Collaborative Research Grant Initiative: Mental Wellness in Seniors and Persons with Disabilities

Operating Grant Final Report

Trajectories of employment and major depression in seniors and individuals with disabilities

April, 2013 – JianLi Wang
PLAIN LANGUAGE SUMMARY
With the support of the Collaborative Research Grant Initiative: Mental Wellness in Seniors and Persons with Disabilities, we examined the trajectories of depression, employment, social support and home care services among seniors and individuals with handicap and/or disabilities. For the objectives of the research, we used national data collected by Statistics Canada, which were assessed by validated instruments. We found that the prevalence and incidence of major depression in seniors were higher than expected, which is consistent with the notion that depression is often under diagnosed in this population. There may be various reasons why some continue to work after retirement age; however, the data showed that individuals who were in the labour force, married or living with someone were less likely to die. Poor social support is an important factor for development of depression in seniors. Pain problems and low income play important roles in the relationship between social support and major depression. For example, social support does not have beneficial effect for depression when people are in severe pain; tangible social support reduced the risk of having depression in low income population. The results highlight the importance of social support and intervention on pain in seniors. We also found that there were significant gaps between the need for home care services and the use of the services in seniors. These gaps have not changed in the past decade. The findings of the study support the idea that policy makers should pay attention to mental health problems in seniors. Interventions and social programs should be developed to enhance social support and reduce pain and poverty in seniors so that goals of healthy ageing can be achieved.

EXECUTIVE SUMMARY
With the support of the Collaborative Research Grant Initiative: Mental Wellness in Seniors and Persons with Disabilities, we examined the trajectories of depression, employment, social support and home care services among seniors and individuals with handicap and/or disabilities. We found that the prevalence and incidence of major depression in seniors were higher than expected, which is consistent with the notion that depression is often under diagnosed in this population. There are no differences between seniors in Alberta and those in other provinces. Inadequate social support is an important predisposing factor for developing depression in seniors. Pain problems and low income play important roles in the relation between social support and major depression. These results highlight the importance of social support and interventions for pain in seniors. We also found that there were significant gaps between the need for home care services and the use of the services in seniors. These gaps have not changed in the past decade. These findings support the idea that policy makers should pay attention to mental health problems in seniors. Interventions and social programs should be developed to enhance social support and reduce pain, and poverty in seniors. Furthermore the gaps between the need for and use of home care services in seniors should be addressed.

RESEARCH OVERVIEW
Objective(s)
The goal of this study was to generate epidemiological information for promoting healthy ageing and reducing the impacts of disabilities on health. The target populations of the proposed study are seniors and individuals with disabilities. Specific main objectives were to:
1. Estimate the prevalence and incidence of major depression in seniors and employment in individuals with disabilities,
2. Describe the home care needs in seniors with major depression and the gaps in receiving homecare services,
3. Identify factors associated with independent living in seniors and transition from independent living to institution.
Background
Like other developed countries, Canada’s population is growing older due to rising longevity, declining fertility and ageing of baby boomers. According to Statistic Canada (Statistics Canada, 2005), the proportion of those aged 65 and over in Canada was 13.1% in 2005, comprising 4.2 million people; this proportion is expected to increase to 23% by 2031, to about 9 million people and will further rise to some 27% by 2056. The trends will have important consequences on the demand for long-term care and corresponding increased health care expenditures. Therefore, strategies to enhance healthy aging have significant public health implications.

Major depression is a prevalent mental disorder in the general population (Patten, Wang, Williams, Currie, & Maxwell, 2006). The Global Disease Burden (GDB) study sponsored by the World Health Organization and World Bank reported that, of the ten leading causes of disease burden worldwide in 1990s, major depression ranked number four (Murray & Lopez, 1996). In 2001, major depression ranked number three in the GDB study in terms of disease burden (Lopez, Mathers, Ezzati, Jamison, Murray, 2006). Depression is also a leading cause of disability worldwide. Major depression has significant impacts on workers’ productivity (Broadhead, Blazer, George, & Tse, 1990; Stewart, Ricci, Chee, Hahn, & Morganstein, 2003; Wang, Adair, & Patten, 2006). Among work-aged Canadians, 13% of persons with major depression reported to be unable to work because of disability; 7% of depressed adults who are employed reported at least one disability day in the 2 weeks prior to the survey compared to less than 1% among non-depressed adults (El-Guebaly et al., 2007). Research has shown that work stress or job strain is an important risk factor for developing major depression (Kawakami, Araki, Kawashima, 1990; Virtanen et. al., 2007; Plaisier et al., 2007; Wang, 2004; Wang, 2005). However, there is a paucity of epidemiological research estimating the prevalence and incidence of major depression in elderly workers and individuals with disabilities and investigating how work environmental factors affect elderly workers’ mental health and the mental health of those with disabilities. Because major depression can severely affect workers’ job performance and the status of independent living, the results of such epidemiological research will have not only public health implications but also economic and societal implications.

Most previous studies on the psychosocial and clinical factors and depression in elderly people are cross-sectional, in which a temporal relationship cannot be established. In the proposed study, we will use the cross-sectional national surveys to estimate the prevalence of major depression, job profile and health care and home care needs; we will use longitudinal data from national surveys to estimate incidence of major depression and cognitive decline and to identify risk factors and protective factors for major depression and transition to institution in the elderly and individuals with disabilities. These will provide information about what factors need to be in place to support independent living, what factors may contribute to early intervention for major depression, and what factors may contribute to building resiliency to reduce the impacts of mental illness and stress in the elderly and individuals with disabilities.

Approach and Methods
For this study, we used the data from the Canadian Community Health Survey (CCHS), the Canadian Community Health Survey – Mental Health & Well-being (CCHS-1.2) and the longitudinal cohort of the National Population Health Survey (NPHS). The CCHS and NPHS were conducted by Statistics Canada. The surveys are described as follows.

The CCHS is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the Canadian population at the level of health regions. The target population of the CCHS is all Canadians aged 12 and over. Excluded from the sampling frame are individuals living on Indian Reserves and on Crown Lands, institutional residents, full-time members of the Canadian Forces, and residents of certain remote regions. For this study, we will use the data from the CCHS in 2007/08 (CCHS-4.1) (n = 130,000). The CCHS used multi-staged, stratified random sampling procedures. The questions were administered using the method of Computer Assisted Telephone Interview (CATI). The response rate was 88.5% at the national level (Statistics Canada, 2009). Major depression was assessed using the WHO’s Composite International
Diagnostic Interview – Short Form for Major Depression (CIDI-SFMD), according to the DSM-IV criteria.

The CCHS-1.2 is a subset survey of the CCHS. It was the first Canadian national mental health survey. The CCHS-1.2 was designed to provide provincial level results, measuring aspects linked to the mental health of Canadians. The main objective of the CCHS-1.2 is to address priority mental health determinants, mental health status and mental health system utilization data gaps at the provincial level (Statistics Canada, 2003). Mental disorders assessed in the CCHS-1.2 included major depressive episode, manic episode, social phobia, panic disorder, agoraphobia and substance dependence. The CCHS - 1.2 targets persons aged 15 years or older who are living in private dwellings in the ten provinces. Residents of the three territories, persons living on Indian Reserves or Crown lands, clientele of institutions, full-time members of the Canadian Armed Forces and residents of certain remote regions are excluded from this survey (Statistics Canada, 2003). Data collection took place between May 2002 and December 2002 (Statistics Canada, 2003). The total number of participants in the CCHS-1.2 was 36,984 and the response rate was 77.0%.

The NPHS was designed to collect "longitudinal" information on the health of the Canadian population and related socio-demographic information. The first cycle of data collection took place in 1994/1995. Thus far, 8 cycles have been completed (from 1994/95 to 2008/09). The target population of the NPHS Household component includes household residents in the ten Canadian provinces in 1994/1995 excluding persons living on Indian Reserves and Crown Lands, residents of health institutions, full-time members of the Canadian Forces Bases and some remote areas in Ontario and Quebec. The NPHS is a longitudinal survey with a sample of 17,276. Every two years, these same individuals provide current and in-depth information on their physical and mental health status, use of health care services, physical activities, workplace and social environment. The NPHS collected data using the method of computer-assisted interviewing via telephone. Statistics Canada has maintained excellent response rates for the NPHS. Like the CCHS-3.1, the NPHS assessed major depression using the CIDI-SFMD. The three sets of surveys used the same questions about demographic and socioeconomic characteristics, labor force status, job profile, health care and home care needs and activity restrictions. The main difference between CCHS and NPHS is that CCHS and it subset CCHS 1.2 are cross-sectional whereas NPHS is longitudinal in design Statistics Canada, 2012.

The primary outcome of interest in this study is major depressive episode (MDE). In the NPHS, the presence or absence of an MDE in the past 12-months was assessed using the Composite International Diagnostic Interview Short Form for Major Depression (CIDI-SFMD). The CIDI is a fully structured and validated diagnostic interview, developed by the World Health Organization (Wittchen, 1994; World Health Organization, 1994) possessing high inter-rater reliability. The CIDI-SFMD was developed and refined by Kessler and colleagues (World Health Organization, 1994), and was used in the NPHS and other surveys. The CIDI-SFMD was estimated to have a sensitivity of 89.6%, a specificity of 93.9%, a positive predictive value of 75.7% and a negative predictive value of 86.9% when compared to the CIDI and DSM-III-R (Wittchen, 1994). When a cut-point of five symptoms is used to dichotomize respondents, with one of them as either depressed mood or loss of interests in the CIDI-SFMD, there is a 90% predictive positive value of the participant having experienced a MDE in the last 12 months, according to Kessler and colleagues (Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998).

While the CIDI is considered valid, a recent review by Kurdyak & Gnam (2005) has questioned the validity of the depression module specifically. In evaluating the CIDI-Short Form, Patten (1997) found the CIDI Short Form to have high sensitivity (98.4%), but relatively low specificity (72.7%) among a clinical sample. As a result, the NPHS might result in an overestimation of 12-month major depression prevalence when comparing results from the NPHS to the Mental Health Supplement of the Ontario Health Survey, and more recently when compared to the CCHS 1.2. Both which utilizes the full version of the CIDI (Patten, 1997). Patten (2007) further found this overestimation (false positives) to occur among subjects with active medical conditions, substance use disorders, and dysthymia. The tendency of the CIDI-SFMD to overestimate prevalence has been consistently found in more recent studies, likely due to the CIDI-SFMD lacking an exclusion criteria (such as
bereavement). It is unclear therefore whether the CIDI-SFMD would lead to an over-estimation in seniors, particularly since depression may be under diagnosed among the elderly.21

Due to concerns about recall bias, misdiagnosis22 and concerns about the validity of the CIDI-SFMD in the elderly, the use of anti-depressants by the participants was employed as an indicator for depression in current study. Anti-depressant use determined through the use of Anatomical Therapeutic Chemical Classification (ATC) Codes. ATC Codes are based on the World Health Organization classification, and are coded through the Health Canada Drug Product Database. As part of the NPHS questionnaire, the ATC codes of all medications (prescription and over-the-counter) currently being taken by participants are recorded by the interviewer. In cycle 5 of the NPHS, all drugs in all NPHS cycles were reverse-coded to ensure that all drugs conformed to the current Health Canada Drug Product Database ATC Classification system (Chappell, 2009).

To estimate the prevalence and incidence of MDE in this population using the NPHS data, participants were considered to have a MDE if they coded positive on the basis of CIDI-SFMD criteria, or reported the usage of one or more anti-depressants as determined through ATC classification. Using anti-depressants as an indicator for having depression is consistent with the pharmacoepidemiology literature, in which the use of antidepressants can serve to capture individuals with more severe depressive symptoms.

This project was secondary data analysis in nature, using the data collected by Statistics Canada. Data analyses were conducted at the Regional Data Centre where the data are kept. Data access approval was obtained from the Social Science and Humanity Research Council. The Conjoint Health Research Ethics Review Board of University of Calgary approved this project.

Key Findings

Demographics and socioeconomic characteristics

Cycle 3 of the NPHS was chosen to estimate the prevalence of MDE and as baseline for estimating the incidence of MDE. At cycle 3 of the NPHS, there were 2469 participants, who were aged 65 years and older and had complete information about MDE at baseline. The mean age of participants at baseline was 73.7 years of age. At baseline, 58.29% of participants were female, 48.88% had less than a high school education, and 78.61% were classified as middle or high income. The majority of participants were married, common law or single (59.33%), while 40.67% were widowed, separated or divorced. Over half of the participants reported living with their partner (53.50%). Remaining participants were living alone (36.42%) or with others (10.09%).

Prevalence of MDE

Prevalence of 12-month MDE in cycle 3 was estimated to be 6.50% (95% CI: 5.38% - 7.63%). No differences in prevalence estimates were found by sex, education, marital status, income, or living arrangement on the basis of confidence intervals. The 12-month prevalence was higher among those aged 65-69 (8.17%, 95% CI 5.84%-10.49%) than it was among those aged 70-74 (3.85%, 95% CI 2.30-5.39%). There were no differences in prevalence estimates between those aged 75-79, 80-84, or 85+ years compared to other age groups.

Differences in the prevalence of MDE were found among all health status indicators: mobility problem, pain problem, restriction to activity and chronic condition. Those with a mobility problem had a prevalence of depression three times higher than those who did not report a mobility problem at 15.90% (95% CI: 11.03% - 20.78%) and 5.16% (95% CI: 4.09% - 6.23%), respectively. The prevalence of MDE among those reporting a pain problem was 11.24% (95% CI: 8.23%-14.24%) versus 4.92% in those without a pain problem (95% CI: 3.79%-6.06%). Those who reported a restriction to activity were found to have an MDE prevalence of 10.95% (95% CI: 8.65%-13.24%) compared to an MDE prevalence of 3.85% in those without a restriction (95% CI: 2.57%-5.13%). The prevalence of MDE was higher in those who reported the presence of at least one chronic condition with estimates at 7.43% (95% CI: 6.08%-8.79%) compared to an estimated MDE prevalence of 2.48% (95% CI: 0.68%-4.29%) in those without chronic condition.
Incidence of MDE
Among included participants, the 2-year Incidence proportion of a MDE was estimated to be 4.54% (95% CI: 3.38%-5.60%); the 8-year incidence proportion of MDE was estimated to be 13.09% (95% CI: 11.27%-14.90%). The 2-year incidence did not differ by demographic variables. When examining 8-year incidence, differences in the incidence of MDE were only found by sex, with 8-year depression incidence higher among women (16.53%, 95% CI: 13.98%-19.07%) than men (7.92% 95% CI: 5.27%-10.55%).

Comorbid chronic conditions
To examine the comorbidity of MDE and chronic medical conditions, we used the data from the CCHS-1.2. In the CCHS-1.2, the overall prevalence of having at least one chronic condition in those over 50 years of age was 82.4%, compared to 62.0% in those under 50. The prevalence of a major depressive episode in those over 50 with one chronic condition was 3.7%, compared with 1.0% in those without a long-term medical condition. The top 3 chronic health conditions in seniors aged 65 or older were arthritis/rheumatism, high blood pressure and back problems. Chronic Fatigue Syndrome, fibromyalgia and migraine headache had the highest comorbidity with major depression in the senior population.

It was found that those with a restriction to activity had a 2-year incidence of 9.30% (95% CI 4.00% - 10.37%) compared to 2.15% (95% CI 1.17%-3.10%) in those without a restriction. Among those with a chronic condition, 2-year incidence was estimated to be 5.42% (95% CI 4.01%-6.80%) compared to 1.20% (95% CI 0.02%-2.30%) among those without a chronic condition. For the 8-year incidence of MDE, 21.70% of those with a mobility problem developed MDE (95% CI 15.06%-28.34%) compared to those without a mobility problem (12.22%, 95% CI 10.27%-14.18%). Those with a pain problem were more likely to have had MDE at 8 years (19.92%, 95% CI 15.32%-24.53%) compared to those without a pain problem (11.05%, 95% CI 9.02%-13.08%). Those with a chronic condition had an estimated 8-year incidence of MDE of 14.96% (95% CI 12.85%-17.06%) compared to those without a chronic condition (5.85%, 95% CI 3.12%-8.58%).

Relationship between social support and the risk of MDE
The 2-year incidence of MDE did not differ by types and levels of social support. Regarding 8-year incidence, however, differences were found among those with a high (11.75%, 95% CI: 9.60%-13.89%) versus low (17.96%, 95% CI: 13.97%-21.95%) positive social interaction. Although differences by other types of social support were approaching statistical significance (affection social support and emotional social support), the confidence intervals overlapped, indicating that the stratum specific proportions may not be significantly different at the population level.

We estimated the crude association of the social support relationship between each type of social support and the 8-year risk of depression, followed by a sex and age adjusted model. No evidence of modification by sex or age was found. It was found that affection (OR 1.56, 95% CI 1.08-2.21, p=0.013), positive social interaction (OR 1.64, 95% CI 1.16-2.33, p=0.005) and emotional social support (OR1.55, 95% CI 1.11-2.16, p=0.001) were associated with the development of a MDE in both the crude and age and sex adjusted models; those with low social support were more likely to develop a MDE over our study period. No evidence of confounding was found by sex or age through a comparison of the adjusted to crude estimates for each type of social support.

Disabilities and MDE
By examining the NPHS data from 1994 to 2009, we found that the proportions of individuals with long-term disabilities showed an upward trend over time (see figure 1). The proportion of individuals with long-term disabilities in Alberta did not differ from other provinces.
The proportions of MDE in individuals with long-term disability in 1994, 2000 and 2007 were 10.5%, 10.8% and 8.7%, respectively (see figure 2). The relatively lower proportion in 2007 might be due to MDE cases being more likely to have dropped out of the cohort, institutionalized or deceased than others.

*Mortality, employment and socioeconomic status*
We found that the rate of mortality was higher in seniors who were not in labor force, living alone and divorced, separated or widowed than others (see figure 3-5).
Needs for homecare services and the gaps
We described the gap between homecare needs and homecare services received among the individuals with a short or long-term disability, and investigated factors associated with such a gap, among these individuals. There were 906 participants and 1816 participants with short and long-term disabilities, respectively. Among those with a short-term disability, 407 individuals reported needing homecare services, and 76 reported receiving services. Among those with a long-term disability, 1046 reported needing homecare services, and 318 reported receiving homecare services. Overall, 36.51% (n=331) of those with a short-term, and 40.06% (n=728) of those with a long-term disability
experienced a gap in homecare services. For both short-term and long-term disability, females were more likely to have reported a gap. Among those with a short-term disability, having a high school education or less, and being Caucasian, were associated with experiencing a gap. Among those who reported having a short-term disability and a gap in services, the mean age was 56.19 years (95% CI: 53.61–58.76); the mean age among those with a long-term disability was 55.93 years (95% CI: 54.33–57.54). For those with a long-term disability, reporting fair/poor health was associated with having a gap. The remaining covariates (i.e. income, living arrangement, etc.) were not significantly associated with having a gap in services. Race was associated with unmet needs among those with a short-term disability (OR=1.37, 95% CI: 1.18–1.80). Those living with a partner were less likely to have unmet needs among those with a long-term disability (OR=0.67, 95% CI: 0.50–0.88). There was an interaction between age and self-perceived health (OR=0.98, 95% CI: 0.96-0.99) among participants with a long-term disability.

Factors associated with cognitive decline over time
We used the NPHS data to examine the factors associated with cognitive decline among participants aged 50 and over at baseline. The outcome, cognitive decline referred to change in overall cognition from baseline to cycle 7, which was defined as either no change or cognitive decline. We found that poor self-rated health and infrequent physical activity were associated with cognition decline. Although baseline MDE was not independently associated with cognitive decline, it interacted with smoking status in relation to the risk of cognition decline, e.g., individuals with depression and smoking were more likely to have reported negative cognitive decline. Similarly, we found that smoking interacted with alcohol consumption and low income interacted with marital status to increase the risk of cognitive decline.

Conclusions
Research has shown that the prevalence and the incidence of major depression in seniors are lower than younger adults. On the other hand, it has been recognized that depression in seniors tends to be under diagnosed. This may be particularly true when a structured diagnostic instrument is used because seniors consider fatigue and lack of energy as ageing issue rather than depressive symptoms. With incorporating anti-depressant use in the definition of major depression, we found that the prevalence and incidence of MDE nearly doubled. In our separate analysis, we eliminated anti-depressants that are often used for pain and other health conditions. Although the prevalence and incidence became smaller, the proportions were much higher than those estimated based on the CIDI. However, the elimination did not affect the associations between selected risk factors and the risk of MDE in seniors.

Differences were found between rates of chronic conditions and major depression between the general population, older adults and seniors in this study. Further research is needed to delineate the direction of these relationships in seniors. The strong relationship between different types of social support and depression, and the finding that it is not the number of contacts (structural support) but rather the strength of the relationship points to the importance of preventing social isolation in Canadian seniors in order to reduce the risk of major depression, particularly through high levels of positive social interaction and emotional social support. The finding that part of this relationship is mediated by the presence of a pain problem in the context of tangible and affection social support highlights the importance of high levels of positive social interaction and emotional social support in reducing the risk of major depression in Canadian seniors. The finding that part of this relationship is mediated by the presence of a pain problem in the context of tangible and affection social support highlights the importance of controlling pain in the context of accumulating medical conditions.

While our study demonstrated the importance of social support in Canadian seniors in reducing the risk of MDE, future studies should examine what demographic and health status variables contribute to different types and levels of social support over time. In this manner, researchers and community members may better understand how best to increase levels of social support among seniors, and thereby reduce the risk of depression.
The need for homecare will probably continue to increase in coming years given advancing technology, changing demographics, and increasing consumer preferences to stay in the home. Providing homecare will not only relieve some of the burden being placed on acute and long-term healthcare, but also enable individuals to remain in their home. Further, researchers in British Columbia estimate that there are substantial monetary benefits to utilizing a homecare system as opposed to traditional facility care. The costs for homecare clients ranged from 40-75% of the costs of facility care, depending on the level of homecare required. The healthcare system in Canada may save a substantial amount of money, given more resources for homecare. However, the current homecare system does not appear to be meeting the required needs among those living with a disability. Given the lack of literature regarding homecare services among individuals with a disability, this study contributes interesting preliminary findings regarding the gap in homecare services for those with a short or long-term disability.

**Implications for Policy or Practice**

The results of this project clearly show that major depression is a significant issue in seniors and persons with disabilities. The annual prevalence of major depression in seniors was about 6.5%, with consideration of anti-depressant use. Many seniors with depression in the communities are under diagnosed.

Pain, low income and low social support are important factors for having depression. The mortality rate was higher in seniors who were widowed, who were not in labor force and who lived alone. These results indicate that interventions and programs are needed for seniors so that pain problems can be better managed and seniors are more socially integrated.

People with disabilities may need home care services. This study revealed the gap between the need for services and the use of the services. Such a gap has not been reduced in the past decade and this needs the attentions from policy makers.

**Directions for Further Research**

This study was a secondary data analysis, using data collected by Statistics Canada. We were restricted by the data that were collected. Given the findings and the limitations of this study, we considered that future studies are needed in the following areas:

- Studies that can provide “true” estimates of the prevalence and incidence of major depression, using multiple instruments or developing new instruments that have better validity in seniors.
- Mental health education and promotion research in seniors to raise the awareness of mental health problems and to enable seniors to recognize and understand the symptoms of mental health problems.
- Studies that are specifically designed to investigate how labor force participation and early/late retirement affect seniors physical and mental health.
- Studies that are designed to examine whether enhanced social network and social integration reduces the risk of depression and mortality.

**Knowledge Dissemination and Translation Activities**

Over the course of the project, a number of trainees were involved including three graduate students. Two graduate students also received studentship award from the CRGI initiative. Additionally, a staff member from the former Ministry of Seniors and Community Support was involved in the project as a trainee, which enhanced the relationship between the team and community partners. The project team members and the trainees participated in the annual CRGI conference in Edmonton. At the conferences, the members and the trainees presented findings in forms of oral and poster presentations. We interacted with the knowledge users, policy makers and community partners at the conferences with respect to the implications of the findings. The results of the project were well received. As seen from the outcome list, the results of the project were also presented at the Canadian Academy of Psychiatric Epidemiology annual meeting and other national and international conferences. We also briefed the results to the
Calgary Chamber of Commerce and the Canadian Mental Health Association – Calgary division. Thus far, we have had one manuscript published in a peer-reviewed journal (Journal of Affective Disorders, attached) and another one is currently under review. Another manuscript based on the MSc. thesis is in preparation.

**Principal Applicant (Team Leader)**

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<tr>
<th>Name</th>
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<th>Topics of interest</th>
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**Project Partners (Team Members)**

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**Publications and Presentations**

**Peer-Reviewed Publications** (underlined are trainees under my supervision)


**Masters of Science Thesis**


**Conference Presentations/Abstracts** (underlined are trainees under my supervision)


**Federation of Psychiatric Epidemiology:** The uses of psychiatric epidemiology in improving population mental health, Leipzig, Germany.


ABOUT THE ALBERTA MENTAL HEALTH RESEARCH PARTNERSHIP PROGRAM

The Alberta Mental Health Research Partnership Program is comprised of a broad-based multisectoral group, representing service providers, academic researchers, policy-makers and consumer groups, working together to improve the coordination and implementation of practice-based mental health research in Alberta.

The mission of the Research Partnership Program is to improve mental health outcomes for Albertans along identified research priority themes, by generating evidence and expediting its transfer into mental health promotion, prevention of mental illness, and innovative service delivery.

The Research Partnership Program sets out to increase Alberta’s excellence and output of mental health research findings, and to better translate these findings into practice improvements.
REFERENCES


