Using survey and administrative data to construct surveillance indicators for the new Canadian Mental Health Strategy: Opportunities and challenges

Centre de recherche Fernand-Seguin
De l’Hôpital Louis-H. Lafontaine

Thursday September 27th 2012
In May 2012, the Canadian Mental Health Commission launched the first national mental health strategy and proposed a series of indicators to monitor the implementation and impact of this strategy across Canada and at the provincial and regional levels. Some CAPE members were involved in the development of these indicators. The CAPE 2012 Symposium will address the issues of the availability, strengths and limitations of the indicators that are based on survey and administrative data.

The symposium will start with a keynote conference presented by a representative of the Mental Health Commission of Canada who will present a modelisation strategy to the indicators proposed in the Canadian Mental Health Strategy to assess the future mental health needs of the population. This keynote conference will be followed by three short presentations on the epidemiological issues raised by this strategy and other strategies to develop mental health indicators created for or with national, provincial and regional decision-makers. The morning session of CAPE symposium will close with a panel discussion where policy contributors will comment on the preceding presentations.

The CAPE community of scientists and students were invited to submit presentation proposals on these topics as oral or poster presentations. Two awards of $200 will be attributed to the students who made the best poster presentation.

**Registration to the Symposium**

We need to know in advance how many people will attend the 2012 CAPE symposium so that we can order enough food and beverages for everyone. The registration fees for the Symposium are: $40 for students (please send a copy of your student card with your registration form) and $50 for others. These registration fees cover the continental breakfast, coffee/tea breaks, standing-buffet lunch, CAPE’s membership for 1 year, and documents for the symposium.

**The deadline for registration to the symposium is September 4th 2012.**

To register, please e-mail the enclosed registration form to nrenaud.hlhl@ssss.gouv.qc.ca and send the original with a check to CAPE (and a copy of your student card, if applicable) to:

Nancy Renaud - CAPE 2012 Symposium  
Centre de recherche Fernand-Seguin  
Unité 226, Pavillon Riel  
Hôpital Louis-H Lafontaine  
7401 rue Hochelaga, Montréal (Québec) H1N 3M5
**Dinner on September 27th**
CAPE annual symposium tradition calls for an informal dinner held in a friendly “bring your own wine” restaurant in Montreal. The cost will be roughly $30-$35 before taxes and tip. Please indicate on the Registration Form whether you intend to attend this dinner. The name and location of the restaurant will be announced at the beginning of the symposium.

**Simultaneous translation**
Unfortunately, simultaneous translation (French/English) will not be available during the symposium. You can present in English or French, in the Montreal tradition!

**WE ARE LOOKING FORWARD TO SEEING YOU IN MONTREAL.**

CAPE2012 Convenors

Alain Lesage  
Aline Drapeau

With the help in Montreal of Nancy Renaud, Alima Alibhay, Carole Tellier
# Tentative Schedule CAPE 2012

<table>
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<tr>
<th>Time</th>
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<tr>
<td>8:00 – 8:45</td>
<td>Registration (breakfast and refreshments will be provided)</td>
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| 8:45 – 9:00 | Welcoming statements  
  - Aline Drapeau – MC / Co-Convenor CAPE 2012  
  - Denise Fortin – CEO Hôpital Louis-H. Lafontaine  
  - Dr. Francine Décary – Chair of the Board of Directors |
| 9:00 – 9:30 | Keynote address by Paul Smetanin, CEO & President at RiskAnalytica |
| 9:30 – 10:15 | Presentations on Canadian approaches on mental health performance & surveillance indicators  
  - Dr. Scott B. Patten: Simulation as a Strategy for Linking Epidemiologic Data to Health Policy Decisions  
  - Siobhan O’Donnell: Use of administrative data for national surveillance of mental illness in Canadian children and youth  
  - Dr. Alain Lesage: Model and indicators of mental health system performance |
| 10:15 – 10:45 | Break                  |
| 10:45 – 11:15 | Discussion panel comprised of 3 policy contributors (15 min)  
  - Howard Chodos (Mental Health Commission of Canada)  
  - André Delorme (Director of Mental Health for the Quebec Ministry of Health and Social services)  
  - Lynne McVey (CEO Douglas Mental Health Institute)  
  Discussion period (15 min) |
| 11:15 – 12:15 | Poster visits            |
| 12:15 – 1:15pm | Lunch                   |
| 1:15 – 1:45pm | Alex Leighton Prize Awarded by CAPE president John Cairney & winner’s speech |
| 1:45 – 2:45pm | Presentations (15min each)  
  1. Hayley Chartrand - Correlates of Non-Suicidal Self-Injury versus Suicide Attempts among Tertiary-Care Emergency Room Patients in Manitoba  
  2. Debra Chen - A pan-Canadian analysis: Impact of co-occurrence of mental illness and substance related disorders on the use of hospital services and outcomes  
  3. Arnaud Duhoux - Qualité du traitement de la dépression au Québec  
| 2:45 – 3:45pm | Poster visits            |
| 3:45 – 4:45pm | Presentations (15min each)  
  1. Angus Thompson - Depression symptom variability due to gender, bereavement, and severity: Different levels, same profiles  
  2. Kristin Cleverley - Person- or Variable-Centered Analysis in Developmental Psychiatry? It all depends on your question.  
  3. Ian Colman - Protective factors against depression during the transition from adolescence to adulthood: Findings from a national Canadian cohort  
| 4:45 – 5:45pm | CAPE annual meeting       |
| 7:30 pm   | Diner at Restaurant L’Académie (2100 Crescent st., 514-664-4455)     |
Summary of Presentations
(Listed by first author’s name)
The Canadian Community Health Survey – Mental Health Survey in 2012 is part of Statistics Canada’s CCHS – Focus Content Component program which consists of periodic, large cross-sectional surveys that examine a single topic or population in considerable detail to support research and policy development. The survey was previously conducted in 2002.

In 2012, the survey will provide a comprehensive look at mental health with respect to who is affected by selected mental disorders as well as positive mental health. It will also examine access to and utilization of formal and informal mental health care services and supports and how people are functioning regardless of whether they have a mental health problem. The survey, in collection from January to December 2012, repeats some of the content from the 2002 Canadian Community Health Survey on Mental Health and Well-Being, Cycle 1.2, and also addresses new data gaps. The presentation will provide an overview of the survey content, timelines, and initial plans for dissemination and analysis.
Title: Patterns of Health Services Use by Patients with First-Episode Schizophrenia-Spectrum Psychosis: The Impact of Primary Care

Background: Over the last two decades, there has been a marked increase in specialized services targeting patients with first-episode psychosis (FEP), as reducing treatment delay is associated with improved prognosis.

Objective: To estimate the extent to which socio-demographic, clinical, and health service indicators are associated with patterns of mental health service use preceding a FEP, and to examine the impact on treatment delay.

Methods: Population-based administrative data from physician billings, hospitalizations, and public health clinics were used to identify incident cases of schizophrenia-spectrum psychosis among individuals aged 14 to 25 years in Montréal, and patterns of mental health contacts in the four years preceding the index diagnosis were analyzed.

Results: Thirty-two percent of cases had no contact with services preceding the index diagnosis. Nearly 50% received the index diagnosis in the emergency department (ED). Individuals in contact with primary care had a reduced likelihood of contact with the ED and inpatient services, but also had a longer time to diagnosis and time to contact with a psychiatrist.

Conclusions: These results support clinical findings that patients with FEP are heavy users of emergency services. Improving the uptake of primary care may reduce the burden on EDs and inpatient units, however primary care providers may need additional training in the symptoms of early psychosis and appropriate referral protocols. Given that clinical samples from specialized services are unlikely to capture all cases seeking treatment, population-based administrative data are an important source of information for understanding patterns of health services use in first-episode psychosis.
**Title:** Sitting, Screen-Time and Suicide: The relationship between sedentary activity and suicidal ideation in the Canadian Community Health Survey.

**Introduction:** Suicide is the tenth leading cause of death among Canadians, representing 3,705 preventable deaths. Many studies have investigated the relationship between physical activity and mental illness. However, little attention has been paid to the contribution of sedentary activity towards poor mental health.

**Objectives:** To investigate whether a link exists between sedentary activity and suicidal ideation in the Canadian Community Health Survey (CCHS). Methods: 146,938 respondents from five waves of the CCHS were included (spanning from 2000 to 2010). Multivariate logistic regression analysis was conducted to assess the relationship between sedentary activity and lifetime suicidal ideation. Sedentary activity was classified into three categories: 0-14 hrs/wk, 15-29 hrs/wk, 30+ hrs/wk.

**Results:** When controlling for sex, age, ethnicity, self-perceived health, self-perceived mental health and BMI, those with 35+ hrs/wk had odds 1.23 (99%CI: 1.01, 1.35), 1.45 (99%CI: 1.17, 1.80), 1.81 (99%CI: 1.18, 2.79), 1.89 (99%CI: 1.65, 2.16) and 1.47 (99%CI: 1.14, 1.91) times higher in the five waves than those with 0-14 hrs/wk (reference) times higher. Increased odds for those who were sedentary 15-34 hrs/wk were less consistently apparent (p<0.05 in 3 of 5 waves).

**Conclusions:** A relationship exists between increased sedentary activity levels and lifetime suicidal ideation, particularly for those with >= 35 hours of sedentary activity per week. This is concerning considering a greater proportion of leisure is increasingly spent on sedentary activities. However, the cross-sectional nature of the CCHS does not permit us to comment on causality. Further longitudinal research is required.
Title: Mixed Mode Data Collection in a Prospective Cohort Study: Lessons Learned for Recruitment & Retention

Background: Recruitment and retention strategies are important considerations when planning a population-based longitudinal study in order to maximize response and minimize selection bias.

Objectives: To describe lessons learned from a mixed-mode data collection strategy in a population-based, prospective cohort study of determinants of mental health and well-being in MS.

Methods: Study participants were followed for six months, starting with two baseline risk factor assessments followed by completion of the Patient Health Questionnaire (PHQ-9) every 2 weeks. Additional modules were included at monthly intervals for a total of 19 data collection points. Participants could complete the surveys either online, by mail, or by telephone interviews. Retention strategies included gift card incentives at regular intervals, thank you cards, and personalized follow-up reminders.

Results: From a random sample of 500, 192 participants agreed to participate for a participation rate of 40%. 48 people chose phone interviews, 43 mail, and 99 online surveys. To date, 150 participants have completed the protocol. Phone interviews had the highest drop-out rate, but best module completion rate. The internet modality had a low drop-out rate but many participants switched to phone or mail. Mail module completion rate was similar to internet.

Conclusions: Online data collection for a prospective study with multiple data collection points presents many technical issues that can outweigh its benefits over traditional survey methods. Providing all three options, when feasible, can take advantage of the strengths and minimize weaknesses for both researchers and participants while a customized participation experience may improve retention.
**Title:** An analysis of predictors of nicotine dependence among adults with substance use

**Objectives:** To examine substance use, abuse and dependence among adults with lifetime nicotine dependence at Wave 1 of the NESARC (National Epidemiologic Survey on Alcohol and Related Conditions) and persistence of nicotine dependence in the past year at Wave 2 of the NESARC.

**Methods:** Data on lifetime use, abuse and dependence of sedatives, opioids, tranquilizers, cocaine and cannabis were obtained from Wave 1 of the NESARC (2001-2002: N=43,093). Among lifetime wave 1 nicotine dependence, multiple logistic regressions were used to examine whether wave 1 lifetime use, abuse, and dependence of sedatives, opioids, tranquilizers, cocaine, and cannabis predicted persistence of nicotine dependence in the past year at Wave 2 (2004-2005: N=34,653).

**Results:** Among those with lifetime nicotine dependence at Wave 1, using sedatives, tranquilizers, opioids, cannabis, and cocaine significantly predicted persistence of nicotine dependence in the past year at wave 2. In contrast, only abuse of cannabis predicted past year nicotine dependence at wave 2 (OR=1.24, 95% CI 1.04-1.47, p<0.05). Finally, wave 1 dependence on sedatives (OR=1.84, 95% CI 1.12-3.04), tranquilizers (OR=2.09, 95% CI 1.11-3.95), cannabis (OR=1.48, 95% CI 1.08-2.02), and cocaine (OR=1.54, 95% CI 1.12-2.11) significantly predicted persistence of nicotine dependence in the past year at wave 2.

**Conclusions:** Use, abuse and dependence of certain substances are significant predictors of lifetime nicotine dependence.
**Name:** James M. Bolton MD, Department of Psychiatry and Department of Psychology University of Manitoba, Winnipeg, Manitoba, jbolton@exchange.hsc.mb.ca

**Co-Authors:** Wendy Au, William D. Leslie, Patricia J. Martens, Murray W. Enns, Leslie Roos, Laurence Y. Katz, Holly C. Wilcox, Annette Erlangsen, Dan Chateau, Randy Walld, Rae Spiwak, Monique Seguin, Katherine Shear, Jitender Sareen

**Title:** Parents Bereaved by Offspring Suicide: A Population-Based Longitudinal Case-Control Study

**Objective:** To examine outcomes of parents bereaved by the suicide death of their offspring, and to compare these to both non-bereaved parent controls and parents who had offspring die in a motor vehicle accident (MVA).

**Method:** All identifiable parents in Manitoba, Canada who had an offspring die by suicide between the years of 1996-2007 (suicide-bereaved parents, n=1415) were compared to non-bereaved matched control parents in the general population (n=1415) and to MVA-bereaved parents (n=1132) on the rates of physiciandiagnosed mental and physical disorders, social factors, and treatment utilization in the two years after death of the offspring. Adjusted relative rates (ARR) were generated by generalized linear models and adjusted for confounding factors.

**Results:** Suicide bereavement was associated with an increased rate of depression [(ARR=2.12, 95% Confidence Interval (CI) 1.80-2.51), anxiety disorders (ARR=1.40, 95% CI 1.18-1.66), and marital break-up (ARR=1.16, 95% CI 1.03-1.31) in the two years after the suicide of an offspring, as compared to the two years prior to the death. Suicide-bereaved parents had significantly higher pre-to post-death rate increases of hospitalization for mental illness when compared to MVA-bereaved parents (p=0.003), and were more likely to have adverse health and social markers prior to their offspring’s death, including depression (ARR=1.30, 95% CI 1.04-1.63), physical disorders (ARR=1.32, 95% CI 1.16-1.49) and low income (ARR=1.33, 95% CI 1.15-1.54).
Title: Correlates of Non-Suicidal Self-Injury versus Suicide Attempts among Tertiary-Care Emergency Room Patients in Manitoba

Objective: Non-suicidal self-injury (NSSI) is a potential diagnosis in DSM-V. This study examined the prevalence and correlates of NSSI in emergency settings and to compare to suicide attempts.

Methods: Data came from a sample of physician-assessed, consecutively-referred adults to psychiatric services in emergency departments of two Manitoba tertiary-care hospitals between January 1, 2009 and June 30, 2011 (N=5,607). Presentations of NSSI were compared to suicide attempts as well as no suicidal behaviour across a broad range of demographic and diagnostic correlates.

Results: Of the 5,607 presentations, 230 (4.3%) were NSSI, 749 (14.0%) were suicide attempts, and 2380 (44.6%) featured no suicidal thoughts or behaviour. Compared to presentations without suicidal behaviour, NSSI was associated with female sex, childhood abuse, anxiety disorders, depression, aggression and impulsivity, age under 45, and substance abuse. Comparing NSSI and suicide attempts, no differences were observed on sex, age, history of child abuse, or presence of anxiety or substance use disorders. However, suicide attempts had a higher likelihood of recent life stressor [Odds Ratio (OR)=1.44; 95% Confidence Interval (CI)=1.05-1.99], active suicidal ideation (OR=8.84; 95% CI=5.26-14.85), depression (OR=3.05; 95% CI=2.23-4.17), previous psychiatric care or suicide attempts (OR=1.89; 95% CI=1.36-2.64), and single marital status (OR=1.63; 95% CI=1.20-2.22). 74% of individuals with NSSI presented only once to emergency services over the 30-month period.

Conclusions: NSSI is associated with early life adversity and psychiatric comorbidity. The majority present only once to emergency services. Future studies should continue to clarify whether NSSI and suicide attempts have distinct risk profiles.
Name: Debra Chen, Canadian Institute for Health Information (CIHI), dchen@cihi.ca
Co-Authors: Nawaf Madi

Title: A pan-Canadian analysis: Impact of co-occurrence of mental illness and substance related disorders on the use of hospital services and outcomes

The presentation will summarize analysis that examined various socio-demographic, geographic, diagnostic and clinical characteristics of individuals hospitalized in Canada with both mental health and substance related disorders (concurrent disorders), and the impact of concurrent disorders on the use of hospital service indicators including days stayed and readmission. The analysis will compare individuals with a clinical history of both substance related disorders and mental illness to those with mental illness only and substance related disorders only, and with no mental illness or substance use disorder. The analysis used data primarily from Hospital Mental Health Database (HMHDB) at the Canadian Institute for Health Information (CIHI). The pan-Canadian information provided by the analysis may inform treatment planning and system management for individuals with concurrent disorders, and the risk factors were identified that may influence outcomes and enhance targeted interventions across the continuum of mental health and addictions services.
Title: Person- or Variable-Centered Analysis in Developmental Psychiatry? It all depends on your question.

Commonly used analytical methods such as regression, factor analysis and structural equation modeling take a variable-centered approach to analysis (Laursen and Hohh, 2006; Muthen and Muthen, 2000). This approach assumes a homogenous pattern of change over time. The goals of this analysis are to understand the relationship among different variables, study how constructs influence indicators, and predict outcomes. A complementary analytical approach, person-centered analysis is based on the assumption that the construct being studied develops heterogeneously and that different groups of individuals carry different patterns of change and long term outcomes (Muthen and Muthen, 2000). The goals of these analyses are to identify and verify meaningful natural clusters of data that share similar relevant properties (Laursen and Hoff, 2006). Analytical methods such as class and cluster analysis, and group-based trajectory modeling are examples of person-centered analysis. Both analytical approaches are important to understanding the developmental progression of behaviours or psychiatric symptoms. This presentation will demonstrate how both Person and Variable Centered Analysis are useful analytical techniques to study the relations between Indirect and Physical Aggression, as an example. The concurrent development of Indirect and Physical Aggression is best understood using (i) person-centered methods to determine whether certain groups of individuals are likely to be following high trajectories of IA, PA and joint IA/PA and link these groups to outcomes, and (ii) variable-centered methods to understand the effect of covariation of IA and PA on outcomes models and determine whether the measurement models confirm a 2-factor model of aggression.
**Title:** The association between smoking and major depression in a Canadian community based sample with Type-2 Diabetes.

**Objective:** To investigate the association between depression and smoking status within a community-based sample with type-2 diabetes, while controlling for socio-demographic, diabetes related characteristics and complications, disability, other chronic illness and other health-related variables.

**Method:** 1868 adults with type-2 diabetes were recruited via random digit dialing for the Montreal Health and Well Being Study (DHS). Smoking was classified as never, former, light (≤10 cigarettes a day) and heavy (11+ cigarettes a day). Depression was assessed using the Patient Health Questionnaire-9 and individuals were classified as no major depression vs. major depression syndrome. Logistic regression was used to test the association between major depression and smoking status, while controlling for other demographic and health related variables.

**Results:** Major depression was associated with an increased likelihood of being a light or heavy smoker, having 2 or more diabetes complications, moderate-severe disability, and having 2 or more other chronic illnesses. In the fully adjusted model, having major depression was associated with an increased likelihood of being a heavy smoker (OR = 2.62, 95% CI 1.43 – 4.81). The association between light smoking and major depression was not significant when adjusting for confounding variables.

**Conclusions:** Smoking and depression are strongly associated in patients with type-2 diabetes, and this association appears to be dose dependent. This finding has important clinical implications given that smoking cessation is an important health recommendation, and potentially means depression status may be an important consideration when targeting clients with diabetes who continue to smoke.
**Objective:** The purpose of this study was to identify factors protective against depression in early adulthood, and to understand how these factors interact with stressors. Methods: 1137 members of the National Population Health Survey were studied. Participants were aged 12-17 years in 1994/95 and were contacted every two years until 2008/09 (age 26-31). Depression was assessed every two years using the Composite International Diagnostic Interview Short-Form. Protective factors measured at age 16/17 included social support, physical activity, and mastery. Highest level of education was also recorded. Stressors in early adulthood included major recent life events, and personal, work, and financial stress. The general linear mixed model was used to examine the relationship between protective factors, stressors and five assessments of depression.

**Results:** High mastery was the only factor that had a significant protective effect against depression in early adulthood (OR=0.91; 95%CI: 0.86,0.95). However, numerous interactions between protective factors and stressors were observed. Participants with high social support in adolescence were less likely to become depressed after experiencing work or financial stress compared to those with low social support (p<0.05). Participants physically active in adolescence were less likely to become depressed after experiencing work stress compared to those less active (p<0.05). Those who stayed in school longer were less likely to become depressed after experiencing personal stress or major life events than those who left school early (p<0.05).

**Conclusions:** Several factors identified may be ideal targets for school-based interventions to reduce the burden of depression during a potentially stressful transitional period.
Name: Diane Daneau, RN, Bsc; RQRS, Diane.daneau@douglas.mcgill.ca

Co-Authors: Gustavo Turecki, MD, FRCP; Alain Lesage, M.D., FRCP(c); Suzanne Lamarre, M.D. FRCPC, DLFAPA and Elham Rahme, PhD

Title: Développement d’une grille d’évaluation de la qualité du suivi post-tentative de suicide

Introduction: Le suicide est un problème sérieux de santé publique au Québec avec plus de 1100 décès par année. La tentative de suicide est un des facteurs de risque de mort par suicide; 16% des personnes ayant fait une tentative de suicide va réitérer dans l’année qui suit (Owens, Horrocks, & House, 2002). Il n’existe pas de consensus sur le type de suivi pour ces cas. Seule Renaud et al. (2004) aurait créé une grille d’évaluation de suivi s’adressant à la clientèle pédiatrique mais aucun équivalent n’existe pour la clientèle adulte. La présente étude vise au recensement des critères nécessaires pour un suivi de qualité pour les suicidants s’étant présentés au département d’urgence d’un centre hospitalier.

Méthodologie: La grille éprouvée de Renaud et al. (2004) a servi canevas à l’élaboration de la présente grille. Chaque élément de la grille a fait l’objet de discussion par un panel d’expert clinique pour en déterminer la pertinence pour la clientèle adulte dans le contexte québécois.

Résultats: Des 16 critères initiaux, 14 ont été retenus comme constitutants l’étoffe d’un suivi de qualité et 2 critères différents ont été ajoutés. Plusieurs critères ont dû être reformulés et adaptés pour répondre à la clientèle.

Conclusion: Présentement, un audit de dossier de suicidants traités dans un centre hospitalier de Montréal est en cours pour tester la pertinence des critères choisis ainsi que leur applicabilité à la clientèle adulte.
**Objectives:** We document: 1) trends in the prevalence of depression and distress/anxiety among Canadians from 1978-79 through to 2010; and 2) the relationship between Gross Domestic Product (GDP) and the mental health of the Canadian population.

**Method:** Secondary analysis of survey data was used. The mental health data were from a series of large-scale national surveys conducted by Statistics Canada that cover the period 1978/79 to 2010. The data on economic activity were from national sources. The two mental health measures were examined. Distress/anxiety was measured by Kessler’s K-10 scale. Depression was measured by the Composite International Diagnostic Interview - Short Form – Major Depressive Episode module (CIDI-SF-MD). Sample weights including bootstrapping were used to take into account the complex sampling methods used in the surveys. Descriptive analyses were used to compute prevalence rates and trends over time. Trends were examined for the population as an entity and for age, gender and income subgroups.

**Results:** The national prevalence rates of depression have fluctuated over time (from 5.6% of the population in 1994/95 to 4.2% in 1996/97, rising again to 7.2% in 2001 and then declining to 5.2% in 2005). Similar fluctuations for distress/anxiety are also evident. These fluctuations are consistent among the various age, gender and income subgroups.

**Conclusion:** The prevalence of depressed mood and anxiety fluctuates through time and appears to rise in periods of reduced economic activity and decline in periods of heightened economic activity.
Nos précédents travaux ainsi que la littérature existante nous indiquent que seulement une personne souffrant de dépression sur quatre obtiendrait un traitement minimalement en adéquation avec les guides de pratique clinique. Toutefois, les indicateurs de qualité existants pour le traitement de la dépression sont souvent peu détaillés, reproductibles et comparables. Les objectifs de cette étude sont:

- De développer des indicateurs de qualité pour le traitement de la dépression en première ligne à partir des recommandations contenues dans les guides de pratiques.
- De mesurer ces indicateurs dans un échantillon de Québécois consultant en première ligne et rencontrant les critères du DSM-IV pour la dépression majeure.

Les données proviennent du Projet Dialogue. Un questionnaire auto-administré a été complété par 14833 personnes consultant dans 67 cliniques médicales de première ligne à travers le Québec. Les répondants rencontrant les critères pour les troubles anxieux ou dépressifs étaient enrôlés dans une cohorte pour une période d’un an (n=1956). Les indicateurs de qualité du traitement portent sur des éléments tels que le dépistage; la médication reçue, son dosage et le suivi du traitement; la psychothérapie; l’information reçue par le patient; la prise en compte de ses préférences et l’inclusion de l’activité physique dans le programme thérapeutique. Parmi les participants à notre étude de cohorte souffrant de dépression, 85% ont utilisé les services de santé pour des raisons de santé mentale. De ce sous-groupe, 61% ont reçu un traitement considéré comme minimalement adéquat.

Cette étude présente plusieurs indicateurs de qualité ainsi que des données originales sur la qualité du traitement de la dépression chez les patients consultant en première ligne au Québec.
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<th>Name : Renée El-Gabalawy, MA, PhD(Candidate), Department of Psychology, University of Manitoba, <a href="mailto:umelgaba@cc.umanitoba.ca">umelgaba@cc.umanitoba.ca</a></th>
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<td>Co-Authors: Corey S. Mackenzie, PhD, Kee-Lee Chou, PhD, Jitender Sareen, MD</td>
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<tr>
<td>Title : Prevalence and Predictors of Persistent Versus Remitting Mood, Anxiety, and Substance Disorders in a National Sample of Older Adults</td>
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<th>Context: Little is known about whether mental disorders remit versus persist in later life. In addition, existing research on this topic has focused on depression, so that even less is known about the persistence of anxiety and substance disorders in older adults. This study aimed to examine the prevalence of persistent mood, anxiety, and substance disorders in older adults, and to explore a range of physical and mental health predictors of disorder chronicity.</th>
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<td>Main Outcome Measures: The primary outcome was the prevalence of persistent mood, anxiety, and substance disorders, which we defined as occurring within the past year at both Waves 1 and 2. Predictors of persistent disorders included sociodemographics, physical health outcomes, and mental health outcomes.</td>
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<td>Results: With the exception of nicotine dependence, the prevalence of persistent mood, anxiety, and substance disorders ranged from 13% to 33%. Significant predictors of persistent mood and anxiety disorders included physical and mental health comorbidity, suicide attempts, personality disorders, and treatment seeking.</td>
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<td>Conclusions: At least two thirds of mental disorders in older adults are not persistent. Sociodemographics had little influence on chronicity, whereas a number of physical and mental health markers of mental disorder severity and complexity predicted persistent mood and anxiety disorders. The findings have important treatment and prevention implications.</td>
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**Name**: Mark A. Ferro, Offord Centre for Child Studies, McMaster University, Department of Psychiatry and Behavioural Neurosciences, McMaster University, ferroma@mcmaster.ca

**Co-Author**: Michael H. Boyle

**Title**: The Influence of Parental Depression, Family Functioning, and Social Support on the Self-concept of Youth with Chronic Illness

**Objectives**: The objectives of this study were to investigate the influence of parental depression on self-concept of youth aged 10-21 years diagnosed with chronic illness and to examine family processes that moderate and mediate this relationship during a 16-year follow-up.

**Method**: Data were obtained from all eight cycles of the National Longitudinal Survey of Children and Youth (NLSCY) with N=4037 participants diagnosed with chronic illness providing at least one assessment. Self-concept was measured using a four-item scale based on the Self-Description Questionnaire. Growth curve modeling was used to examine the influence of parental depression on youth self-concept. Product term interactions were used to assess potential moderating effects of family functioning and social support, whereas the product of coefficients method was used to examine mediating effects.

**Results**: Parental depression had a negative influence on youth self-concept – as levels of depression increase in parents, there is a corresponding decline in youth self-concept over time ($\beta_{DEP}=-0.71$, $p=0.0015$; $\beta_{DEP\times TIME}=-0.14$, $p=0.0030$). There was no evidence to suggest a moderating effect of family functioning or social support; however, family function was found to partially mediate the relationship ($\alpha\beta=-0.03$, $p=0.0054$).

**Conclusion**: The negative influence of parental depression on youth self-concept is significant. It is important for health care providers to be mindful of how chronic illness diagnoses can affect parents' mental health, disrupt family processes, and impact youth self-concept. Family-centred approaches may allow clinicians to intervene at the parent or family level to promote favourable mental health outcomes in youth with chronic illness.
Name: Kirsten Fiest, University of Calgary, kmfiest@ucalgary.ca

Co-Authors: Sandy Berzins, Kirsten Sjonnesen, Jeanne Williams, Dina Lavorato, Carmelle Bolo, Andy Bulloch & Scott Patten

Title – Titre: Depressive symptoms in multiple sclerosis patients versus the general population

Background: Multiple sclerosis (MS) is a chronic neurological condition with varied symptom manifestations. Previous research has established a relationship between major depression (MD) and MS. It has been suggested that certain depressive symptoms are more prominent in those persons with MS, particularly fatigue and cognitive deficits.

Objective: To compare item-specific Patient Health Questionnaire-9 (PHQ-9) scores (eg. fatigue, concentration, sleep patterns) between general Alberta population and MS-specific samples.

Methods: Data from an ongoing study of depression in MS (n=161) and a sample of the Alberta population (n=2400) were employed. The proportion of the total PHQ-9 score (range 0-27) accounted for by each item (range 1-3) was calculated for both samples, along with 95% confidence intervals.

Results: The PHQ-9 items endorsed most frequently did not differ between the general population and MS sample; fatigue was the most common symptom, followed by sleep changes and appetite changes. Respondents in the MS cohort endorsed feelings of guilt (8.1% (6.1-10.2) vs. 5.3% (4.8-5.8)) and psychomotor agitation/retardation (5.1% (3.3-7.0) vs. 2.7% (2.3-3.0)) more often than those in the general population. Sleep changes contributed more to the total PHQ-9 score in the general versus the MS population (25.2% (24.0-26.4) vs. 19.2% (16.1-22.2)). The frequency of fatigue and concentration-item selection did not significantly differ between the general and MS populations.

Conclusions: This comparison between a MS and general population group indicate no difference in those depressive symptoms most commonly thought to be associated with MS (fatigue, concentration). Differences between the populations regarding sleep changes, feelings of guilt and psychomotor agitation/retardation should be explored further.
Epidemiological studies show that general practitioners are the health care professionals who are most frequently consulted by individuals with anxiety or depressive disorders. To our knowledge, there is no data available that describes the mental health situation of patients consulting general practitioners in Quebec. In order to improve primary health care services for common mental disorders, it is essential to have an estimate of the percentage of general practitioners’ patients with mental health disorders and the link between these disorders, disabilities, and consultations with health care professionals. It is also relevant to verify if this overview of patients varies according to socio-demographic characteristics such as gender, age, location of residence, and type of clinic consulted. The goal of this presentation is to create a mental health portrait of the patients of Quebec general practitioners, based on a sample of nearly 15,000 individuals recruited in waiting rooms of 64 medical clinics in Quebec as part of the Dialogue project. Specifically, the goals are to: 1) estimate the prevalence of anxiety and depressive disorders, comorbidity with physical illness, disabilities, medication, and use of health care services; and 2) examine the variation of these prevalences according to socio-demographic characteristics of patients and the type of clinic consulted.
Depression and distress are frequent in people with diabetes and have detrimental effects on disease outcomes. The neighborhood environment is thought to affect mental health and may be particularly relevant for people with diabetes, who rely more on their local area for resources. Our objective was to investigate if neighborhood characteristics are associated with depression and disease-specific distress in adults with diabetes. We used data from a community sample of 600 adults with type 2 diabetes from Quebec. We collected information on perceived neighborhood environment from phone interviews. We conducted a factorial analysis to combine the neighborhood items into meaningful constructs. We assessed high depressive symptoms from the Patient Health Questionnaire and high distress from the Diabetes Distress Scale. We performed logistic regressions, adjusting for socioeconomic and lifestyle variables. Factorial analysis uncovered 3 important neighborhood constructs: order (social and physical order), culture (social and cultural environment) and access (access to services and facilities), with higher score indicating better neighborhood qualities. All 3 constructs were significantly associated with high depressive symptoms; order and culture were associated with high distress [high depressive symptoms adjusted OR (AOR) 0.8 (95% confidence interval 0.7-0.9), 0.8 (0.6-0.9) and 0.8 (0.7-1.0) and high distress AOR 0.8 (0.7-0.9), 0.8 (0.7-0.9) and 0.9 (0.8-1.1), for order, culture and access scores, respectively]. Neighborhood characteristics are associated with high depressive symptoms and diabetes distress in people with type 2 diabetes. Clinicians may want to consider the neighborhood environment of their diabetic patients when assessing and addressing mental health.
Les affections de la peau ainsi que les troubles psychiatriques sont fréquentes chez les personnes âgées. La cooccurrence de ces maladies a un impact significatif sur la santé et la qualité de vie. Un nombre d’études en Psychodermatologie, une discipline en pleine croissance de développement, ont montré que les problèmes de la peau et ceux de la santé mentale sont associés. Parmi les facteurs qu’expliquent cette association, on souligne : l’origine embryologique commune entre le tégument et le système nerveux et l’existence d’un « réseau neuro-immuno-cutané-endocrinien » qui se base sur l’existence des contacts cellulaires entre les fibres nerveuses, les cellules cutanées, les cellules du système immunitaire et celles du système endocrinien. À date, aucune étude visant à explorer cette association chez les personnes âgées vivant à domicile a été faite puisque la plupart d’eux ont été réalisé parmi les patients en dermatologie et/ou en psychiatrie. Sachant de l’importance des études populationnelles pour l’évaluation de l’utilisation des services de soins de santé, pour l’allocation optimale des ressources et pour formuler les stratégies en santé publique, les auteurs visent à explorer les associations entre les affections cutanées et les troubles psychiatriques (la détresse psychologique, l’anxiété et la dépression) ainsi que l’utilisation de services chez les personnes âgées du Québec vivant à domicile, à partir de l’analyse secondaire des données longitudinales de l’étude ESA (Étude sur la santé des aîné(e)s) qui inclue un large échantillon (n=2494) représentatif de cette population.
**Title:** Workplace mental health accommodation and promotion among Canadian employers: A pilot study.

**Background:** Changes in the world economy and industrial re-organization has resulted in employers facing increasing pressure to be more competitive. Such changes are generating job insecurity and placing further demands on cerebral skills and mental performance. Despite mental health accommodation in the workplace becoming an emerging necessity, there is a paucity of Canadian studies investigating the availability of worksite mental health programs.

**Objectives:** To develop and test a questionnaire to be used in a survey collecting information about workplace mental health accommodations and promotion programs at worksites.

**Methods:** A cross sectional study of 200 Canadian companies was conducted. A random sample of companies was obtained from the D&B database. The D & B database is a leading source of commercial information, containing more than 1.3 million Canadian companies. A questionnaire was developed to collect information about availability of worksite mental health promotion and accommodation programs as well as barriers to providing such accommodations and promotion.

**Results:** The response rate was 59.5%. The majority of worksites had a health and safety policy (78.2%), however, less than half of these worksites (47.3%) said the policy mentioned mental health and safety. The most commonly reported barriers to providing mental health programs included lack of financial resources, human resources, and occupational health professionals.

**Conclusion:** In addition to information regarding the availability and barriers of worksite mental health programs, this pilot study obtained participant suggestions for questionnaire revisions that will be taken into account when developing a questionnaire to be used future studies.
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**Title:** Complicated Grief: a distinct disorder

**Introduction:** Le deuil pathologique est un phénomène fréquent chez les personnes âgées. Selon l’étude ESA, le nombre d’individus souffrant d’une dépression associée à un deuil représente une proportion équivalente (6.2%) au nombre d’individus souffrant uniquement de dépression majeure et mineure selon les critères du DSM-IV. Cependant, la dépression reliée au deuil n’a pas été officiellement inclus dans le DSM-IV en raison de préoccupations concernant la validation des critères diagnostiques spécifiques à ce problème de santé. Des recherches ont montré que le deuil pathologique serait comorbide avec d’autres maladies mentales tel que l’anxiété et d’autres maladies physiques. Par manque de diagnostique officielle, entre 4% et 15% des personnes âgées qui souffrent d’une dépression associée au deuil n’obtiendraient pas de réponses à leurs besoins de santé.

**Objectifs:** L’objectif de ma recherche est précisément de tester s’il existe une réelle distinction entre la dépression et le deuil pathologique chez les personnes âgées. Le deuxième objectif de cette recherche est de documenter les facteurs associés au deuil pathologique. Méthodes: Les données utilisées pour cette étude proviennent de l’Étude Longitudinale ESA (Étude de Santé des Aînés) réalisée entre 2005-2008 auprès de 2 800 personnes âgées de 65 ans et plus. Une analyse de classes latentes appelée “Latent-Class Analysis” (LCA) sera effectuée. De plus, une régression logistique sera effectuée afin d’observer les facteurs de risques et les conséquences associés au deuil pathologique.

**Résultats:** La prévalence de la dépression associée au deuil chez les aînées ayant une dépression est de 3.8%. La distinction entre la symptomatologie de la dépression majeure et mineure et du deuil pathologique, ainsi que les facteurs associés à au deuil pathologique seront présentés. Les résultats suggèrent une sévérité symptomatologique moins élevée chez les individus ayant une dépression associée au deuil, que chez les individus ayant une dépression majeure ou mineure. Implication : Ainsi, en documentant les facteurs de risques spécifiques associés à un deuil pathologique, cette étude contribuera à faciliter l’élaboration d’un diagnostic adéquat, et conduirai à la mise en place de méthodes d’interventions spécifiques à cette pathologie. La création d’un diagnostic unique pour le deuil pathologique pourrait potentiellement améliorer l’accès aux soins et la qualité des services primaires de santé mentale offerts aux personnes âgées.
Title: Risk factors for incident prescription opioid misuse, abuse and dependence: Results from a longitudinal nationally representative sample

Background: Opioid prescription misuse, also referred to as non-medical use, can manifest as using opioids without a prescription, or taking opioids in greater amounts or more frequently than prescribed. This misuse of opioids may in turn lead to opioid abuse or dependence, which has become a serious public health concern. Our aim is to determine the predictors of incident opioid misuse and abuse and/or dependence in a longitudinal nationally representative sample.

Methods: Data come from Waves 1 and 2 (3-year follow up) of the National Epidemiologic Survey on Alcohol and Related Conditions (N=34,653; ≥ 18 years of age). Mental disorders were assessed using the Alcohol Use Disorder and Associated Disabilities Interview Schedule-DSM-IV edition. Physical health conditions were based on self-reported diagnoses by health professionals. Multiple logistic regressions examined the associations between sociodemographic factors and mental and physical health conditions at Wave 1 predicting incident prescription opioid misuse and abuse and/or dependence disorders at Wave 2.

Results After adjusting for several confounding variables, the presence of mental disorders (i.e., anxiety, mood, and personality disorders), physical health conditions (e.g., hepatic disease) and sociodemographic factors (i.e., sex and marital status) at Wave 1 significantly predicted incident prescription opioid misuse and abuse and/or dependence disorders at Wave 2.

Conclusion These results suggest the need for appropriate screening and intervention methods in individuals who are at increased risk of prescription opioid abuse.
Stressful life events have been associated with precipitating mood episodes in the early course of mood disorders, but it is unclear whether over time they are related to greater impairment, more hospitalizations, and suicide attempts. Less well-known is the association between life events in young adults from non-clinical settings who may not have yet developed a mood disorder. Since events happen to everyone, they likely only produce mood disorders in those at high risk, those with more relatives with psychiatric and substance use disorders as well as those with subthreshold mood symptoms during adolescence. This study will examine the interaction of stressful life events in subjects with different mood disorder risk levels from clinical and community samples. The clinical sample will be recruited from the Mood Disorders Program of McGill University Health Centre. Each patient will undergo one session of a structured diagnostic interview for psychiatric disorders (SCID) and a life events measurement. We expect stressful life events will produce worse clinical outcomes in those with higher risk scores. The community sample employs the Nicotine Dependence in Teens (NDIT) prospective cohort, an analytical sample of 823 young adults followed up with self-reports 22 times over the course of 12 years. We tested for effect modification by proximal modifiers (social support and ability to cope) and distal modifiers (previous anxiety disorder diagnosis and adolescent depressive symptoms). We found number of past year events predicted current depressive levels. Also, ability to cope with daily events and adolescent depression each interacted with number of events to increase current depression symptom levels.
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Title – Titre : Model and indicators of mental health system performance

The matrix model of Tansella and Thornicroft, a model to evaluate mental health services proposed a 'geographical axis' (system; program; clinical levels) and a 'temporal axis' (input; process and results). It can be useful in assessing and monitoring system performance in public and private managed care. It depends if at the system level, readily available administrative data can be found and fed regularly to inform on inputs, processes and results. Drawing from studies conducted and/or data available in the Province of Quebec, such indicators will be presented. For example, inputs (mental health budget or prevalence of common and severe mental disorders, available at the regional and provincial levels); processes (rates of readmission after 30 days; adequate follow-up following new diagnosis of depression; adequate follow-up after suicide attempt); results (suicide rates; life expectancy of people with severe or common mental disorders; rate of prison inmates with schizophrenia; rates of people with schizophrenia or common mental disorders who work). Not all these indicators, but the majority can be found in other Canadian provinces, and have also been suggested by the Mental Health Commission of Canada. Their utilisation will depend on support for their production and their accessibility to all stakeholders (decision-makers; professional, consumers, families; interested public) at the local, regional and provincial/state/national levels.
### Title: Suicide and suicide attempts in adults after Major Traumatic Injury: A population-level analysis

**Background:** Worldwide, non-fatal injuries are a leading cause of morbidity and mortality. In 2008, 14,065 patients were admitted to a hospital across Canada with Major Trauma. Over the last 30 years more people are surviving severe physical injuries. Thus, the psychosocial aspects of severe physical injury have become an important area of research. No previous studies have utilized a population-based sample to estimate the incidence of suicidal behavior following unintentionally physically injured. Our objective was to assess the odds ratio (OR) of suicide and attempted suicide among adults with major trauma compared with a matched cohort.

**Methods:** We used population-level data from the MCHP to identify persons over 18 years of age who experienced an unintentional major traumatic injury (ISS>12) at a regional academic trauma centre between Apr. 1, 2001 and Mar. 31, 2011. An age, gender and date of indexed injury matched cohort was created from the general population. We compared the two cohorts to obtain ORs for the specified outcomes.

**Results:** We identified 2249 adults in the Trauma Registry with major physical injury during our defined study period. There were 11245 persons in our matched cohort. Outcome rates were higher among those in the Major Trauma population for suicide (OR 3.76, 95% confidence interval [CI] 1.30–10.84) and attempted suicide (OR 5.57, 95% CI 3.39–9.15), as compared to the matched cohort.

**Interpretation:** Individuals who experience major traumatic injuries are at a greater risk of post-injury suicide and attempted suicide than those in a matched cohort.
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**Title**: The association between fruit and vegetable intake and depression

**Background**: Emerging research suggests a link between nutrition and depression. The objective of this study is to identify whether fruit and vegetable intake is associated with the onset of depression in adulthood in a large population-based cohort of Canadians.

**Methods**: This study used data from the National Population Health Survey (NPHS). The NPHS is a nationwide longitudinal study conducted every two years by Statistics Canada. Fruit and vegetable intake (FVI) was assessed based on frequency of consumption every two years starting in 2002-2003. Major depression was assessed based on the Composite International Diagnostic Interview Short Form. Logistic regression models were used to examine the association between FVI and depression while adjusting for age, gender, income, education, physical activity level, smoking status, history of depression and current depression.

**Results**: This study suggests both a cross-sectional and longitudinal relationship between FVI and depression. Relative to those with the lowest FVI, those with a moderate and healthy FVI had significantly lower odds of suffering from depression 2 years later (p<0.05). Relative to those with the lowest FVI those with a moderate FVI had significantly lower odds of depression 4 years later (p<0.05). When the results were stratified by gender, greater FVI was significantly associated with lower odds of depression in females and not males.

**Conclusion**: These findings suggest an important role of fruit and vegetable consumption in the prevention of depression. The findings from this study provide evidence to support population-based dietary interventions to reduce the burden of mental illness.
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**Title**: Comparison of the Prevalence of Mood and Anxiety Disorders in Canada Between Self-Report and Administrative Data

**Background**: Previous prevalence estimates of mental illness in Canada were based on survey data, which may underestimate the impact of these disorders by relying on personal disclosure. The aim of this study was to compare trends in prevalence of mental disorders identified from two data sources.

**Methods**: We identified self-reported mood and/or anxiety disorder cases from the Canadian Community Health Survey across five years (2002 to 2008), and estimated the prevalence among the Canadian population aged ≥15 years. We then estimated the prevalence of diagnosed mood and/or anxiety disorders using the Canadian Chronic Disease Surveillance System, which identified cases using ICD-9/-10-CA codes from physician billing claims and hospital discharge records during the same period.

**Results**: In 2008, the self-reported prevalence of mood and/or anxiety disorders was 10.0% compared to a diagnosed prevalence of 11.4% in the administrative data. Consistently, the prevalence of mood and/or anxiety disorders in the administrative data was higher than the estimates from self-report; however, this difference decreased over time (rate ratio: 1.5-1.2). Compared to the administrative data, males and females were almost equally likely to under-report mood and/or anxiety disorders. Older adults were much less likely to disclose a mood and/or anxiety disorder compared to adolescents and younger adults, though this difference also decreased over time.

**Conclusions**: The observed differences may reflect negative attitudes towards personal disclosure of mental illness; however, the decrease in the difference over time suggests that perspectives surrounding mental illness may be changing.
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**Title:** Trends in psychotropic medications prescriptions in a provincial population-Saskatchewan 1983-2007

**Objectives:** There has been little research reported on trends in the use of a full range of psychotropic medications prescriptions in the general population. We provide an overview of trends in psychotropic medications prescriptions over a 24-year period in a provincial population.

**Methods:** Data was drawn from a series of Saskatchewan Ministry of Health data files. It covers all psychiatric medications prescribed in outpatient settings. Data analyzed were from nine triennial years starting at 1983 to 2007. Descriptive statistics were used.

**Results:** We found a continuous increase in the psychotropic medications prescriptions over the 24-year period. The prescription started to increase markedly in the 1990s and continues so through to 2007. Females were prescribed more medications than males. The increase of prescriptions occurred in all age. Family physicians were the major prescribers, with their prescribing dramatically increased over the period. There was an increase in the prescribing of all medications except for anxiolytics and hypnotics. Prescriptions of antidepressants dramatically increased, especially from the year of 1995. There were also substantial changes in terms of number of prescriptions per patient. The proportion of patients with 8 to 11 or 12 more prescriptions per year gradually increased, conversely, the proportion of patients with less than 3 prescriptions per year gradually decreased.

**Conclusions:** The prescription of psychotropic medications has been increased dramatically, and the prescription of antidepressants has been the major reason. Given the large role of family physicians in prescribing psychotropic medications, appropriate training and continuing education is reinforced.
CONTEXT: While the vast majority of psychiatric patients are not violent during hospitalization, inpatient violence has always been a matter of concern in psychiatry. Earlier reported rates of inpatient violent behavior, 1% to 45%, remain non-specific. The main aim of this study was to determine the current prevalence rate of serious violent behavior (Fottrell grades 2 and 3) and to describe some of its clinical correlates among hospitalized psychiatric patients.

METHOD: Data was taken from two independent samples of adult (18-64 years old) admissions to a Quebec regional psychiatric hospital. One sample consisted of the 1931 regular admissions and the other was composed of the 892 involuntary admissions. Non-parametric descriptive statistics were used for analysis.

RESULTS: The patient based rate of serious violent behavior was 2%. This rate was significantly associated with the male gender (RR=2.09), alcohol use disorder (RR = 3.03) and length of stay (37 vs. 14 days, p=0.04). Regression analysis revealed that violent acts were correlated with the male gender, impulsiveness, euphoric mood, delusion and alcohol misuse.

CONCLUSIONS: The major finding of this study is that serious violent behavior among this sample of psychiatric inpatients has a low prevalence rate. This data also provides supportive evidence that violent acts are mainly associated with alcohol misuse. The results are potentially useful in the development of effective prevention strategies to ensure that both staff and patients are emotionally and physically safe.
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Title: Use of administrative data for national surveillance of mental illness in Canadian children and youth

Objective: Mental illness often begins in adolescence or young adulthood. Previous estimates of the prevalence of mental disorders in Canada were based on survey data and excluded children under 15 years of age. This study examines the prevalence of mental disorders among children and adolescents (< 20 years) using administrative data from the Canadian Chronic Disease Surveillance System.

Methods: Cases of mental disorders were identified by diagnostic codes from at least one physician billing claim or hospital discharge abstract. Mental disorder prevalence estimates were disaggregated by age (by 5 year age group) and sex from fiscal years 1996/97 to 2008/09.

Results: In 2008/09, approximately 5 million (14.4%) Canadians aged 1 year and older were living with a mental disorder. While a higher proportion of adults were affected compared to children and adolescents, the largest relative increase occurred among young adolescents (10-14 years) between 1996/97 and 2008/09. Increases were observed in all 4 age groups from 4 to 8% in 1996/97 to 5 to 10% in 2008/09, with those between 15 to 19 years of age being most affected. The rates were higher for boys than girls in the 1 to 14 year old age groups; while among adolescents 15 to 19 years of age, girls had a higher prevalence of mental disorders than boys (1.2 times).

Conclusion: Mental disorders are common among children and adolescents. Our findings emphasize the importance of early detection and management in children and adolescents to minimize the impact of persistent or recurring mental health disorders into adulthood.
There is significant heterogeneity in the experience of Major Depression: people experience different combinations of symptoms, and the duration of depressive episodes varies greatly. Few studies examine the characteristics of depression and depressive episodes in community epidemiological samples. We used data from a nationally representative community sample: the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) Wave 1. This US survey includes data from 43,093 respondents aged 18 years and older. Data of longest depressive episode was broken into quartiles, and multinomial logistic regression was used to identify correlates of longer depressive episodes. The association between episode duration and symptom variety & distribution and treatment seeking was explored. Of the population experiencing a depressive episode, length of episode quartiles appeared as follows: 2 - 4 weeks, 5 – 17 weeks, 22-74 weeks, and 78 – 3131 weeks. Most symptoms of depression were more strongly associated with episodes of longer duration, with the most significant association was seen with feelings of guilt or worthlessness [Adjusted odds ratio 2.54, 95% confidence interval 2.04 – 3.18]. All forms of treatment – healthcare professional treatment, hospitalization, medication and self-medication – were more likely with longer duration episodes. Our results further describe the population experiencing depression in a community sample. Feelings of guilt or worthlessness stands out as a symptom associated with longer episodes of depression.
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**Title:** The Relationship Between Educational Attainment and Mental Health Problems in a Nationally Representative Sample

**Objective:** The purpose of this study is to examine the cross-sectional and longitudinal relationship between educational attainment and mental disorders in a nationally representative sample of adults.

**Methods:** Data were obtained from Waves 1 and 2 (3-year follow-up) of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC; N=34653, Age>18). We used multiple logistic regression to examine: a) the cross-sectional relationship between educational attainment and individual Axis I and II mental disorders at Wave 2 and, b) the longitudinal relationship between educational attainment at Wave 1 and incident Axis I mental disorders at Wave 2 in unadjusted and adjusted models. Self-reported educational status was divided into four categories: less than high school, high school diploma or GED, some college, and any post-secondary degree.

**Results:** After adjusting for several confounding variables, educational attainment below any post-secondary degree in comparison to attaining higher levels of education were significantly and positively associated with increased odds of several individual Axis I and II mental disorders (adjusted odds ratio range: 1.10-2.63). Lowest educational attainment was significantly associated with panic disorder and mania/hypomania. Lower education at Wave 1 was also significantly and positively associated with increased odds of incident mood and anxiety disorder, nicotine dependence, and alcohol abuse/dependence (adjusted odds ratio range: 1.24-2.83), with the strongest cross-sectional and longitudinal relationships being associated with nicotine.

**Conclusion:** Lower educational is associated with increased rates of mental health. Clinicians should be aware of educational attainment in patients to promote more effective communication and better health outcomes.
**Background:** Epidemiologic estimates for mood and anxiety disorders have been available for several decades, but using this information to improve population mental health is a difficult challenge. In distinction to traditional epidemiologic methods (e.g. estimation of population parameters), simulation involves developing a representation of the epidemiology, allowing exploration of “what if” scenarios reflecting alternative policy options. A simulation model representing the epidemiology of mood and anxiety disorders in Canada has recently been developed and played a role in shaping Canada’s recently published national mental health strategy.

**Methods:** The modeling was carried out by RiskAnalytica using their “Life at Risk” platform. Specification and calibration of the model occurred in consultation with national and international experts. Data sources included demographic data, literature reviews, published estimates, supplementary analysis of survey data and meta-analysis.

**Results:** Reconciliation of incidence and prevalence data required representation of recall bias in the model. This suggests that population surveys may underestimate lifetime prevalence and that cross-sectional data may provide misleading impressions about secular trends in prevalence. Increases in the absolute number, but not percentage, of Canadians with mood and anxiety disorders are projected in upcoming decades as a result of population growth. These increases will be most pronounced in elderly age groups.

**Conclusions:** This “base” model provides an overview of mood and anxiety disorder epidemiology. Simulation models can act as a platform for generating economic analyses and epidemiologic projections. These can support the rapid exploration of “what if” scenarios and policy options, thereby informing policy decisions.
Background: Prior research has indicated that adults 65 years and older die by suicide at a higher rate than any other age group. Further, anxiety disorders commonly occur in older adults. Research has found an association between anxiety disorders and suicidality in adults younger than 54 years old; however, no research has examined this association using a nationally representative sample of older adults. The present study examined the relationship between anxiety disorders and suicidality among older adults.

Methods: We used data from adults 55 years and older from the public use Canadian Community Health Survey Cycle 1.2 (CCHS 1.2) collected in 2002 (n = 12,212). We used cross-tabulations to compare prevalence rates of past-year suicide ideation and attempts (i.e., suicidality) between older adults with, and without, past-year anxiety disorders. We used unadjusted and adjusted logistic regression models to determine associations between past-year suicidality and past-year anxiety disorders.

Results: Prevalence of suicidality was higher among older adults with anxiety disorders than those without. Older adults with panic disorder, panic attacks, social phobia, posttraumatic stress disorder, and any anxiety disorder, compared to those without, had significantly higher odds of suicidality after adjusting for sociodemographics and Axis I mood and substance disorders (AORs 3.74-11.08).

Conclusions: Past-year anxiety disorders were positively and strongly associated with past-year suicidality among older adults, independent of mood or substance disorders. This research contributes to the growing literature that suicide is a highly prevalent and complex mental health problem among older Canadian adults.

Findings have important clinical implications for this demographic.
**Title:** Time trends in the associations of religiousness and depression: findings from the Stirling County Study

**Objective:** To estimate the associations between measures of religiousness and depression and to determine if these associations have changed over the period 1952 to 1992.

**Methods:** Data were drawn from 2,398 individuals from the 1952 and 1992 cross sectional surveys of the Stirling County Study as a means of studying time trends. For this thesis, questions about frequency of religious worship attendance, frequency of saying grace, religious importance were employed to develop a scale of secularism. The individual questions and the scale were analyzed in terms of the prevalence of depression at each time point. Logistic regression was used to determine associations of depression with religion variables, adjusted for demographic and other covariates.

**Results:** Individuals who attended religious services weekly were over two times less likely to meet criteria for depression than infrequent attenders and this relationship did not change over time. Associations between religious attendance and depression were stronger among women and the medically healthy compared to men and those without a medical condition. Being more secular was associated with higher odds of depression among females.

**Conclusions:** Religious attendance has consistently been associated with lower depression over a forty year period, irrespective of marked declines in population-level religious behaviors. Associations between religiousness and depression may be stronger in females than in males.
Title: Estimates of Residual Depressive Symptoms in the Canadian Population

Introduction: Incomplete recovery from a major depressive episode (MDE) is often accompanied by residual symptoms (RS), which are associated with a higher risk of relapse and recurrence of depression. The objective of the study was to provide the first population estimates of RS in the general community.

Methods: The Canadian Community Health Survey (CCHS 1.2.), a nationally representative cross-sectional study, was used. The Composite International Diagnostic Interview identified those with a history of a past MDE but not currently (N= 3790). The K10 Distress scale was used to profile symptomatology.

Results: Those who reported symptoms “some of the time” or more frequent were identified. Of individuals who have had an MDE but are not currently depressed, 81.4% have at least one symptom present (95% CI: 86.3-88.4); males 80.4% (95% CI: 78.1-82.6); females 81.9% (95% CI: 80.4-83.4). In national population of Canada, the prevalence of individuals with RS is estimated at 8.4% (weighted). Different approaches to estimation will be presented. Individuals with RS will be differentiated from those with a history of MDE but not symptomatic, and those without a history of MDE, with and without positive symptoms.

Conclusion: These results represent the first attempt at quantifying the prevalence of RS among the general population. The unexpectedly high frequency of RS within the population may partially represent a failure of treatment systems to achieve satisfactory outcomes or it may mean that complete symptomatic remission is either an unusual or unrealistic expectation for outcome in major depression.
Introduction: Due to the exponential growth in the number of older adults worldwide, epidemiologic research in the area of aging and mental health is of high importance. There is currently a gap in the existing literature regarding the prevalence of psychiatric disorders in late life.

Methods: Authors used Wave 2 data from the National Epidemiologic Survey on Alcohol and Related Conditions to examine the prevalence of a comprehensive range of mood, anxiety, substance use, and personality disorders in a nationally representative sample of older adults ($n = 12,312$). Analyses were stratified by older age groups: young-old (ages 55-64); middle-old (ages 65-74); old-old (ages 75-84); and oldest-old (ages 85 and older).

Results: Results indicated that a higher proportion of older adults experienced any past-year anxiety disorder (11.39%), compared to any past-year mood disorder (6.77%). Major depression was the most frequently experienced mood disorder (5.63%), and specific phobia was the most frequently experienced anxiety disorder (5.79%) among older adults. Results demonstrated that 12.20% of older adults met the criteria for any past-year substance use disorder. Personality disorders were prevalent among older adults, with 14.53% experiencing any of the ten personality disorders.

Conclusion: Authors found a general pattern of decreasing prevalence rates in psychiatric disorders with increasing age. However, there was a slight upturn in prevalence rates among the oldest age group for 3 of 4 mood disorders, 1 of 5 anxiety disorders, and 4 of 10 personality disorders. These results demonstrate a need for effective prevention and treatments for psychiatric disorders, especially among the oldest old.
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**Title:** Child maltreatment and repeat emergency department presentations for suicide-related behaviors

**Introduction:** Intervention studies aimed at preventing SRB in children/youth have been inconclusive. Trials in adults provide hope that programs can reduce ED SRB presentations but also raise questions about why those with a first ED SRB presentation do not seem to respond to interventions as well as those with a prior presentation. As many of the adults (age 16 or more) in these trials may have first presentation to the ED with SRB as children/youth, we seek to better understand repetition over time in the pediatric population from the perspective of developing secondary preventive strategies.

**Objectives:** To identify factors associated with repeat emergency department (ED) presentations for suicide-related behaviors (SRB) – hereafter referred to as repetition – among children/youth to aid prevention initiatives. To compare rates of repetition in children/youth with substantiated maltreatment requiring removal from their parental home with their peers in the general population.

**Methods:** A population-based (retrospective) cohort study was established for children/youth with a first ED SRB presentation at risk for repetition in the Province of Ontario, Canada between 1 January 2004 and 31 December 2008. Children/youth legally removed from their parental home because of substantiated maltreatment (n=179) and their population-based peers (n=6,305) were individually linked to administrative health care records over time to ascertain social, demographic and clinical information and subsequent ED presentations for SRB during follow-up. These children/youth were described and their repetition-free probabilities over time compared. To identify factors associated with repetition we fit multivariable, recurrent event survival analysis models stratified by repetition and present unadjusted and adjusted hazard ratios (HRs) and 95% confidence intervals (CIs).

**Results:** Children/youth with substantiated maltreatment (as noted) were two times more likely to have repetition than their peers after adjustments for social, demographic and clinical factors (conditional on prior ED SRB presentations). A number of these factors were independently associated with repetition. No more factor distinguished between having a first and second repetition nor was more strongly associated with repetition than another.

**Conclusions:** Among children/youth with a first ED SRB presentation in a large, population-based sample we found the risk of repetition is higher in children with substantiated maltreatment (as noted) than their peers. A number of factors were predictive of repetition. Implications for secondary prevention, including a non-selective approach, sensitive to family difficulties, are discussed.
Objective: Chronic disease is often associated with poor mental health. Using administrative health data, this study aims to compare the occurrence of other chronic conditions among individuals living with and without a medically-diagnosed mental disorder.

Methods: In the Canadian Chronic Disease Surveillance System, cases of mental disorders were identified if at least one physician billing claim or hospital discharge abstract in a given fiscal year listed any of the following International Classification of Diseases (ICD) 9th or 10th Edition codes: 290-319 and F00-F99, respectively. The prevalence of other co-morbid conditions such as diabetes, hypertension, asthma and chronic obstructive pulmonary disease (COPD) was assessed using the same source population and relevant ICD codes. Prevalence rate ratios for each of these conditions were calculated by 5-year age groups over time from fiscal years 1996/97 to 2008/09.

Results: Between 1996/97 and 2008/09, the age-standardized prevalence of each co-morbid condition among people with a mental disorder was higher than among those without. Rate ratios were highest for asthma and COPD (RR > 1.5) than for diabetes and hypertension (RR > 1.2). Rate ratios declined with age for all co-morbid conditions, except for asthma where rate ratios peaked among young and middle-aged adults before declining in older age.

Conclusion: Mental illness is often associated with other chronic illness. Our findings emphasize the importance of addressing all co-morbid conditions in those living with a mental disorder.
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**Title**: Surveillance des troubles mentaux comme maladie chronique au Québec.

L’Institut national de santé publique du Québec, dans le cadre de son programme de surveillance des maladies chroniques, dispose d’une Unité de surveillance des maladies chroniques et leurs déterminants. Ayant débuté il y a plus d’une décennie avec la surveillance du diabète, l’unité porte maintenant son attention sur les troubles mentaux considérés comme maladie chronique. La méthodologie est basée sur le jumelage des fichiers administratifs du paiement des médecins (RAMQ), de l’hospitalisation (MeDECHO), des décès et de l’inscription au régime d’assurance-maladie. La présentation va exposer les résultats de la prévalence des troubles mentaux traités, ceux anxieux et dépressifs et de la schizophrénie, à travers les âges, le genre, les régions du Québec ; le risque accru de mortalité et ses causes ; et les services médicaux généraux et spécialisés, leur distribution entre les services médicaux de première ligne, des services spécialisés, de l’urgence et de l’hospitalisation, 1999-2010. Les défis d’interprétation de cette prévalence traitée quant aux besoins de services seront abordés autour de l’accroissement notable de la prévalence du Trouble d’attention et d’hyperactivité chez les enfants. Les bases de données administratives offrent la possibilité de mesurer à un niveau régional, voire local, plusieurs indicateurs de la performance du système de santé mentale en temps opportun. Participant au système national canadien de surveillance du diabète depuis son inauguration, par l’envoi de données agrégées, le Québec peut comparer la performance de son système de santé pour cette maladie chronique. Le Québec pourra maintenant le faire pour les troubles mentaux avec la parution imminente du premier rapport du système de surveillance canadien sur les troubles mentaux. Les travaux québécois sur l’excès de mortalité et la distribution des services pourront être repris par le système de surveillance canadien, alors que ceux canadiens sur la co-morbidité avec les autres maladies chroniques seront éclairants.
Title: Specific Symptoms of Posttraumatic Stress Disorder and Risk for Suicide Attempts in a Nationally Representative Sample

Background: The present study aimed to determine whether specific DSM-IV symptoms of posttraumatic stress disorder (PTSD), and the three symptom clusters of reexperiencing, avoidance/numbing, and hyperarousal symptoms, were predictive of suicide attempts in a nationally representative sample.

Method: Data came from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). N=34,653, age=20+ years, response rate=70.2%. The Alcohol Use Disorders and Associated Disabilities Interview Schedule IV (AUDADIS-IV) was employed to make DSM-IV diagnoses, including PTSD. Suicide attempts were assessed in the NESARC by asking respondents if they ever attempted suicide. Multivariate logistic regressions were used to determine which of the three PTSD symptom clusters and which of the individual PTSD symptom(s) significantly predicted suicide attempts among those with lifetime PTSD.

Results: Among individuals with lifetime PTSD, even after adjusting for sociodemographics, any mood, substance or anxiety disorder (excluding PTSD) and the other PTSD symptom clusters, increasing numbers of avoidance symptoms significantly predicted suicide attempts (AOR = 1.26, 95% Confidence Interval (CI) 1.15-1.38, p<0.001). In addition, getting physical reactions by reminders of the trauma (AOR = 1.51, 95% CI 1.08-2.09, p<0.05), avoiding conversations about it (AOR = 1.49, 95% CI 1.00-2.22, p<0.05), being unable to have positive loving feelings (AOR = 1.90, 95% CI 1.35-2.66, p<0.001), and having no future plans (AOR = 1.48, 95% CI 1.10-1.98, p<0.01) significantly predicted suicide attempts.

Conclusion: The present study suggests that increasing numbers of avoidance symptoms among individuals with PTSD are associated with increased risk for suicide attempts.
**Background:** The scoring of the Patient Health Questionnaire (PHQ-9) for MS patients is thought to be contaminated by the common MS symptoms of fatigue and cognitive deficits. This would artificially inflate the prevalence estimates of major depression (MD) in MS patients.

**Objectives:** To determine the extent to which scores on the PHQ-9 are contaminated by patients reporting symptoms attributable to MS.

**Methods:** Baseline data of PHQ-9 scores from an ongoing prospective cohort study of depression in MS were used to determine the point prevalence of MD (n=179). Prevalence estimates for the MS cohort were compared to those of a general population sample (n=3304). Eight different scoring methods were used; these methods included classifying the respondents into depressed and non-depressed categories using scoring algorithms and cut-points whereas other scoring methods involved calculating scale scores.

**Results:** Algorithms gave lower scores than cut-points, but this was seen to a similar extent in the general population and so is not an MS-specific phenomenon. Using conventional algorithmic and cut-point scorings, estimated point prevalence in the MS cohort was 10.1% and 21.8% respectively. Excluding symptoms makes a difference to prevalence with cut-point scoring if the denominator is not adjusted, but with a proportional adjustment, prevalence is comparable with or without item exclusions. Scores calculated each way were closely correlated (Spearman’s r > 0.9).

**Conclusion:** These results indicate that inclusion of fatigue and cognitive deficits from the PHQ-9 scale does not significantly alter the performance of the scale. Rather, MD prevalence estimates as measured in both the general population sample and MS cohort are strongly affected by whether an algorithmic or cut-point scoring approach is used.
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**Title**: Exploring the association of psychological status with self-rated diabetes control: Results from the Montreal Evaluation of Diabetes Treatment Study

**Background**: There is an increasing interest in single-item self-rated indicators of perceived health and control status in people with chronic illnesses such as diabetes. However, these self-rated measures can be associated with indicators of psychological status.

**Aim**: The main aim of our analysis was to determine whether indicators of psychological status were related to self-rated diabetes control, above and beyond health and lifestyle factors, and which, if any, indicators were most strongly associated with diabetes control.

**Methods**: Results from a telephone interview conducted with 1,787 people with type 2 diabetes and taking oral hypoglycemic medication were assessed. Participants were asked questions about diabetes control, health variables and behaviours, anxiety, depression and diabetes distress. Self-reported diabetes control was modeled using logistic regression.

**Results**: The logistic regression model that best explained the majority of the variance for self-rated poor diabetes control was a model that incorporated diabetes distress. When adjusted for age, sex and all other health behaviours and outcomes poor diabetes control was most associated with diabetes distress, physical inactivity, being overweight and poor eating habits.

**Conclusions**: Results from this study indicate that an improved fit for our diabetes control logistic regression model is achieved by including diabetes distress as a covariate. These results suggest that in people with type 2 diabetes taking oral hypoglycemic medication self-reported poor diabetes control is associated with a 3-5-fold increase in the likelihood of having moderate-severe diabetes distress.
Background. Conceptualizing depression as either major or minor and as being with or without accompanying bereavement allowed an examination of two general issues. These were (1) the validity of the bereavement exclusion for the DSM diagnosis of major depression, and (2) whether group differences in the prevalence of depression represent a variation in kind or in amount.

Methods. A sample of 773 individuals with basal symptoms of depression (two weeks of flat affect or loss of interest) were drawn from a survey of 2,817 adults in Alberta’s workforce. On the basis of responses to the MINI, they were grouped into four diagnostic categories: (1) bereaved minor depression, (2) minor depression without grief, (3) bereaved major depression, and (4) major depression without grief. The main analyses involved the construction of group profiles across the seven DSM-IV secondary depressive symptoms (appetite, sleep, slowness or restlessness, energy, guilt, concentration, suicidal ideation) for each depressive category. Comparisons were made for depression type, gender and bereavement.

Results. As expected from the literature, women were disproportionally represented in the depressed sample. Nonetheless, the symptom profile of the sexes was very similar. This pattern held true for comparisons involving severity (minor vs. major depression) and bereavement.

Conclusions. The findings suggest that (1) variations in depression should often be viewed as differences in amount rather than kind, (2) the proposed removal of the bereavement exclusion for major depression in the upcoming DSM-5 is justified, and furthermore that the “true” prevalence of depression in the population has been underestimated.
Previous studies have demonstrated individual associations between Borderline Personality Disorder (BPD), Panic Attacks (PA), and Panic Disorder (PD) in relation to suicide attempts. This study is the first to examine the comorbid effects of these variables. Data from Wave 2 of the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC; \( n = 34,653; \) response rate 70.2\%) was used to examine the relationship between individuals who had attempted suicide with BPD (\( n = 562 \)), PA (\( n = 253 \)), PD (\( n = 255 \)), comorbid BPD and PD (\( n = 146 \)), and co-occurring BPD and PA (\( n = 119 \)) using logistic regression. It was found that BPD, PD and PA are associated with suicide attempts however the comorbid conditions have stronger associations than any isolated disorder. Associations were greatly decreased after controlling for affective dysregulation. These findings emphasize the importance of affective dysregulation in individuals with BPD in relation to suicide attempts.
Suicide mortality is elevated among people with a history of opioid addiction. Existing research, however, consists mostly of small clinical samples. Using administrative data permits the extension of existing work by providing greater statistical power while avoiding some selection biases. In this analysis, we examine the epidemiology of suicide among all people with an inpatient diagnosis of opioid abuse or dependence in the state of California between 1990 and 2005.

We obtained linked inpatient and mortality data from the California OSHPD and population and mortality data from the CDC. To form the study cohort, we selected all individuals with one or more inpatient admissions with a recorded diagnosis of opioid abuse or dependence.

We calculated crude and standardized rates and ratios for suicide, using California in the year 2000 as the reference population. We used Cox regression to examine independent associations of suicide with age, location, and comorbid psychiatric and general medical conditions.

There were 231 deaths in 390,438 years of follow-up, corresponding to a crude mortality rate of 59 per 100,000. Standardization yielded a rate of 74 per 100,000 and a standardized mortality ratio of 6.6 (95% CI = 5.3 to 7.8). Gender differences mirrored those in the general population, with rates for males 3 times those for females. Cox regression results will be presented.

Results provide a reliable estimate of the risk and burden of suicide in this population. Associations with demographic and clinical variables highlight the possibility of identifying people at particularly high risk at treatment initiation.
Context: Few longitudinal studies have examined the relationship between stressful life events (SLEs) and future suicide attempts in persons with major depressive disorder (MDD). We investigated whether SLEs were associated with suicidal behaviour 3 years later.

Methods: We used data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a nationally representative longitudinal survey of US adults (n=34,653; Wave I collected in 2001-2002 and 2004-2005 for Wave 2). Only respondents with MDD at Wave I were included in the analysis (n=6,004). Twelve SLEs were available at baseline. Logistic regressions were conducted to examine the association between SLEs at baseline with suicide attempts at follow-up. Individuals who never had suicidal ideation or attempts were compared to those who had attempted suicide at Wave 2 (n=169) and those who had made suicide attempts during 3-years follow-up, but without a history of suicide attempts prior to Wave 1 (n=63).

Results: Several SLEs were associated with suicide attempts, among which, “serious problems with neighbour, friend or relative” (adjusted odds ratio (AOR) = 2.21; 95% confidence interval (95%CI) : 1.41, 3.45) and “major financial crisis, bankruptcy or been unable to pay bills” (AOR = 2.31; 95% CI: 1.45, 3.66) were the most robust predictors of suicide attempts even after adjusting for sociodemographic variables and any anxiety, substance-use, or personality disorders.

Conclusion: The findings suggest that people with MDD who have been exposed to SLEs are at an elevated risk for future suicide attempts.
**Objective**: The purpose of this study was to identify distinct trajectories of anxious and depressive symptoms from childhood to adolescence, and to identify risk factors for membership in these trajectory groups. In particular, the goal was to identify risk factors for trajectories suggesting child-versus adolescent-onset symptoms.

**Methods**: The sample included N=6289 individuals from the National Longitudinal Study of Children and Youth (NLSCY). Symptoms of anxiety and depression were assessed with parent reports from age 2 to 11, and were self-reported by children from age 12 onward. Latent class growth modeling (LCGM) was used to identify distinct trajectories of anxious and depressive symptoms from age 4-5 to 14-15. Multinomial regression was used to examine potential early-life risk factors for membership in a particular trajectory group.

**Results**: The following distinct trajectories were identified: consistently low symptoms—‘low stable’, low symptoms changing to high — ‘low rising’, consistently moderate symptoms—‘moderate’, high symptoms changing to low — ‘high falling’, and consistently high symptoms—‘high stable’. Membership in the ‘low rising’ group (i.e., adolescent onset) was predicted by gender (odds greater for females), mother smoking during pregnancy, and early behaviour problems (‘low stable’ as reference). In contrast, membership in the ‘high stable’ and ‘high falling’ trajectory groups (i.e., early onset) was predicted by maternal depression, presence of a chronic illness, aversive parent management, hostile parenting style, difficult temperament, and early behaviour problems.

**Conclusions**: Causal mechanisms for child and adolescent depression and anxiety may differ according to time of onset.