
<td>Health</td>
</tr>
<tr>
<td>104</td>
<td>First Nations</td>
</tr>
<tr>
<td>105</td>
<td>Other</td>
</tr>
<tr>
<td>201</td>
<td>Mental health services targeted at adults age 50 and over</td>
</tr>
<tr>
<td>202</td>
<td>Wellness services targeted at adults age 50 and over</td>
</tr>
</tbody>
</table>
Figure 3: Network of mental health and wellness organizations that deliver services in Community 2. Arrow heads denote whether information is flowing into a node, out of a node, or reciprocated between nodes.
Appendix 8

Community 3’s Network Map

Figure 4: Network of mental health and wellness organizations that deliver services in Community 3. Arrow heads denote whether information is flowing into a node, out of a node, or reciprocated between nodes.