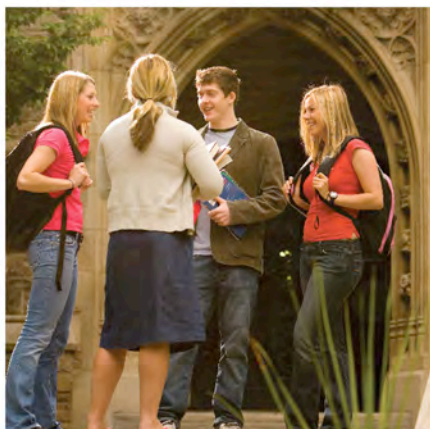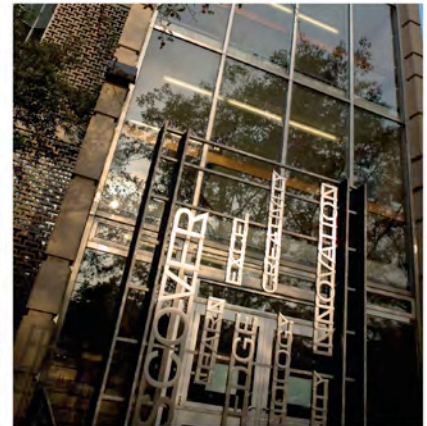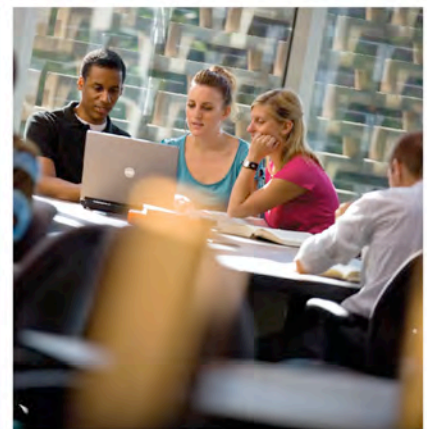McMaster
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McMaster
HEALTH FORUM

EXAMINING THE IMPACT OF AND
APPROACHES TO ADDRESSING
THE NEEDS OF PEOPLE LIVING
WITH MENTAL HEALTH ISSUES

RAPID
SYNTHESIS
(30-DAY
RESPONSE)

25 APRIL 2016

EVIDENCE >> INSIGHT >> ACTION

Rapid Synthesis:
Examining the Impact of and Approaches to Addressing the Needs of
People Living with Mental Health Issues

25 April 2016

McMaster Health Forum
> For concerned citizens and influential thinkers and doers, the McMaster Health Forum strives to be a leading hub for improving health outcomes through collective problem solving. Operating at regional/provincial levels and at national levels, the Forum harnesses information, convenes stakeholders, and prepares action-oriented leaders to meet pressing health issues creatively. The Forum acts as an agent of change by empowering stakeholders to set agendas, take well-considered actions, and communicate the rationale for actions effectively.

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Timeline
> Rapid syntheses can be requested in a three-, 10- or 30-business day timeframe. This synthesis was prepared over a 30-business day timeframe. An overview of what can be provided and what cannot be provided in each of the different timelines is provided on McMaster Health Forum's Rapid Response program webpage (http://www.mcmasterhealthforum.org/policymakers/rapid-response-program).

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KEY MESSAGES

Questions
This rapid synthesis addresses eight questions: 1) what is the overall economic impact of mental health issues in British Columbia, Canada and other jurisdictions?; 2) what is the burden of disease at the individual, family and community level?; 3) is the current system sustainable for meeting the needs of people with mental health issues?; 4) what are the five key things decision-makers need to know in order to meet the needs of people with mental health issues?; 5) what does research say is the best time to intervene along the continuum of services for mental health, what is the nature of the improved outcomes and can they be quantified?; 6) what does research say is the best time to intervene along the lifespan, what is the nature of the improved outcomes and can they be quantified?; 7) what are the five key things that make a difference?; and 8) what are key themes from mental health strategies in other jurisdictions?

Why the issue is important
- Mental health presents one of the highest disability burdens on the planet, but it has not historically received a corresponding amount of attention in research and policy development.
- Developing mental health strategies and other policies with an understanding of what the research evidence on the issue says will help strengthen the policy actions being taken in the area, and can contribute to improving outcomes.

What we found
- We identified a total of 141 relevant documents addressing these questions, including 67 systematic reviews, 21 single studies, and 53 grey literature reports.
- From these, we found:
  - the overall economic impact of mental health is large and diverse, costing the Canadian economy in excess of $50 billion per year;
  - the burden of disease is large relative to other diseases and the burden continues to increase over time with mental health now accounting for one in every 10 lost years of health globally;
  - certain communities (e.g., First Nations, Inuit and Métis peoples, immigrants and refugees) experience mental health problems more, or differently than what we would expect from the population as a whole;
  - the costs of mental health are not sustainable and experts estimate the total cost to society could exceed that of the entire cost of the healthcare system in Canada;
  - five things decision-makers need to know: 1) mental health is a pressing health issue; 2) there are a wide variety of effective interventions which can prevent and treat it; 3) services should be delivered within and across multiple settings; 4) greater attention should be paid to people living with multiple chronic conditions; 5) mental health should be addressed from a whole-of-government perspective with emphasis on the implementation of evidence-based approaches;
  - there is a range of effective interventions with demonstrable outcomes across the continuum of mental health, including promotion, prevention, early identification and intervention, and specialized services;
  - while ensuring effective services and supports are available across the lifespan is a priority, the biggest impact exists for programs targeting children and youth and their families;
  - five things that could make a difference: 1) transform primary care; 2) focus on children and youth; 3) focus on diversity; 4) leverage online platforms and other technologies; 5) set targets and develop indicators in collaboration with people with lived experience and their families; and
  - other jurisdictions are focusing on areas such as increasing access to psychological therapies, primary care, e-mental health, diversity, quality and accountability, whole-of-government approaches, and implementation.

QUESTIONS

This rapid synthesis was requested by the British Columbia Ministry of Health to support ongoing work in the area of mental health. The rapid synthesis is focused on addressing the following questions identified by the British Columbia Ministry of Health.

1. What is the overall economic impact of mental health issues in British Columbia, Canada and other jurisdictions?
2. What is the burden of disease at the individual, family and community level?
3. Is the current system sustainable for meeting the needs of people with mental health issues?
4. What are the five key things decision-makers need to know in order to meet the needs of people with mental health issues?
5. What does research say is the best time to intervene along the continuum of services for mental health, what is the nature of the improved outcomes and can they be quantified?
6. What does research say is the best time to intervene along the lifespan, what is the nature of the improved outcomes and can they be quantified?
7. What are the five key things that make a difference?
8. What are key themes from mental health strategies in other jurisdictions?

WHY THE ISSUE IS IMPORTANT

Mental health presents one of the highest disability burdens on the planet, but it has not historically received a corresponding amount of attention in research and policy arenas.

Developing mental health strategies and other policies with an understanding of what the research evidence on the issue says will help strengthen the policy actions being taken in the area, and could lead to improved population mental health and better outcomes for people living with mental health issues.

A note about language, we followed the British Columbia Ministry of Health's understanding that problematic substance use is one aspect of mental health. However, we adopt the language of the authors when citing reviews, reports and studies. This means there are a variety of terms that are used to refer to "mental health."

Box 1: Background to the rapid synthesis

This rapid synthesis mobilizes both global and local research evidence about a question submitted to the McMaster Health Forum's Rapid Response program. Whenever possible, the rapid synthesis summarizes research evidence drawn from systematic reviews of the research literature and occasionally from single research studies. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select and appraise research studies, and to synthesize data from the included studies. The rapid synthesis does not contain recommendations, which would have required the authors to make judgments based on their personal values and preferences.

Rapid syntheses can be requested in a three-, 10- or 30-business-day timeframe. An overview of what can be provided and what cannot be provided in each of these timelines is provided on the McMaster Health Forum's Rapid Response program webpage (http://www.mcmasterhealthforum.org/policymakers/rapid-response-program)

We have labelled this rapid synthesis as being prepared over a 30-business day timeframe, but it is unique as compared to others we have prepared in this amount of time. This is principally because we completed most of the synthesis (everything except for minor updates to the synthesis and having it merit reviewed) within 15 business days to meet deadlines from the requestor. However, within this period of time, we completed a synthesis for which the scope of evidence reviewed and synthesized is closer (and perhaps more than) what we do for a 30-business-day synthesis. In general, this involved four steps:
1) submission of a question from a health system policymaker or stakeholder (in this case, British Columbia Ministry of Health);
2) identifying, selecting, appraising and synthesizing relevant research evidence about the question;
3) drafting the rapid synthesis in such a way as to present concisely and in accessible language the research evidence; and
4) finalizing the rapid synthesis based on the input of at least two merit reviewers.

WHAT WE FOUND

We identified a total of 141 relevant documents addressing the eight questions of interest, including 67 systematic reviews, 21 single studies, and 53 grey literature reports. We provide more details about each systematic review in Appendix 1. The grey literature reports regarding the activities of other jurisdictions (within Canada and internationally) are summarized in Tables 1-3.

Question 1 - What is the overall economic impact of mental health issues in British Columbia, Canada and other jurisdictions?

British Columbia
No British Columbia-specific economic impacts were retrieved through our search. However, it is possible to estimate the costs and impacts based on available prevalence data for the province and the unit cost of service. For example, some B.C.-specific prevalence data include those outlined in the list below.

- It is estimated that nearly 84,000 children and youth (12.6%) in B.C. experience clinically significant mental disorders at any given time.(1) Estimates also indicate that only 30% or 26,000 children and youth receive specialized mental health services, suggesting many of these children and youth are underserved by the current system.(1)
- Problematic alcohol use also has an economic impact in B.C. For example, 18,752 alcohol-related deaths constituting 6% of all deaths in B.C. were identified over a 10-year period (2002 to 2011). Five hundred and thirty-eight of these deaths involved young people under 25 years of age.(2) In addition, estimates suggest that 187,909 hospital admissions (11,931 of which involved children or teenagers) would have been prevented over the same 10-year period had there been no hazardous or harmful alcohol use in B.C.(3)
- In 2013 alone, the use of substances was attributed to almost 59,000 hospitalizations (29,365 tobacco; 24,429 alcohol; 5,152 illicit drugs) and 6,500 deaths (4,868 tobacco; 1,281 alcohol; 336 illicit drugs) in B.C. While mortality rates declined significantly for all substances from 2002 to 2013, there was a significant increase in the rate of hospitalizations for conditions attributable to alcohol.(4)

Box 2: Identification, selection and synthesis of research evidence

We identified research evidence for this rapid synthesis by searching Health Systems Evidence (www.healthsystemsevidence.org) for systematic reviews and policy documents by using combinations of search terms relevant to the questions in combination with the 'mental health and addictions' topic filter in February 2016. In addition, we identified relevant grey literature from the lead author's files (who is a PhD candidate working in the field of policy related to mental health) and by reviewing relevant websites (e.g., Mental Health Commission of Canada, Canadian Institute for Health Information, World Health Organization). We also supplemented some sections with select single studies when other evidence was not available.

The results from the searches were assessed by one reviewer for inclusion. A document was included if it fit within the scope of the questions posed for the rapid synthesis.

For each review we included in the synthesis, we documented the focus of the review, key findings, last year the literature was searched (as an indicator of how recently it was conducted) and the proportion of the included studies that were conducted in Canada. We typically include the methodological quality of each included review using the AMSTAR quality appraisal tool, which are provided for all reviews in Health Systems Evidence (see the Appendix for more detail about the tool). However, most of the reviews included in this rapid syntheses were not found from Health Systems Evidence and therefore did not have AMSTAR scores available. Given the deadline for the rapid synthesis and the large number of reviews included in it, we were unable to conduct methodological quality appraisals for reviews that we did not identify from Health Systems evidence.

We then used this extracted information to develop a synthesis of the key findings from the included reviews, grey literature and primary studies. We provide a summary of key findings related to questions 1-8 based on the documents identified through these searches. The findings are based on systematic reviews that are recent (within the last five years) that we deemed to be the most relevant from our searches. These findings are complemented by relevant information extracted from grey literature.

Canada

- In any given year, one in five people in Canada experiences a mental health problem or illness, which costs the economy in excess of $50 billion.(5)
- In Ontario, patients with "high mental health costs" (defined as "someone for whom mental health–related services accounted for at least 50 percent of total health care costs") incur 30% more costs (average cost of care was $31,611 in 2012 dollars) than other high-cost users ($23, 681). This makes people with serious and persistent mental health issues some of the most expensive users in the system.(6)
- Mental health problems account for approximately 30-40% of short- and long-term disability claims in Canada.(7)
- A study from the U.S. indicates that the lifetime economic cost of childhood mental disorders was $2.1 trillion equating to $200 billion Canadian when different population size and characteristics are taken into account.(8) However, some caution must be used when interpreting cost estimates from other countries, as Canadian data would provide a more accurate estimate.

Other Jurisdictions

- As outlined by the evidence in the list below, other countries are recognizing similar impacts of mental health, and according to the WHO the social and economic impact of mental disability is now diverse and far-reaching.(9)
  - o Homelessness and incarceration are common occurrences for people with mental health conditions, which exacerbates their marginalization and precariousness. Rates of mental illness among the homeless can be greater than 50%, and studies reveal that more than one-third of the prison population have mental health conditions.
  - o People with mental health conditions often lack educational and income-generation opportunities, limiting their chances of economic development and depriving them of social networks and status within a community (e.g., of all disabilities, serious and persistent mental illness is associated with the highest rates of unemployment, which can be as high as 90%).
  - o People with mental health conditions often have their human rights violated. In addition to restrictions on the right to work and to education, they may also be subject to unhygienic and inhuman living conditions, physical and sexual abuse, neglect, and harmful and degrading treatment practices in health facilities. They are often denied civil and political rights (such as the right to marry and start a family), rights of citizenship, and the right to vote and to participate effectively and fully in public life.
  - o Mental health conditions frequently lead individuals and families into poverty and hinder economic development at the national level. A recent analysis by the World Economic Forum estimated that the costs of mental illness were US$2.5 trillion in 2010 and projected them to rise to US$6.0 trillion by 2030. The cumulative global impact of mental disorders in terms of lost economic output will amount to US$16 trillion over the next 20 years.(10)
  - o The stigma and discrimination surrounding mental health problems have negative impacts on employment, income, and public views about resource allocation and healthcare costs.(11)

Question 2 - What is the burden of disease at the individual, family and community level?

Overall burden

By all accounts, the overall burden of mental, neurological and substance use disorders is large relative to other diseases, and the burden continues to increase over time.

- Globally, an estimated "14.3% of deaths worldwide, or approximately 8 million deaths each year, are attributable to mental disorders".(12)
- The global burden of mental, neurological and substance-use disorders increased by 41% between 1990 and 2010, and now accounts for one in every 10 lost years of health globally.(13)
- Mental health and substance-use disorders represent the largest contributors to years lived with disabilities compared to leading causes of total burden of disease globally. Mental health and substance-

use disorders are comparable to the Disability Adjusted Life-Years (DALYs) for cancer with 7.6% of all DALYs for cancer and 7.4% of all DALYs for mental health and substance-use disorders.(14)

- Each year, over a third of the total population in the European Union suffers from mental disorders. The true size of "disorders of the brain" including neurological disorders such as dementia is considerably larger. Disorders of the brain are the largest contributor to the all-cause morbidity burden as measured by DALY in the European Union. No indications for increasing overall rates of mental disorders were found, nor of improved care and treatment since 2005, and less than one-third of all cases receive any treatment, suggesting a considerable level of unmet needs. Given this, the true size and burden of disorders of the brain in the European Union has been concluded to have been significantly underestimated in the past.(15)

- The global prevalence of anxiety disorders is 7.3% and 10.4% in Euro/Anglo cultures.(16)

- Mental health problems manifest in men and women differently, with women having higher rates of mood (7.3% versus 4.0% for men) and anxiety (8.7% versus 4.3% for men) disorders, and men having higher rates of substance-use disorders (7.5% versus 2.0% for women) within the previous 12 months, with a similar pattern for lifetime prevalence.(17)

- There were an estimated 35.6 million people living with dementia worldwide in 2010, which is expected to increase to 65.7 million in 2030 and 115.4 million in 2050.(18)

- Despite challenges with studying the onset of mental health disorders, the evidence suggests adult mental disorders start in adolescence and that possibly half begin by the teenage years.(19)

- Mental health issues among children and youth are on the rise globally.(20-23)

- A recent meta-analysis found the worldwide-pooled prevalence of mental disorders in children and adolescents to be 13.4%, and 6.5% for anxiety disorders, 2.6% for depressive disorders, 3.4% for attention-deficit hyperactivity disorder and 5.7% for disruptive disorders.(24)

- Worldwide unipolar depressive disorders are common in adolescence with the annual prevalence reaching four to five percent by mid to late adolescence, and girls in general as well as young people who have experienced multiple negative life events, are at greater risk of developing depressive disorders.(25)

- In the United States adolescents between the ages of 13 to 18 have an overall prevalence of mental disorders with severe impairment and/or distress of 22.2% (11.2% with mood disorders, 8.3% with anxiety disorders, and 9.6% behavior disorders), the median age of onset for anxiety disorders was found to be six years, 11 years for behavior disorders, 13 years for mood disorders, and 15 years for substance-use disorders.(26)

- People with alcohol-use disorders have a two-fold greater risk of mortality compared to people with no alcohol disorders.(27)

- Opioid misuse ranges globally from 21-29%, and addiction ranges between 8-12%.(28) In Canada, prescription opioid-related misuse constitutes "the third highest level of substance use burden of disease (after alcohol and tobacco)".(29)

- The prevalence of gambling disorders is higher among older adults who often face barriers to participating in a wide range of social activities.(30)

- Adults with mental illness or severe mental health problems die up to 25 years earlier than those in the general population, with cardiovascular disease being the most common cause of death.(31)

- Internalized mental health-related stigma and treatment stigma are most often associated with reduced help-seeking.(32)

- Deaths by suicide have increased by more than 60% worldwide over the past 45 years.(33) It is consistently among the top 10 leading causes of death in Canada for both sexes,(34) and is the second leading cause of death for those aged 10 to 19,(35) and 15 to 34 (preceded only by accidents).(36) Those with mental illness represent 90% of deaths by suicide and suicide attempts.(37-38)

- The burden of mental illness and addiction in Ontario was found to be 1.5 times that of all cancers and seven times that of all infectious diseases. This is largely due to their emergence early in life, their prolonged duration and their relatively high prevalence compared to other diseases. The age of onset coincides with important life events (graduating from high school, completing post-secondary education, finding employment and long-term relationships). Disruptions to these events due to mental illness and

addiction can cause drastic changes to life trajectories, exacting significant personal and social costs to individuals and society as a whole.(39)

Burden on specific groups

Certain communities that are represented in the population of British Columbia experience mental health problems more, or differently than what we would expect from the population as a whole. We provide a summary of the impact of mental health problems on some groups in the list below.

Indigenous peoples experience a higher burden of mental illness and substance use in Canada.(40)
* In 2000, the suicide rate among First Nation individuals was 24/100,000 (two times higher than the rate among general Canadians, 12/100,000).(41)
* Suicide rates among Inuit are especially high, and have been estimated to be six to 11 times the suicide rate among Canadians.(42)
* A study of deaths by suicide that occurred from 1987-1992 in the province of British Columbia found highly variable suicide rates in indigenous communities. Some communities had rates up to 800 times the national average, while in others, suicide was found to be essentially non-existent.(43)
* Culturally appropriate interventions for indigenous peoples, targeting entire communities and sub-populations, are needed to reduce suicide.(44)
* Indigenous youth have benefited from interventions that target family and community-level outcomes.(45)

Sexual orientation and gender identity minority groups have an elevated risk for depression, anxiety, suicide attempts or suicides, and substance-related problems.(46)
* Sexual orientation minority groups have higher rates of tobacco use.(47)
* Peer victimization related to adolescent sexual orientation and gender identity or expression is associated with higher levels of depressive symptoms.(48)
* Sexual orientation minority group youth have higher levels of depressive symptoms and suicidality.(49)
* Transgender people experience high rates of mental illness compared to non-trans identified people.(50)

Discrimination towards racial and ethnic minorities has been associated with detrimental mental health outcomes,(51) reduced help-seeking,(52) language barriers and concerns about cultural and religious appropriateness,(53) and differences in the quality of care received.(54)

Immigrants and refugees may have higher levels of mental health issues, especially those from conflict zones.(55)
* These patterns may effect first- and second-generation immigrants.(56)
* Immigration policies have an impact on the mental health of undocumented immigrants (including depression, anxiety and post-traumatic stress disorder).(57)
* Immigrant women are at higher risk of postpartum depression than non-immigrant women.(58)
* In Canada, the determinants of mental illness "included pre-migration experiences, number of years since immigration to Canada, post-migration family and school environment, in- and out-group problems, discrimination, and lack of equitable access to health care".(59)
* Immigrant women have worse maternal health than Canadian-born women, and mental health among immigrant mothers is especially poor,(60) but interventions to enhance social support have proven helpful in improving mental health and reducing conflict in this community.(61)

Family and unpaid caregivers that provide care for someone with a mental illness can face a significant burden.
* Rates of burden for family members of someone who is experiencing a mental illness report a level of burden comparable to that of dementia caregivers, who are considered to have highly challenging

responsibilities.(62) The high level of burden caregivers experience places them at risk for developing physical and mental health problems of their own.(63)

- Interventions for those who provide informal care to people with severe mental health problems should be considered as part of integrated services.(64)
- Professional mental health care providers experience high levels of burnout which reduces the continuity of care and increase costs for the system.(65-66)

Community burden

Mental health problems have impacts that can be felt at the community level, and conversely, mental health is affected by community through "neighbourhood trust and safety, community based participation, violence/crime, attributes of the natural and built environment, neighbourhood deprivation".(67) Strong social relationships within communities have significant protective effects against depression, demonstrating outcomes such as perceived emotional support, perceived instrumental support, and large, diverse social networks.(68) Also, significant associations have been found in studies of older people between various community-level measures and cognitive function, but more work is needed on the effect of place and cognition.(69) Lastly, at the community level, there is a relationship between access to green spaces in communities and mental health in adults.(70)

Question 3 - Is the current system sustainable for meeting the needs of people with mental health issues?

There are indications that the current mental health system is not sustainable for meeting the needs of people with mental health issues, with evidence of demand for services continuing to increase and costs continuing to rise over time.

- A 2011 report from the Canadian Policy Network and the Canadian Institutes for Healthcare Information (CIHI) argues that if estimates of future increased mental health costs from other jurisdictions hold true in Canada, future demand will exceed the entire amount of the Canadian health system. Toward ensuring future sustainability, they call for a long-range view that spans sectors to implement programs that promote mental health and prevent mental illness.(71)
- A recent cohort study using Ontario data found that mental illness and addiction rates are increasing among those who are high-cost users of the health system as compared to low-cost users of the health system.(72)
- For mental health concerns among children and youth, a recent (2015) report by the Canadian Institute of Health Information found that:(73)
  - o rates of emergency department visits and inpatient hospitalizations for mental disorders among children and youth have increased 45% and 37% respectively, from 2006–2007 to 2013–2014;
  - o the greatest increases in rates of hospital service use are among youth 10 to 17 years old, those with mood and anxiety disorders and those living in urban areas; and
  - o use of psychotropic medications is common with one in 12 youth having been dispensed a mood/anxiety or antipsychotic medication in 2013-14, and use has increased over time.
- To implement and sustain evidence-informed treatments and services (such as psychosocial care in residential settings), systems must invest in approaches to adopting evidence-informed practices, implementing them effectively and sustaining them over time.(74-75)
- Organizational culture in the context of mental health and social services has been empirically linked to the sustainability of newly adopted programs, performance and outcomes.(76)
- Interventions to increase retention in mental health services were more successful if they targeted mental health knowledge, mental health attitudes and barriers to treatment.(77)

Question 4 - What are the five key things decision-makers need to know in order to meet the needs of people with mental health issues?

Five key things that decision-makers need to know to address the needs of people with mental health issues are outlined below. This list is derived from the documents reviewed in this rapid synthesis with a focus on three sources: 1) the findings from systematic reviews; 2) the findings from published articles presenting an overview of the field as well as those specific to British Columbia or Canada; and 3) recommendations outlined in current national and international reports.

1. Globally, across Canada, and in the province of British Columbia, the burden of mental health problems, and their associated economic, personal, and social impacts are a pressing health issue.(78-83)
2. While mental, neurological, and substance-use disorders are increasing globally, there is a wide variety of effective drug-based, psychological and social interventions which can prevent and treat them, but access is affected by concerns about financial resources, the low availability of trained mental health workers in some jurisdictions, and stigma and discrimination. Moreover, coverage for mental, neurological, and substance use disorders is often limited under most insurance programs in high-income countries, and there needs to be greater financial protections put in place to ensure people get the care they need.(13)
3. Effective evidence-based interventions should be delivered within and across multiple settings, including: at a population level (e.g., through prevention and awareness campaigns and policies that reduce access to alcohol); for specific communities or groups (e.g., interventions targeted to groups that share a common characteristic such as age or culture, or a common setting such as schools or jails); and within the healthcare system (which includes interventions that address self-management and care, primary and community health care, and hospital care).(13)
4. There needs to be greater attention paid to addressing the needs of people living with multiple chronic conditions (i.e., multimorbidity), and particularly to how mental illness intersects with other conditions, such as developmental disabilities or chronic diseases, in primary and community-based care.(84)
5. To close the gap between mental, neurological and substance-use disorders and other health issues, systems must better integrate services across settings and improve the delivery of evidence-based interventions. This requires "an approach that puts into practice key principles of public health, adopts systems thinking, promotes whole-of-government involvement and is focused on quality improvement".(85) Effective translation of evidence into action will require "collaborative stepped care, strengthening human resources, and integrating mental health into general health care".(85)

Question 5 - What does research say is the best time to intervene along the continuum of services for mental health, what is the nature of the improved outcomes and can they be quantified?

There are many promising interventions that have evidence of their effectiveness and demonstrated outcomes across the continuum of services for mental health, including mental health promotion, prevention, early identification and intervention, and specialized services. There is also some evidence for how those interventions can be delivered most effectively. The list below is divided according to the continuum specified by the B.C. Ministry of Health, and identifies some of these effective interventions and their related outcomes.

Mental health promotion
A 2011 study from the U.K. found that mental health promotion and prevention programs modelled economic savings for a range of interventions:
1. health visiting and reducing post-natal depression;
2. parenting interventions for the prevention of persistent conduct disorders;
3. school-based social and emotional learning programs to prevent conduct problems in childhood;
4. school-based interventions to reduce bullying;
5. early detection for psychosis;
6. early intervention for psychosis;
7. screening and brief intervention in primary care for alcohol misuse;

8. workplace screening for depression and anxiety disorders;
9. promoting well-being in the workplace;
10. managing debt;
11. population-level suicide awareness training and intervention;
12. bridge safety measures for suicide prevention;
13. collaborative care for depression in individuals with Type 2 diabetes;
14. tackling medically unexplained symptoms; and
15. befriending of older adults.

While each intervention had varying costs and returns on investment, the authors concluded that "even though the economic modelling is based on conservative assumptions, many interventions are seen to be outstandingly good value for money".(86) An overview of 52 systematic reviews and meta-analyses of mental health in schools found that if completely and accurately implemented, mental health-promotion interventions in schools have a wide range of beneficial effects on social, emotional and educational outcomes.(87)

Mental health prevention
The Mental Health Commission of Canada has called for investing in programs that prevent mental illness through programs targeted at children and youth mental health, mental health services broadly, and workplace mental health. They estimate that just preventing conduct disorders in children could produce as much as $3.1 billion in potential lifetime savings.(88) Interventions to prevent mental disorders and psychological symptoms in the offspring of parents with mental disorders appear to be effective.(89) Universal mental health prevention programs for higher education students that incorporate supervised skill-training interventions have been shown to be effective in reducing symptoms of depression, anxiety, stress and general psychological distress.(90) Psychosocial preventive interventions targeting women of low socio-economic status appear to be effective in reducing depressive symptoms.(91) There is also some evidence from single studies that some treatments may prevent the development of other forms of mental health problems in future, particularly for treatments aimed at children and/or youth.(92-93) However, a systematic review is currently being undertaken by Kozloff and colleagues to determine whether the weight of the evidence confirms these single-study findings.(94) Furthermore, treating problematic substance use may reduce or eliminate the symptoms of mental illness and vice-versa.(92) Thus, effective treatment of mental health problems may also be an effective prevention strategy.

There is also evidence that preventing serious mental health problems can lead to cost savings. For example, preventing just one case of conduct disorder in a child results in an estimated savings of $2.6–4.4 million over the child's life, mainly through reduced healthcare, child protection, justice and social services spending.(95)

Early identification and intervention
Intervening as early as possible has been found to reduce the short and long-term impacts of a range of mental health issues.(96-101) The WHO promotes the use of early interventions as a strategy to provide comprehensive, integrated and responsive mental and social care services in community-based settings. This has been identified as being especially important for children and adolescents with mental disorders who they say "should be provided with early intervention through evidence-based psychosocial and other non-pharmacological interventions based in the community, avoiding institutionalization and medicalization".(102)

Specialized services
There are also a range of specialized services (e.g., psychosocial therapies, intensive case management, assertive community treatment, economic interventions and pharmacological therapies) that can be used to address mental health problems in groups such as those with diagnosable mental health illnesses. We summarize key findings related to these interventions below.

Psychosocial interventions

Many psychosocial interventions for those with serious and persistent mental illness have a strong evidence base for effectiveness,(103) including:
- family intervention;
- psychoeducation;
- supported employment;
- social skills training; and
- residential care.

There is less, but promising evidence about:
- art therapies;
- sports and other physical activities;
- peer support (although the quality of the therapeutic milieu is not yet strong); and
- narrowly defined occupational therapy that shows modest improvements, but may be used in combination with other evidence-based psychosocial interventions.

Outcomes
- Family intervention integrated with psychoeducation reduces the relapse rate.
- Individualized non-institutional residential care reduces hospitalization and may alleviate the type of symptoms that result in social withdrawal and related functional deficits in those with psychotic illnesses.
- Individuals who participate in supported employment programs are significantly more likely to find and maintain paid employment than those who do not.

Psychological therapies

There is strong research evidence for psychological therapies used alone or in combination with medication.(103) For example, there is very strong evidence of the benefit of family interventions in psychosis, and good evidence for cognitive behavioural therapy for psychosis. Cognitive behavioural therapy has been shown to have a positive effect on outcomes, including social and occupational functioning, and may be used safely with those who refuse medication. Online cognitive behavioural therapy appears promising to address adolescents' and emerging adults' anxiety and depression symptoms, though adherence is a significant issue.(104)

Intensive case management and assertive community treatment

Intensive case management (where caseloads are no more than 20 patients) is generally considered effective for those with severe and persistent mental illness, but is not effective at higher caseloads.(103) Research evidence indicates that intensive case management for those with severe mental illness reduces hospitalization, improves social functioning and increases retention in care compared with standard care.(105)

When there is high fidelity to the model, Assertive Community Treatment (ACT) is also effective. A variation of ACT (Flexible Assertive Community Treatment or FACT) that emerged in Europe is beginning to demonstrate effectiveness, but the evidence is derived mainly from single studies.(106) FACT can serve a broader group of clients who have less intense needs, and the number of clients per team is higher. The use of ACT (and its variant) have been shown to improve health outcomes for clients and reduce healthcare costs for those who have a history of high service use.(103) The main benefit of ACT is that clients are able to remain in the community and the reduction in need for psychiatric hospitalization. It is particularly effective in supporting the transition of hospital or forensic services to community, and when clients have complex needs and very high service use. ACT can also be tailored to meet the needs of particular populations. For example, in Ontario, some teams have been tailored to address the needs of Aboriginal clients. Furthermore,

when ACT was paired with the Housing First model in five Canadian cities, it was found to be effective at rapidly transitioning people experiencing serious mental illness from homelessness to stable housing, along with a number of other benefits.(107)

Economic interventions

Increased mental health problems, including common mental disorders, substance-use disorders, and suicidal behaviours are associated with periods of economic recession.(108) Increased harmful drinking during periods of economic recession may have a larger impact on men.(109) Socio-economically disadvantaged children and adolescents have been found to be two to three times more likely to develop mental health problems, and a decrease in socioeconomic status was associated with increasing mental health problems.(110) These findings suggest that measures taken to reduce the economic burden on individuals and families may reduce the burden of mental health overall.

Health insurance benefits offer less coverage for mental health issues compared to physical health issues, but bringing these to parity has favourable effects on financial protection and access to care, and reduces death by suicide and morbidity.(109) Prevention strategies that focus on low socio-economic strata (distal risk factors) may have similar population-level effects as those that focus on proximal psychiatric risk factors in the prevention and control of suicide.(111)

Pharmacological therapies

Pharmacological therapy has similar effects on symptomatic relief for patients with mild to severe major depressive disorder as non-pharmacological treatment options (e.g., cognitive behavioural therapy), but is associated with higher risk of adverse events. The combination of pharmacological therapy with interpersonal psychotherapy appears to have better effectiveness than pharmacological therapy alone.(112-113) Evidence suggests that antidepressants can be effectively used to treat postnatal depression, though further research is required to determine whether, and for whom, antidepressants are more effective than psychological or psychosocial treatments.(114) Pharmacological therapies appear to be effective compared with placebo for treating schizophrenia, though adverse effects must be considered.(115-116) First-generation and second-generation antipsychotics have been shown to be promising to reduce rates of psychotic relapse.(117)

Therapies for children and youth

In addition to those with serious and persistent mental illness, there are numerous effective prevention and treatment programs for children and youth experiencing, or at risk of experiencing, mental health problems. A recent review by researchers in British Columbia identifies six 'highly effective' psychosocial prevention and treatment interventions for children and youth with several of the most common mental health problems, including: 1) parent training, which prevents and treats conduct disorder, and prevents substance-use disorders; 2) cognitive-behavioural therapy which prevents anxiety and major depressive disorders, and treats anxiety, substance use, conduct and major depressive disorders; 3) a program called Nurse-Family Partnership (a maternal and early childhood health program introducing vulnerable first-time moms and their babies to specially trained nurses) which prevents child maltreatment and conduct disorder; 4) a program called Incredible Years (a set of interlocking, comprehensive and developmentally based programs targeting parents, teachers and children) which prevents conduct disorder; 5) a program called Triple P (a parenting intervention with a goal of increasing the knowledge, skills and confidence of parents) which prevents conduct disorder; and 6) a program called FRIENDS (a set of four programs that use a positive psychology approach, focused on building strengths and promoting a healthy lifestyle using mindfulness techniques) which prevents anxiety disorders.(1) In a follow-up report for the Government of British Columbia some of these same authors recommend making these programs available across the province, although they caution that the programs are only effective when implemented well and used with fidelity to the original model.(118)

Delivering interventions

Using a strengths-based approach to delivering almost any service designed for individuals with mental illness or addiction has been gaining popularity. A strengths-based approach includes working with the strengths of an individual and their community to achieve client-defined goals and personal recovery through a focus on interpersonal processes between the service deliverer and the client. This approach shows promising evidence on outcomes such as reduced hospitalization, improved employment/educational attainment, and intrapersonal outcomes such as increased hope and self-efficacy.(119)

Question 6 - What does research say is the best time to intervene along the lifespan, what is the nature of the improved outcomes and can they be quantified?

While ensuring that effective mental health promotion, prevention and treatments are available across the lifespan is a priority, the biggest impact exists for programs targeting children and youth (including those transitioning to adulthood) and their families.

- WHO recommends taking a life-course perspective and attending to the social determinants of mental health.(67) It states that taking action to improve life conditions from before birth, during early childhood, at school age, during family building and working ages, and at older ages provides opportunities both to improve population mental health and to reduce the risk of those mental disorders that are associated with social inequalities. However, while comprehensive action across the life course is needed, "scientific consensus is considerable that giving every child the best possible start will generate the greatest societal and mental health benefits".(67) In order to improve mental health, action needs to be universal, which means across the whole of society, and proportionate to need in order to level the social gradient in health outcomes.
- Evidence of effective programs at all life stages and across a wide range of country settings exists, and the impacts of these programs include:
  o improved health at birth and in the early years for children when parental mental disorders are addressed;
  o improved mental health among children and adolescents when holistic school-based interventions are provided;
  o improved mental health for adults in their working years in the form of programs from employers and programs that help with parenting and family skills; and
  o improved mental health for older adults through programs that reduce isolation, which have been associated with decreased depression and suicide, improved cognition and mental health, and reduced mortality.(67)
- Public health services and programs can and do engage in activities related to mental health promotion and prevention of mental illness, although they may lack the capacity or mandate to focus on these activities.(120)
- Among youth, evidence shows that mental, emotional, and behavioral disorders can be prevented before they begin if a comprehensive approach to prevention is used which:(121)
  o recognizes core principles of prevention, which include:
    ▪ prevention of mental disorders requires a paradigm shift in mental health care,
    ▪ mental, emotional, and behavioral disorders are developmental,
    ▪ mental health and general medical health are inseparable,
    ▪ successful prevention is inherently interdisciplinary,
    ▪ the support of young people depends on coordinated community-level systems,
    ▪ a developmental perspective is key to successful prevention;
  o takes a developmental approach that asks what the child needs at different stages across the lifespan; and
  o considers the neuroscience underlying prevention science, including the core construct of developmental plasticity.

Question 7 - What are the five key things that make a difference?

Five possible areas to focus on to make a difference are outlined below. This list is derived from the documents reviewed in this rapid synthesis with a focus on three sources: 1) the findings and recommendations from systematic reviews; 2) the recommendations outlined in current national and international reports; and 3) the policy directions being pursued in other jurisdictions (see Question 8 below).

1. Transform primary care to include a variety of mental health professionals working as part of interdisciplinary teams. Teams can provide mental health promotion and prevention activities, as well as provide support for problematic substance use through what is known as "SBIRT" (screening, brief intervention, and referral to treatment). Teams can also support collaborative chronic care for individuals with mental health conditions. It is important to ensure that these services address those with complex or co-morbid conditions (such as developmental disabilities or chronic diseases). It is also important to provide these services at no cost (or at minimum low cost) to the recipient to avoid financial barriers to needed care and support.
2. Provide a continuum of services and supports across the lifespan, but focus on children and youth for the biggest impact. This could involve designing a promotion, prevention, early intervention and treatment system around children and youth based on their unique needs, and across the range of systems they (may) engage with (e.g. education, child welfare, youth justice, environment, etc).
3. Ensure the system is designed to better handle the diverse needs of British Columbians. This could include adaptations and flexibility to support the full range of ethnic and cultural diversity, as well as gender and sexual orientation, and to address disparities created by differences in income and immigration status, among others.
4. Leverage online platforms and other technologies that allow people with mental health problems and/or their families and caregivers to access some forms of treatment and supports at their own pace, in their own time and in their preferred language. This also has the potential to reduce geographic barriers to care.
5. Set targets and develop indicators (in collaboration with people with lived experience and their families) that span sectors and services so you know how the system is improving. This could include data systems that allow for more 'real time' feedback, and support the implementation of evidence-informed services and supports. It could also involve linking data across sectors to provide a more holistic view of individual needs that aren't limited to one government ministry.

Many of these actions are already being undertaken to some extent in British Columbia. As part of efforts to address these five key areas, it will be important to meaningfully engage with a diverse array of people with lived experience (across the lifespan) and family members in all aspects of system and service design, delivery and monitoring. While the evidence of the outcomes of engagement are still emerging for consumer/patient involvement in healthcare as a whole,(122-123) and in mental health in particular, there is general agreement that their involvement is essential to achieve a system that is truly centred on consumer and families/caregivers.(124-125)

Question 8 - What are key themes from mental health strategies in other jurisdictions?

Many other jurisdictions are actively focusing on mental health as a priority, and have developed mental health strategies and targets in order to better address the needs of their citizens. Most mental health strategies from other jurisdictions are very comprehensive and cover a large array of issues. Governments are also announcing significant new financial investments in their mental health systems, most recently in England where close to a one-billion pound new investment in mental health was announced in January 2016.(126) Here we list some highlights and some more innovative features of some of the strategies. The details related to these strategies are available in Table 1 below. We also provide some examples of what global experts are saying is needed to improve mental health. Finally, we provide an overview of the strategies

currently available for other Canadian provinces and territories, and some of the national reports and guiding documents for reference (see Tables 2-3 below).

Key themes from mental health strategies
- Shifting the focus to non-pharmacological interventions. For example, improving access to psychological therapies such as CBT (e.g., England)
- Integrating primary and mental health care (e.g., Australia for primary health networks that will commission care)
- Focusing on prevention and early intervention for children and youth (e.g., Sweden for comprehensive approach, England for Early-Intervention-for-Psychosis and Australia for Headspace model)
- E-mental health interventions for mild to moderate issues (this is included in many strategies in Table 1)
- Limiting access to alcohol and other drugs through policies related to access restriction (e.g. alcohol, tobacco) and reducing harms of substance use with more sophisticated surveillance to detect 'real time hot spots' of overdoses (e.g., New York City), and increasing needle exchange programs (such as in prisons)
- Improving data quality and reporting capabilities, such as agreeing on indicators, setting targets, and developing data systems to report on the targets, and data linkage across sectors (e.g., HEAT targets in Scotland)
- "Mental health in all policies" and inter-governmental approaches for the development and implementation of policies. Governments are increasingly shifting toward keeping multiple ministries involved and connected with clear targets and initiatives during implementation, not just during the development of mental health policies and strategies (e.g., Ontario for service collaborative initiative and multi-sectoral implementation efforts, and Scotland for its mental health delivery team)
- Shifting the focus from ensuring that the right things are done (e.g., identifying evidence-based practices) to how well things are done (e.g., increasing focus on implementation and quality improvement) in order to ensure that citizens have access to high-quality services and supports that are reliably provided across different clinicians and regions
- Full and meaningful engagement of children, youth and families, and adults and caregivers experiencing mental illness, in service design and delivery and systems initiatives
- Improving the system's capacity to respond to needs of diverse populations (e.g., the Maori workforce in New Zealand supported by tailored workforce development efforts, and most Canadian provinces that identify working collaboratively with Indigenous peoples to find tailored and effective solutions)

Some places to look for innovative work include:
- New York City (Thrive NYC was recently released and includes an innovation lab amongst other interesting approaches);
- Sweden's Social Investment Funds (similar to social impact bonds), which are beginning to gather evidence supporting their effectiveness (see http://blogs.kenniscentrum-kjp.nl/wp-content/uploads/Social-Investment-Funds-Model-Sweden.pdf and http://www.psynk.se, which provides a simple four-minute video on the pages in "other languages"); and
- family navigation initiatives, which are growing in popularity in Ontario and are aimed at supporting youth (13-26 years) and their families in navigating the mental health and addictions system by pairing families with a clinically trained 'family navigator' (e.g., see the Family Navigation Project at Sunnybrook Hospital in Toronto, Ontario as one example - http://sunnybrook.ca/content/?page=family-navigation-project).

What the global experts are saying are important

Key findings and recommendations from OECD report Making Mental Health Count - The Social and Economic Costs of Neglecting Mental Health Care (127)

The burden of mental ill-health is very high.
- The direct and indirect costs of mental ill-health can amount to over 4% of GDP.
- Mental disorders have a significant societal impact, contributing to unemployment, sickness absence and lost productivity at work.
- Mild-to-moderate disorders affect around 20% of the working-age population in the average OECD country, and are predominantly highly treatable disorders such as anxiety and depression.
- People with severe mental illness die much younger, have much higher unemployment, and are poorer than the general population.

Better measurement of mental health and mental health systems is needed.
- Improving the mental health of the population and mental health systems depends upon good information about mental well-being and the prevalence of mental ill-health.
- There is a need for better internationally comparable cost data and better data on spending outside of hospitals.

Evidence-based treatments should be scaled up.
- Increased use of innovative evidence-based treatments, such as psychological therapies and eMental Health, will help address the treatment gap for mild-to-moderate disorders.
- Scaling up effective treatments can represent good value for money, as the economic benefits of spending on better mental health care will be seen in increasing productivity and helping people with mental illnesses go back to work.
- Countries must ensure that treatment efficacy drives decisions about which services to put in place, rather than historical or social trends in the mental health care sector.
- The primary-care sector can play a bigger role in securing better mental health.
- Care for mild-to-moderate disorders in primary care should be strengthened through training for primary-care practitioners, promoting collaboration between primary care and specialist services, putting in place primary care-appropriate clinical guidelines, and using financial incentives to promote care provision.
- A stronger coordinating role for primary care is a key way that OECD countries should consider to deliver more integrated care for severe mental illness.

Provider incentives should be aligned with desired outcomes.
- Conceptual frameworks and measurement tools are needed to define good outcomes for mental health care, and should be used to track and benchmark services.
- Data should be used as part of provider contracts and payment systems, to define policy, and to monitor targets.
- Provider payment systems that encourage desirable provider behaviour and good outcomes should be used much more widely.

Key points from: Grand Challenges in Global Mental Health – Integration in Research, Policy & Practice (128)

- Mental illnesses frequently co-occur with peripartum conditions, HIV-related disease, and non-communicable diseases. Care for mental disorders should be integrated into primary care and other global health priority programs.
- Integration of care for mental, neurological and substance use (MNS) disorders should: 1) occur through intersectoral collaboration and health system-wide approaches; 2) use evidence-based interventions; 3)

be implemented with sensitivity to environmental influences; and 4) attend to prevention and treatment across the life course.

- Integration of care for MNS disorders with care for other conditions can occur through assimilation of activities, policies or organizational structures at local, national and global levels.
- Plans for health-related development targets post-2015 should consider the tremendous burden of disability associated with MNS disorders and co-morbid conditions.

Key points from: Mental Health and Integration: Provision for Supporting People with Mental Illness: A Comparison of 30 European Countries (129)

- Better data in all areas of service provision and outcomes is required to inform mental health system improvements. Outcome measures, including patient-reported outcomes, are particularly important.
- Appropriate funding is required to support mental health policies. Increasing mental health funding is justified, given the high costs of mental illness and potential savings associated with improved mental health services.
- Institutionalization should not be core to mental health provision, but rather, a temporary measure for certain cases.
- Scale up of integrated, community-based services (i.e. Assertive Community Treatment teams) can lead to improved outcomes.
- Employment services should be integrated into community-based care provision, as employment is often a key component of recovery.

Table 1 - Mental Health and Addictions Strategies and Plans in Other Jurisdictions

Jurisdiction	Title	Date	Points of Focus/Interest
U.K./England	No health without mental health: A cross-government mental health outcomes strategy for people of all ages (130)	2011	• Increasing access to psychological therapies • Devolving centralized power and creating a more community-driven approach to meeting needs
Australia	Contributing lives, thriving communities Report of the National Review of Mental Health Programmes and Services Volume 1 Strategic Directions Practical Solutions 1-2 years (131)	2014	• Person-centred design principles • A new system architecture • Shifting funding to more efficient and effective 'upstream' services and supports
	Australian Government Response to Contributing Lives, Thriving Communities – Review of Mental Health Programmes and Services (132)	2015	• Contestable mental health services will be commissioned, not delivered, through the recently established Primary Health Networks (PHNs) • Coordinated packages of care will be created for people with severe and complex needs, and flexible support for mild and moderate needs • A new Digital Mental Health Gateway will optimize the use of digital mental health services; • A new approach to suicide prevention, co-ordinated by PHNs
Sweden	Don't wait! A guide to investing in early intervention for children and adolescents (133)	2012	• Identifies the five steps to intervene early and prevent mental illness in children and adolescents
	How can we build systems for collective impact through action in all sectors: Transformative Governance Strategies to Enhance Public Mental Health (134)		• Identifies the strategy to transform Sweden's approach to mental health governance
New York City	ThriveNYC: A Mental Health Roadmap for All (135)	2015	Identifies six guiding principles: 1. change the culture; 2. act early; 3. close treatment gaps; 4. partner with communities; 5. use better data; and 6. strengthen government's ability to lead. Also identifies 54 targeted initiatives
Scotland	Mental Health Strategy for Scotland: 2012-2015 (136)	2012	Identifies four "change areas" of focus 1. child and adolescent mental health; 2. rethinking how we respond to common mental health problems; 3. community, inpatient and crisis

			services; and 4. other services and populations. Each change area includes a number of specific initiatives. The strategy also identifies 36 specific commitments made by the government (spanning the spectrum of mental health improvement, prevention, care, services and recovery) that will be achieved by 2015.
New Zealand	Te K kiri: The Mental Health and Addiction Action Plan 2006–2015 (137)	2006	Identifies 10 leading challenges for action: 1. promotion and prevention; 2. building mental health services; 3. responsiveness; 4. workforce and culture for recovery; 5. Mäori mental health; 6. primary health care; 7. addiction; 8. funding mechanisms for recovery; 9. transparency and trust; and 10. working together.
	Te T huhu: Improving Mental Health 2005-2015 (138)	2005	Identifies general and service-oriented outcomes for: • all New Zealanders in their communities; • people with experience of mental illness and addiction; and • family/whänau and friends who support and are affected by people with experience of mental illness and addiction.

Table 2 - Recent Provincial/Territorial Mental Health and Addictions Strategies and Plans

Province/Territory	Title	Date	Points of Focus/Interest
British Columbia	Healthy Minds, Healthy People: A Ten-Year Plan to Address Mental Health and Substance Use in British Columbia (139)	2010	• Takes a population health approach, including mental health promotion strategies for all British Columbians, targeted prevention and risk/harm reduction strategies for vulnerable people, and therapeutic intervention (of varying levels of intensity) for those with mental health and/or substance use problems
	A Path Forward: BC First Nations & Aboriginal People's Mental Wellness and Substance Use 10 Year Plan (140)	2013	• Emphasizes need for culturally safe healthcare services and supports. Focuses on equitable access, improved quality, promotion and prevention, addressing systemic barriers, and engagement of First Nations and Aboriginal communities
Alberta	Creating Connections: Alberta's Addictions and	2011	• Articulates an action plan related to the Creating Connections strategy (below)

	Mental Health Action Plan 2011-2016 (141)		outlining specific initiatives, roles, and accountabilities and timelines for achievement
	Creating Connections: Alberta's Addiction and Mental Health Strategy (142)	2011	• Focuses on prevention and promotion and children and youth, enhancing capacity in community services, addressing complexity (such as homelessness) and quality assurance. One section specifically addresses needs of First Nation, Inuit and Métis peoples
	Creating Connections: Alberta's Addiction and Mental Health Strategy Implementation Interim Report 2011-2014 (143)	2015	• Several key achievements and milestones are identified
Saskatchewan	Working Together for Change: A 10 Year Mental Health and Addictions Action Plan for Saskatchewan (144)	2014	• Priorities include enhanced prevention and promotion, self-management (including e-health), better coordinated care and transitions, coordination within and across service sectors • Action to address mental health across the lifespan, including First Nations and Métis priority areas
Manitoba	Rising to the Challenge: A strategic plan for the mental health and well-being of Manitobans (145)	2011	• Integrated and co-ordinated model, including promotion and prevention, improved access to support and treatment, a greater focus on innovation and research, social inclusion of people living with mental health problems, natural supports (such as family participation), and strengthening the mental health workforce
	Rising to the Challenge: A strategic plan for the mental health and well being of Manitobans. Summary Report of Achievements: Year Two (146)	2014	• Numerous achievements, including funding and policy supports given to provide housing and housing support to individuals with complex needs, and increased access and decreased wait times for eating disorders services
Ontario	Open Minds, Healthy Minds: Ontario's Comprehensive Mental Health and Addictions Strategy (147)	2011	• Focuses on mental health promotion, early identification/intervention, improved integration of health and other services, reducing stigma, and strengthening community services • First three years of implementation (Phase 1) focus on children and youth mental health, including early identification/intervention, improving access and closing gaps for vulnerable children and youth and those in remote communities
	Open Minds, Healthy Minds: Ontario's Comprehensive Mental	2014	• Phase 2 builds on the progress achieved during Phase 1, and prioritizes transitions

	Health and Addictions Strategy Phase 2 (148)		between youth and adult services, expanding access to mental health promotion programs, early identification/intervention, expanding housing, employment supports, diversion and transitions from the justice system, delivery of appropriate care, and funding based on need and quality
	Better Mental Health Means Better Health 2015: Annual Report of Ontario's Mental Health & Addictions Leadership Advisory Council (149)	2015	• Focuses on policy and funding changes to improve transitions between youth and young adult services, quality improvement, responding to the health impacts of inter-generational trauma, investing in supportive housing, and assigning responsibility for youth addictions to a single provincial ministry
Quebec	Plan d'action en santé mentale 2015-2020 – Faire ensemble et autrement (150)	2015	• This plan was not reviewed because it was only available in French
New Brunswick	The Action Plan for Mental Health in New Brunswick 2011-18 (151)	2011	• Comprehensive strategy including promotion and prevention, expanding access, improving collaboration in service delivery, taking an individualized and culturally appropriate approach to care, engaging family members and supporters, enhancing knowledge and awareness, and reducing stigma
Nova Scotia	Together We Can: The plan to improve mental health and addictions care for Nova Scotians (152)	2012	• Five priority areas: earlier intervention with a focus on children and youth, timely access and improved quality, consideration of Aboriginal and diverse communities, improved collaboration between sectors, and reducing stigma
	Together We Can Progress Update (153)	2016	• Early intervention and treatment has shown promising results • Wait times have been reduced and quality of care has improved • Work to engage Aboriginal and diverse communities is underway
Prince Edward Island	No mental health strategy available	Not applicable	• Not applicable
Newfoundland & Labrador	Working Together for Mental Health: A provincial policy framework for mental health & addiction services in Newfoundland and Labrador (154)	2005	• Focuses on prevention, early intervention, collaboration between and within services, evidence-based high quality services, engagement of consumers and families/significant others, and demonstrating accountability and measuring progress
Yukon	A Child & Youth Mental Health and Addictions Framework for the Yukon	2014	• Sets out a comprehensive framework for prevention, early intervention and treatment for all youth with mental health

	(155)		• and/or substance use concerns
			• Draws from Evergreen Canada's national child and youth mental health policy framework and is grounded in research evidence (156)
Nunavut	No mental health strategy available	Not appli cable	• Not applicable
Northwest Territories	A Shared Path Towards Wellness: Mental Health and Addictions Action Plan 2012 – 2015 (157)	2012	• Plan focuses on community engagement, intersectoral collaboration, and integrated care pathways and communication between different services

Table 3 - National Reports

Author	Title	Date	Points of Focus/Interest
Canadian Institute for Healthcare Information	Care for Children & Youth with Mental Disorders (73)	2015	• Examined emergency department visits and hospitalizations for mental disorders among children and youth, and youth-dispensed psychotropic medications
Mental Health Commission of Canada	Changing Directions, Changing Lives: The mental health strategy for Canada (158)	2012	• First mental health strategy for Canada. • Broad directions focused across the lifespan and across a range of contexts • Does not explicitly include addictions
Kutcher, S. and McLuckie, A. for the Child and Youth Advisory Committee, Mental Health Commission of Canada	Evergreen: A child and youth mental health framework for Canada (156)	2010	• Sets out broad directions for child and youth mental health for Canada based on consultations, a review of the research evidence and existing policy • Furthers the notion of the necessity of child, youth and family involvement in mental health
Mental Health Commission of Canada	National Guidelines for a Comprehensive Service System to Support Family Caregivers of Adults with Mental Health Problems and Illnesses (63)	2013	• Guidelines outline the needs of family caregivers and proposes an evidence-informed approach consisting of several recommendations (e.g., provide telephone and online supports to support family caregivers wherever local service capacity is limited) to meet these needs
Institute of Health Economics	Consensus Statement on Improving Mental Health Transitions (103)	2014	• Focus on adults with severe and persistent mental illness

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APPENDICES

The following table provides detailed information about the systematic reviews identified in the rapid synthesis. The ensuing information was extracted from the following sources:

- systematic reviews - the focus of the review, key findings, last year the literature was searched and the proportion of studies conducted in Canada

For the appendix table providing details about the systematic reviews, the fourth column presents a rating of the overall quality of each review. The quality of each review has been assessed using AMSTAR (A MeaSurement Tool to Assess Reviews), which rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial or governance arrangements within health systems. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered "high scores." A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8).

All of the information provided in the appendix tables was taken into account by the authors in describing the findings in the rapid synthesis.

Appendix 1: Summary of findings from systematic reviews about mental health impact and services

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
What is the overall economic impact of mental health in British Columbia, Canada and other jurisdictions?	Economic impacts of mental health stigma and discrimination (11)	The systematic review aims to identify current research on the economic impact of mental illness stigma. Twenty-seven studies met the inclusion criteria. The review found that mental health stigma and discrimination have adverse effects on employment (measured through surveys of individuals and studies of hiring decisions), income and public views about allocation of resources to mental health care.	2008	Review not available on Health Systems Evidence	2/27
What is the burden of disease at the individual, family and community level?	Impact of mortality in mental disorders on global disease burden (12)	A systematic review and meta-analysis were conducted to investigate the mortality rate among people with mental illness compared to the general population. The included 203 studies and represented results from 29 countries. Significantly higher risk of mortality was found among those with mental disorders compared to people without mental disorders. The pooled relative risk of mortality among people with mental illness was 2.22 (95% CI, 2.12-2.33). About two-thirds of deaths among people with mental disorders are due to natural causes, and 14.3% of deaths worldwide are attributed to mental disorders, making them the most substantial causes of deaths.	2014	Review not available on Health Systems Evidence	9/203
	Global prevalence of anxiety disorders (16)	Current statistics are highly variable (between 0.9% and 28.5%), thus the systematic review aims to estimate the overall prevalence of anxiety disorders. The study obtained data from 87 studies across 44 countries, and identified substantive factors such as gender, age, urbanicity, and socio-economic factors that contributed to the majority of variability in prevalence. Methodological factors also accounted for 13% of variance. Cultural differences should be taken into consideration when examining survey instruments for anxiety disorders.	2009	Review not available on Health Systems Evidence	3/87
	Global prevalence of common mental disorders (17)	The review found that prevalent mental disorders affect people worldwide. Despite the heterogeneity in the meta-analysis, the review estimated that approximately 30% of study respondents across 63 countries experienced a common mental disorder at some point in their lives. Mood and anxiety disorders were more prevalent in women, whereas substance use disorders were more prevalent in men. One-year prevalence rates were lower in North and Southeast Asia than other regions. English-speaking countries had the highest lifetime prevalence estimates.	2013	Review not available on Health Systems Evidence	8/174
	Global prevalence of dementia (18)	The review aims to determine an up-to-date estimate of the prevalence of dementia, as evidence has demonstrated a rapid increase in prevalence in countries with low and middle incomes. The review found the prevalence of dementia (aged ≥60) to be 5-7% in most Global Burden of Disease regions, with a higher prevalence in Latin America and lower prevalence across Saharan African regions. As the number of people living with dementia was projected to double every two decades, this review serves as evidence for policymaking and planning in dementia care.	2009	Review not available on Health Systems Evidence	1/135
	Impact of alcohol use disorders on mortality (27)	The review aims to determine all-cause mortality in people with alcohol use. The meta-analysis included 81 observational studies. Mortality in people with alcohol-use disorder was	2012	Review not available on	5/81

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Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		found to be higher in women than men, and also higher in younger age groups and those undergoing treatment compared to other groups. For men, the risk of mortality increased two-fold in those with alcohol use compared to those without.		Health Systems Evidence	
	Impact of opioid use in chronic pain (28)	Problematic use of opioids contributes to increased morbidity and mortality in individuals with chronic pain. The review indicated that rates of misuse ranged from <1% to 81%, with an average of 21-29%. Rates of addiction averaged between 8-12%. While significant variability exists among studies, misuse of opioids seemed generally more common than addiction to opioids. It was not clear whether the risks for opioid use outweigh the benefits.	2013	Review not available on Health Systems Evidence	0/38
	Prevalence of gambling disorder among older adults (30)	The review aims to determine the prevalence, as well as the determinants and risk factors associated with gambling disorder. Twenty-five studies met the inclusion criteria. Prevalence of gambling disorder among adults (aged ≥60) was estimated to be 0.01-10.6%, with a higher prevalence among males than females. Gambling was found to be a venue for relieving emotional stress, as those affected with the disorder were more likely to be single or divorced, with fixed incomes and limited future prospects.	2013	Review not available on Health Systems Evidence	2/25
	Burden of excess mortality among people with mental illness (31)	The study aims to investigate the burden, distribution and pattern of excess mortality among people with mental illness in developed countries. The 85 included studies focused on overall psychiatric morbidity, mood disorders and schizophrenia, but excluded dementia, substance use and anorexia nervosa. Persistent and elevated mortality rates in those affected with mental illness have been noted overtime, with highest numbers of deaths attributed to cardiovascular and respiratory diseases. The gap in life expectancy between people with mental illness and those without has also been increasing. The results advocate for the importance of treating both physical illness and mental disorder in psychiatric patients.	2010	Review not available on Health Systems Evidence	Not reported in detail
	Impact of mental health-related stigma on help-seeking behaviour (32)	The review aims to investigate the impact of mental health-related stigma on help-seeking for mental health problems. Five electronic databases were searched and a meta-synthesis of quantitative and qualitative studies was performed. The review found avoidance or delaying of seeking professional mental health help could be attributed to disclosure concerns and stigma, which were rated as the first and fourth highest ranked barriers to help-seeking respectively. Stigma was found to have a small to moderate negative effect on help-seeking, deterring relatively more ethnic minorities, youth, men, and those in military and health professions compared to other groups of people.	2011	Review not available on Health Systems Evidence	7/144
	Variables associated with suicide (38)	Of all the variables studied, the presence of a mental disorder was found to be most strongly associated with suicide.

There was insufficient evidence to determine associations between specific disorders and suicide or psychosocial factors (e.g., social adversity or social isolation) and suicide. Further research is required in these domains. | 2000 | Review not available on Health Systems Evidence | Not reported in detail |
| | Impact of substance use among Aboriginal populations in Canada (40) | The review included more than 100 documents of public data, journal applications and grey literature that involved people who lived in Canada and self-identify as Aboriginal. The review found a disproportionate burden of substance use, including alcohol, tobacco and illicit drugs, as well as related harms among Aboriginal populations. The increased health | 2014 | Review not available on Health Systems | Not reported in detail |

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		and social costs led to significant public health and policy concerns. Specific risk factors such as binge drinking and unsafe drug use were particularly elevated among Aboriginal youth.		Evidence	
	Impact of suicide among Aboriginal populations in Canada (41)	This report was commissioned by the Aboriginal Healing Foundation to review the research on suicide and suicide attempts among Aboriginal populations in Canada, including First Nations, Inuit and Métis. The report examined the epidemiology of suicide, the origins of suicide, as well as suicide prevention. Specific cultural, historical and political factors contribute to the high prevalence of suicide in Aboriginal populations. As only limited knowledge about effective suicide-intervention programs exists, the review demonstrates a need for evaluation research of such programs in Aboriginal communities.	2007	Review not available on Health Systems Evidence	Not reported in detail
	Effectiveness of suicide-prevention interventions for Indigenous peoples (44)	The review aims to investigate published evaluations of suicide-prevention interventions targeting Indigenous peoples in Canada, the United States, Australia and New Zealand. Nine evaluations were included in the study by searching through electronic databases and websites. Current interventions for targeting high rates of suicide among Indigenous peoples include Community Prevention, Gatekeeper Training and Education. Only three of the nine evaluations measured and reported changes in rates of suicidal behaviour. Weak study designs were observed. There is a need for more rigorous effectiveness and economic analyses for such preventive interventions in order to deliver evidence-based and cultural-specific strategies to reduce the rates of suicide.	2012	5/10	1/9
	Evaluation of protective factors that enhance mental health of Indigenous youth (45)	The review aims to identify the factors and causal mechanisms that enhance Indigenous youth mental health. Fifteen records from three databases met inclusion criteria. More than 40 protective factors that promote and enhance Indigenous youth mental health were identified, some of which include, using traditional knowledge and skills, contributing to the community, having positive role models, and believing in one's self. Healthy families and communities, as well as meaningful engagement in mental health programs enable youth to better cope with multiple stressors and become resilient to mental health issues.	2013	Review not available on Health Systems Evidence	2/15
	Assessment of mental health problems among sexual minorities (46)	This review aims to examine whether sexual minorities have increased risk of being affected by mental health problems. A total of 199 studies obtained from PubMed met inclusion criteria. The review found increased levels of mental health problems, including depression, anxiety, suicide and substance-related issues, for all subgroups of sexual minority individuals compared to heterosexuals. Specifically, the bisexual subgroup had the highest risk of these concerns.	2013	Review not available on Health Systems Evidence	3/199
	Assessment of tobacco disparities among sexual minorities (47)	The review aims to examine the risk factors associated with cigarette smoking among lesbian, gay and bisexual populations. The study identified several risk factors unique to sexual minority populations, which include internalized homophobia and reactions to disclosure of sexual orientation. Common risk factors such as stress, depression, alcohol use and victimization are higher among sexual minorities than the general population. Potential causes for smoking disparities can be further explored by collecting sexual orientation measures in national health surveillance projects.	2011	Review not available on Health Systems Evidence	0/26
	Evaluation of health	The review aims to examine the psychosocial and health outcomes associated with peer	2012	Review not	5/39

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
	outcomes of sexual orientation and gender identity-related victimization among adolescents (48)	victimization in relation to adolescent sexual orientation and gender identity. Thirty-nine studies conducted in 12 countries met inclusion criteria. The review found that victimization was expressed through means of physical, sexual and verbal behaviours, having a negative impact on adolescent psychosocial and health outcomes. Peer victimization was found to be associated with diminished sense of school belonging, higher levels of depressive symptoms, disruption in educational trajectories, traumatic stress, alcohol and substance use. Findings regarding the association between peer victimization and suicidal behaviour were mixed.		available on Health Systems Evidence	
	Assessment of suicidality and depression disparities among sexual minority youth (49)	The review aims to investigate the disparities between sexual minority youth and heterosexual youth pertaining to depression and suicidality. Studies were included if the average age of youth was less than 18. Separate meta-analyses were performed to evaluate suicidality and depression disparities. Significantly higher rates of suicidality (OR=2.20) and depression symptoms were found in sexual minority youth compared to heterosexual youth, and such disparities increased with increased severity of suicidality. These disparities may be influenced by negative experiences such as discrimination and victimization.	2009	Review not available on Health Systems Evidence	3/24
	Assessment of the relationship between racism and health outcome of children and youth (51)	The review aims to examine the effects of racial discrimination on children and youth health. Most studies that met the inclusion criteria were published within the past seven years and involved youth aged 12 to 18. Detrimental effects of racial discrimination had an impact on child and youth health outcomes across all age, racial and ethnic groups. Significant associations were found between racial discrimination and negative mental health, such as anxiety, depression and psychological distress. A consistent, negative relationship was found between positive mental health outcomes, such as self-esteem, self-worth and psychological adaptation. The results were limited by a lack of longitudinal studies.	2012	Review not available on Health Systems Evidence	7/121
	Evalation of the pathways to care for minority ethnic groups with dementia (52)	The review aims to explore the reasons why people from minority ethnic groups tend to reach out to diagnostic and therapeutic dementia services at later stages of their illness. Ten qualitative and three quantitative papers met the inclusion criteria. The review found specific barriers to accessing help, which include personal beliefs, shame, stigma and prior negative experiences of healthcare services. Interventions are needed to address the role of ethnicity and culture in help-seeking pathway for dementia, as well as to improve equity of access to healthcare services.	2008	Review not available on Health Systems Evidence	0/13
	Evaluation of the barriers to care access for minority ethnic groups (53)	The review aims to identify the perceptions of minority ethnic carers pertaining to the barriers to accessing care services and their satisfaction level with such services. The review identified common barriers across all ethnic groups in seeking community care services, which include a lack of desire to involve outsiders, and low awareness of services and service availability. Specific barriers to each ethnic group include language barriers, and cultural or religious appropriateness. A mix of satisfaction and dissatisfaction was reported in regards to social and healthcare services.	2013	Review not available on Health Systems Evidence	2/13
	Evaluation of racial and ethnic bias among healthcare professionals and its impact	The review aims to investigate the extent to which racial and ethnic biases affect the services delivered by healthcare professionals. Most studies employed cross-sectional designs. The review found low-to-moderate levels of implicit bias among healthcare professionals in all	2014	Review not available on Health	0/15

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
	on healthcare outcomes (54)	studies except one. Most healthcare workers tend to show negative attitudes toward people of color. Implicit racial and ethnic biases were found to be significantly associated with patient-provider interactions, treatment decisions, treatment adherence, and patient health outcomes. These implicit attitudes had a larger impact than the treatment processes, and were common among healthcare professionals.		Systems Evidence	
	Epidemiology of mental health issues in refugee children residing in Western countries (55)	This systematic review synthesizes the epidemiological research concerning the mental health of refugee children residing in Western countries. Nine databases, bibliographies and grey literature from 2003 to 2008 were searched. Twenty-two studies were included, covering 3,003 children from over 40 countries. The studies demonstrated levels of post-traumatic stress disorder from 19 to 54%, depression from 3 to 30%, and varying degrees of emotional and behavior problems. Factors that influence levels of distress include demographic variables, traumatic pre-migration experiences and post-migration stressors.	2008	Review not available on Health Systems Evidence	1/22
	Psychotic disorders among first- and second-generation immigrants (56)	This meta-analysis aims to determine the risk of psychotic disorders among second generation immigrants in comparison with non-migrants and first-generation immigrants. Three databases were searched for articles published between 1977 and 2008. Twenty-one studies met the inclusion criteria. The meta-analysis yielded mean-weighted incidence ratios of 2.3 (95% CI 2.0-2.7) for first-generation immigrants and 2.1 (95% CI 1.8-2.5) for second-generation immigrants. There was no significant risk difference between generations. These data demonstrate that the increased risk of psychotic disorders among immigrants persists into the second generation, suggesting that post-migration factors play an important role.	2008	Review not available on Health Systems Evidence	1/21
	Impact of immigration policies on health status among undocumented immigrants (57)	This systematic review assesses how immigration policies and laws affect access to health services and health outcomes among undocumented immigrants. Eight databases were searched and 40 articles were included. These articles showed a direct relationship between anti-immigration policies and their effects on access to health services. In addition, these policies had an impact on mental health outcomes, including depression, anxiety and post-traumatic stress disorder.	2012	Review not available on Health Systems Evidence	3/40
	Postpartum depression among immigrant women (58)	This systematic review and meta-analysis estimates the prevalence of postpartum depressive symptoms in immigrant women, compares this to prevalence amongst non-immigrant women, and determines risk factors for postpartum depressive symptoms in immigrant women. Multiple databases were searched and 24 studies met the inclusion criteria. The prevalence of postpartum depressive symptoms in immigrant women was 20%, which was two times higher than in non-immigrant women. There was evidence of publication bias. Risk factors associated with postpartum depressive symptoms among immigrant women included shorter length of residence in destination country, lower levels of social support, poorer marital adjustment, and insufficient household income.	2014	Review not available on Health Systems Evidence	11/24
	Mental health issues among immigrant and refugee youth in Canada (59)	This scoping review aimed to synthesize the existing literature about mental health issues among immigrant and refugee youth in Canada. The authors searched multiple databases for Canadian studies, and 17 met inclusion criteria. The determinants of mental illness included pre-migration experiences, number of years since immigration to Canada, post-migration	2013	Review not available on Health Systems	17/17

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Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		family and school environment, in- and out-group problems, discrimination, and lack of equitable access to health care. Female youth experience more mental health problems than male youth. Findings indicate the importance of family involvement, school settings as points of care and services, and focusing on the first year of arrival in Canada.		Evidence	
	The healthy immigrant effect in Canada (60)	This systematic review aims to document the extent of the healthy immigrant effect in Canada across multiple health indicators and life-course stages. The healthy immigrant effect refers to the concept that foreign-born status confers a health advantage. This review found that the healthy immigrant effect is not a systemic phenomenon in Canada, and is linked to immigrants' duration of residence in the country. The effect is strongest during adulthood, and less so during childhood/adolescence and late life. Adult immigrants tend to fare better than their Canadian-born counterparts with regards to mental health, chronic conditions, disability/functional limitations and risk behaviours. However, immigrant women have worse maternal health than Canadian-born women. Mental health among immigrant mothers is especially poor. Therefore, one-size-fits-all policies may not be effective for addressing immigrants' health. Policies should be targeted at specific population groups for which health outcomes are known to be at a disadvantage.	2014	Review not available on Health Systems Evidence	77/77
	Social support, social conflict, and immigrant women's mental health in Canada (61)	This scoping review aims to understand the role of social support and social conflict in relation to immigrant women's mental health. Thirty-four journal articles were reviewed. The review found that women immigrating to Canada face many challenges such as language difficulties, inadequate child care and financial hardship. Social support can help women maintain their mental health or cope better with mental illness. When immigrant women do not have social support, or when social networks are a source of conflict, it can be detrimental to the mental health of immigrant women.	2015	Review not available on Health Systems Evidence	34/34
	Interventions to improve the experience of caring for people with severe mental illness (64)	This systematic review and meta-analysis aims to determine whether interventions provided to people caring for those with severe mental illness improve the experience of caring and reduce caregiver burden. Twenty-one randomized controlled trials were included. Carers' experience of care was improved by psycho-education and support groups. The quality of the evidence was low. Evidence for combining interventions and for self-help and self-management was inconclusive.	2013	Review not available on Health Systems Evidence	1/21
	Burnout in the mental health workforce (65)	This review examines the construct of burnout, methodological and measurement issues, its prevalence in the mental health workforce, correlates of burnout, and interventions to decrease it. A review of relevant mental health literature from 1990 to 2009 was conducted. A total of 145 articles were included. The authors found evidence of substantive burnout problems within the mental health workforce. Burnout manifests in a variable, complex and inconsistent manner. The field has a number of validated tools to assess burnout and the impact of efforts to ameliorate it. Continued and concerted attention, evaluation and intervention are essential to reduce burnout.	2009	Review not available on Health Systems Evidence	Not reported in detail
	Association between social relationships and depression (68)	The aim of this systematic review is to review evidence on associations between social relationships and depression in the general population. Multiple databases were searched and 51 studies met inclusion criteria. The authors found significant protective effects of	2014	Review not available on Health	0/51

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		perceived emotional support, perceived instrumental support, and large, diverse social networks. Little evidence was found on whether social connectedness is related to depression.		Systems Evidence	
	Association between community environment and cognitive function (69)	This systematic review aims to review evidence on the association between community environment and cognitive function in older people. Fifteen studies met the inclusion criteria. Fourteen used compositional measurements such as community-level socioeconomic status and deprivation index. Significant associations were found in 11 studies with various measures of community and cognitive function. Seven studies reported a negative relationship of area deprivation and cognitive function. Positive associations were found between community-level socio-economic disadvantage, cognitive impairment, and cognitive decline in four studies. Some individual risk factors including high-risk genotype of cognitive frailty, individual income status and ethnicity were found to be effect modifiers.	2014	Review not available on Health Systems Evidence	Not reported in detail
	Mental health benefits of long-term exposure to residential green and blue spaces (70)	This systematic review aims to synthesize the literature on the long-term mental health benefits of residential green and blue spaces. Twenty-eight studies were included. There was limited evidence for a causal relationship between surrounding greenness and mental health in adults, whereas the evidence was inadequate in children. The main limitation was the limited number of studies, together with the heterogeneity regarding exposure assessment. Further research is needed to provide more consistent evidence and more detailed information on the mechanisms and characteristics of the green and blue spaces that promote better mental health.	2014	Review not available on Health Systems Evidence	Not reported in detail
Is the current system sustainable for meeting the needs of people with mental health issues?	Return on investment for mental health promotion and mental illness prevention (71)	This report aims to review the body of evidence associated with the return on investment (ROI) of mental health promotion and mental illness prevention in Canada. The evidence suggests that there is a ROI for some mental health promotion/illness-prevention interventions. There are a number of high-quality systematic reviews and meta-analyses on the topic, but the number of RCTs is low, and there is an overall lack of evidence in Canada. The strongest ROI evidence was for children/adolescents in the areas of reducing conduct disorders and depression, parenting and anti-bullying programs, suicide awareness and prevention, health promotion in schools, and primary healthcare screening for depression and alcohol misuse. The weakest evidence was from the workplace sector. There is a lack of standard definitions in the areas of mental health, mental health promotion, mental illness prevention and economic analysis.	2011	Review not available on Health Systems Evidence	24/24
	Implementation of psychosocial interventions in residential dementia care (74)	This systematic review aims to obtain insight into strategies for successful implementation of psychosocial interventions in daily residential dementia care. Multiple databases were searched and 54 papers met the inclusion criteria. In order to successfully implement a psychosocial method, the use of multiple implementation strategies is recommended. Innovators and researches should specifically pay attention to the dimensions Adoption, Implementation, and Maintenance of the RE-AIM implementation framework.	2012	Review not available on Health Systems Evidence	Not reported in detail
	Interventions to increase retention in mental health services (77)	This systematic review aims to evaluate the effects of interventions that aim to increase mental health service initiation and engagement on retention in mental health services. Multiple databases were searched and 11 studies met the inclusion criteria. The interventions	2015	Review not available on Health	Not reported in detail

Evidence >> Insight >> Action

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		produced medium-to-large effects on retention outcomes. Many interventions addressed more than one target. Interventions that targeted mental health knowledge, mental health attitudes, and barriers to treatment all enhanced retention in mental health services. The most effective retention interventions were comprehensive, addressing mental health knowledge, mental health attitudes and barriers to treatment.		Systems Evidence	
What are the five key things decision-makers need to know in order to meet the needs of people with mental health issues?	Lived experience of mental and physical multimorbidity (84)	This study aims to systematically review findings from published, in-depth qualitative studies about the experience of multimorbidity, particularly trying to identify the components and motivation for successful self-management in this population. Multiple databases were searched and 19 studies were included. The study revealed how mental and physical multimorbidity is experienced as moments of complexity rather than mere counts of illnesses. Successful self-management of physical symptoms required tactical use of medicines, while emotional health was more commonly managed by engaging in behavioural strategies, often with a social or spiritual component. Future self-management interventions should aim to support patients to exert responsibility and autonomy for medical self-management, and promote self-determination to live purposeful lives via improved access to social support.	2015	Review not available on Health Systems Evidence	1/19
What does research say is the best time to intervene along the continuum of services for mental health, what is the nature of the improved outcomes and can they be quantified?	Mental health promotion and problem prevention in schools (87)	This systematic review of reviews aims to understand the effectiveness of mental health interventions in schools. Fifty-two systematic reviews and meta-analyses of mental health in schools was included. Interventions had a wide range of beneficial effects on children, families and communities, on a range of mental health, social, emotional and educational outcomes. The effect sizes were generally small to moderate in statistical terms, but large in terms of real-world impacts. The characteristics of more effective interventions included teaching skills, focusing on positive mental health, balancing universal and targeted approaches, starting early with the youngest children and continuing with older ones, operating for a lengthy period of time, and embedding work within a multi-modal/whole-school approach.	2011	Review not available on Health Systems Evidence	2/52
	Effect of preventive interventions in mentally ill parents on the mental health of the offspring (89)	The systematic review and meta-analysis aims to evaluate the effectiveness of interventions to prevent mental disorders or psychological symptoms in offspring. Multiple databases were searched for RCTs of interventions in parents with mental disorders. Thirteen trials including 1,490 children were included. Outcomes in the child included incident mental disorders of the same nature, and internalizing or externalizing symptoms. Interventions decreased the risk of mental illness in children by 40% (combined relative risk 0.60, 95% CI 0.45-0.79).	2010	Review not available on Health Systems Evidence	2/13
	Universal mental health prevention programs for higher education students (90)	This meta-analysis investigates the effectiveness of universal mental health prevention programs for higher education students. A systematic literature search identified 103 interventions involving college, graduate or professional students. Skill-training programs that included a supervised practice component were significantly more effective compared to skill-training programs without supervised practice and psycho-educational (information-only) programs. Furthermore, skill-training programs including supervised practice were more effective than skill-training programs without supervised practice and psycho-	2012	Review not available on Health Systems Evidence	Not reported in detail

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		educational programs in reducing symptoms of depression, anxiety and stress, and in improving social-emotional skills, self-perception and academic performance.			
	Psychosocial preventive interventions to reduce depressive symptoms in low-SES women (91)	This meta-analysis aims to provide an overview of controlled outcome studies, and investigate the overall efficacy and moderators of interventions targeted at reducing depressive symptoms in low-SES women. Fourteen studies were included. A number of promising programs have been developed for low-SES women. On average, these programs were found to reduce the level of depressive symptoms (effect size of 0.31), with more than half of the studies showing medium-to-large effect sizes.	2009	Review not available on Health Systems Evidence	1/14
	Effectiveness of treatment of mental health problems in children and youth (94)	Study in progress.	Not applicable	Not applicable	Not applicable
	Early interventions to prevent psychosis (96)	This systematic review and meta-analysis aims to determine whether any psychological, pharmacological or nutritional interventions can prevent or delay transition to psychotic disorders for people at high risk. Multiple databases were searched and 11 RCTs including 1,246 participants were included. Cognitive behavioural therapy reduces transition to psychosis at 12 months (risk ratio 0.54). Omega-3 fatty acids and integrated psychotherapy also reduced transition to psychosis at 12 months. However, the scientific evidence overall is weak and the benefits for any specific intervention is not conclusive.	2011	Review not available on Health Systems Evidence	Not reported in detail
	Substance-use disorder among people with first-episode psychosis (97)	This review included studies of substance-use disorder among people with first-episode psychosis without specialized substance-abuse treatments, and studies of substance-use disorder among people with first-episode psychosis with specialized substance-abuse treatments. In studies of people who did not receive specialized substance-abuse treatments, approximately half of patients became abstinent or significantly reduced their substance use. There was no significant difference in substance use after first-episode psychosis between those who received specialized substance-abuse treatments and those who did not.	2009	Review not available on Health Systems Evidence	3/9
	Relationship between duration of untreated psychosis and long-term outcomes of schizophrenia (98)	Long duration of untreated psychosis was found to be associated with poor general symptomatic outcome, more severe positive and negative symptoms, lower likelihood of achieving remission, and decreased social functioning and global outcome. No significant associations were found between long duration of untreated psychosis and employment, quality of life, or hospital treatment.	2013	Review not available on Health Systems Evidence	3/33
	Effectiveness of preventive interventions for individuals at risk of developing psychosis (99)	Preventive interventions evaluated in the studies include antipsychotic medication, integrated psychological therapies and cognitive behavioural therapies. Research evidence indicates that preventive interventions for individuals at ultra-high risk of developing a first episode of psychosis are effective, both in the short term (12 months), and also over longer periods of time (between two and four years). Effectiveness diminishes slightly over time. Further research is required to determine whether or not the use of	2012	Review not available on Health Systems Evidence	1/10

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		medications as preventive interventions is justified.			
	Relationship between the duration of untreated psychosis and negative symptoms (100)	Longer duration of untreated psychosis is associated with more severe negative symptoms at baseline, short-term (one to two years) and long-term (five to eight years) follow up. Findings suggest that the association between duration of untreated psychosis and negative symptoms is particularly strong in the first nine months. Early identification and intervention programs could potentially be effective in reducing duration of untreated psychosis and negative symptoms, though further research is required.	2009	Review not available on Health Systems Evidence	5/28
	Effectiveness of antipsychotic treatments in patients with first-episode psychosis or early schizophrenia (101)	The use of antipsychotic treatments in patients with first-episode psychosis or early schizophrenia has long-term positive effects on maintenance of remission, prevention of relapse, and improvements in cognitive deficits. Two studies found that uninterrupted maintenance therapy for up to two years is significantly more effective for preventing relapses compared with treatment discontinuation or intermittent/guided discontinuation. Overall findings suggest that early intervention results in positive treatment outcomes. Additional research assessing long-term outcomes is required.	2015	Review not available on Health Systems Evidence	Not reported in detail
	Effectiveness of online youth mental health promotion and prevention interventions (104)	Online mental health promotion and prevention interventions for youth aged 12-25 years were included in this review. Promotion interventions studied include stress-management interventions, a relationship education program, a social media campaign, and interactive mental health promotion games. Prevention interventions studied include computerized cognitive behavioural therapy, online stress management, depression information, a mobile phone self-monitoring mood application, and a blogging intervention. The quality of evidence for online mental health promotion interventions was moderate to weak. Mental health promotion module-based online interventions appear to be effective, though further research is required. The quality of evidence for online mental health prevention interventions was moderate to strong. Computerized cognitive behavioural therapy has a positive effect on anxiety and depression symptoms. The mobile phone self-monitoring intervention and blogging intervention appear promising, but further research is required. Non-completion and drop-out are significant issues associated with online mental health promotion and prevention interventions. Participant face-to-face and/or web-based support may be important program features that affect non-completion and drop-out. Further research should investigate the effectiveness of specific program features such as program length.	2013	Review not available on Health Systems Evidence	1/28
	Effectiveness of Intensive Case Management in people with severe mental illness	Intensive Case Management (ICM) is a community-based package of care that involves small caseloads (less than 20 individuals) and targets people with severe mental illness who do not require immediate hospital admission.	2009	7/11 (AMSTAR rating from	1/35

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
	(105)	Compared with standard community care, ICM was found to reduce length of hospitalization and increase retention in psychiatric care. There were no significant differences with regards to mental state and quality of life. ICM was found to be associated with improvement in accommodation status and incidence of living independently. Compared with non-ICM (community case management with caseloads greater than 20 individuals), there are no clear benefits associated with ICM. ICM may increase retention in psychiatric care, though further research is required.		McMaster Health Forum)	
	The impacts of economic recession on mental health outcomes (108)	Epidemiological data indicates that economic recession is significantly associated with increased mental health problems, including psychological distress, common mental disorders, substance disorders and suicidal behaviour. The majority of included studies were observational. The lack of controlled studies on this phenomenon makes it difficult to isolate specific factors (e.g., unemployment, precarious and insecure work, debt, deprivation and financial hardship) of economic recessions that lead to increased mental health problems. Further research is required in this area.	2014	Review not available on Health Systems Evidence	3/101
	Effectiveness of mental health insurance benefits legislation (109)	Mental health insurance benefits legislation was found to have a positive effect on both access to care and financial protection outcomes (i.e., reduced financial burden and out-of-pocket spending). Mental health insurance benefits legislation was also found to have a positive effect on appropriate utilization of mental health services and diagnosis of mental illness. A small number of studies found an association between mental health insurance benefits legislation and reduced mortality and morbidity, but further research is required. Comprehensive parity legislation, which involves equal coverage for mental health conditions, was found to be more effective than other types of legislation.	2011	5/10 (AMSTAR rating from McMaster Health Forum's Impact Lab)	0/37
	Relationship between socio-economic inequalities and mental health problems in children and adolescents (110)	Lower socio-economic status was found to be associated with increased mental health problems in children and adolescents. The impacts of socio-economic status on mental health problems were found to be stronger in early childhood compared to adolescence. Household income and low parental education had stronger impacts on mental health problems than parental unemployment or low occupational status. There were no clear differences between boys and girls.	2012	Review not available on Health Systems Evidence	6/55
	Relationship between psychiatric and socio-economic factors and risk of suicide (111)	Both psychiatric factors and socio-economic factors were found to be associated with increased risk of suicide. Overall, the magnitude of risk of suicide at the individual level was much (four to five times) higher for psychiatric factors compared with socio-economic factors. However, at the population level, the magnitude of risk of suicide is similar for psychiatric factors and socio-economic factors, seeing as the population prevalence of socio-economic	2009	Review not available on Health Systems Evidence	1/14

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Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		deprivation is high compared with the population prevalence of mental disorders. The findings of this review suggest that suicide prevention interventions should consider both psychiatric and socioeconomic factors.			
	Effectiveness of non-pharmacological versus pharmacological interventions for adults with acute-phase major depressive disorder (112)	Interventions evaluated included second-generation antidepressants, psychological treatments, complementary and alternative medicine, and exercise. Moderate-strength evidence found that antidepressants had similar effects to cognitive behavioural therapy on relief of symptoms for patients with mild-to-severe major depressive disorder. Compared with cognitive behavioural therapy, acupuncture and St. John's wort (an herbal treatment), patients on antidepressant treatment had a higher risk of adverse events or stopping treatment due to adverse events. Evidence about the effectiveness of antidepressants compared with the other interventions evaluated was weak.	2015	Review not available on Health Systems Evidence	4/55
	Effectiveness of non-pharmacological treatments to supplement pharmacological treatments for depression (113)	Interventions evaluated included those focused on improving adherence, multifaceted interventions, and combined psychotherapy and pharmacotherapy. Reviews assessing the effectiveness of interventions focused on improving adherence to antidepressants were high quality, and did not demonstrate improved outcomes. One review found that counselling is more effective than usual care in the short term, but found no difference in the long term. Reviews assessing the effectiveness of multifaceted interventions were high quality. Collaborative care involving case managers was found to have positive effects on depression outcomes. Other multifaceted interventions have been shown to have positive effects, but the effectiveness of specific interventions components has not yet been identified. Only two of seven reviews assessing the effectiveness of combined psychotherapy and pharmacotherapy were high quality. Combined psychotherapy and pharmacotherapy was shown to be more effective in treating depression than pharmacotherapy alone, though further research is required.	2009	No rating tool available for this type of document	Not applicable
	Effectiveness of antidepressant treatment for postnatal depression (114)	Included studies evaluated the effectiveness of antidepressant treatment versus placebo and versus treatment as usual. The evidence base of studies assessing the effectiveness of antidepressant treatment for postnatal depression was found to be limited and low quality. Women receiving antidepressant treatment had higher rates of response and remission compared with those receiving placebo. One study found higher rates of improvement in women receiving antidepressant treatment compared with treatment as usual after the first four weeks, but no difference at later follow-ups. Side effects were reported by a substantial	2014	Review not available on Health Systems Evidence	0/6

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		proportion of the women receiving antidepressant treatment. Further research is required to determine the effectiveness of psychological or psychosocial treatments versus antidepressants, and when or for whom one option might be more beneficial than the other.			
	Effectiveness of asenapine for the treatment of schizophrenia (115)	This review included studies comparing the effectiveness of asenapine versus placebo for the treatment of adult patients with schizophrenia. Only six trials were found, all funded by pharmaceutical companies, and overall the quality of evidence was very low to low. Treatment with asenapine was associated with positive changes in global state and mental state, and reduction in negative symptoms in the short term (up to 12 weeks). Patients undergoing treatment with asenapine experienced fewer serious adverse effects in the medium term (13 to 26 weeks). Given the low quality of available evidence, larger, better designed trials are required to determine whether or not asenapine should be recommended for treatment of schizophrenia.	2014	Review not available on Health Systems Evidence	1/6
	Effectiveness of trifluoperazine for the treatment of schizophrenia (116)	This review included studies comparing the effectiveness of trifluoperazine versus placebo for the treatment of patients with schizophrenia. All 10 included studies were low or very low quality. Treatment with trifluoperazine was associated with reduction in severity of symptoms in the medium term (three to six months). Patients receiving treatment with trifluoperazine were less likely to drop out of the studies compared with those receiving placebo in the medium term. Trifluoperazine was found to be associated with increased risk of adverse effects compared with placebo. There were no clear differences between trifluoperazine and placebo with regards to patients leaving the study early for any reason or due to severe adverse effects in the medium term, intensity of symptoms in the medium term, or rates of agitation or distress in the medium term. Larger trials with clearer reporting of methods are required to further elucidate the effectiveness of trifluoperazine as a treatment option for patients with schizophrenia.	2012	Review not available on Health Systems Evidence	2/10
	Effectiveness of interventions to prevent relapse in first-episode psychosis patients (117)	A range of psychosocial and pharmacological interventions were evaluated in the studies included in this review. First-episode psychosis psychosocial interventions delivered by specialists were found to be more effective in preventing relapse compared with treatment as usual (non-specialist mental health services). Cognitive behavioural therapy was found to be similarly effective in	2008	9/11 (AMSTAR rating from McMaster Health Forum)	0/18

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		preventing relapse when compared with specialist first-episode psychosis interventions. Combined individual and family cognitive behavioural therapy was found to be more effective in preventing relapse compared with specialist first-episode psychosis interventions. While individual studies found that first-generation antipsychotics were more effective than placebo at preventing relapse, these studies had small sample sizes. An analysis combining the results from multiple studies did not find a significant difference in effectiveness between first-generation antipsychotics and placebo. Second-generation antipsychotics were found to be more effective in preventing relapse compared with first-generation antipsychotics. Further research is required to determine the effectiveness of psychosocial interventions combined with pharmacological interventions in preventing relapse.			
	The effectiveness of psychosocial interventions for improving mental health in children (118)	This review was requested by the British Columbia Ministry of Children and Family Development and sought to assess both effectiveness and policy feasibility. Interventions evaluated included two general approaches (parent training and cognitive behavioural therapy), and four specific prevention interventions (Nurse-Family Partnership – child maltreatment and conduct disorder, Incredible Years – conduct disorder, Triple P – conduct disorder and Friends – anxiety disorder). The general approaches of parent training and cognitive behavioural therapy were shown to be effective for improving mental health in children across different disorders and age groups. Parent training is especially effective at preventing conduct disorders when started early in a child's lifespan. The four specific prevention interventions evaluated were also found to be effective.	2015	Review not available on Health Systems Evidence	Not reported in detail
What does research say is the best time to intervene along the lifespan, what is the nature of the improved outcomes and can they be quantified?	Effectiveness of strength-based interventions for people with serious mental illness (119)	Included studies found that strength-based interventions were associated with several positive effects: reduced hospital stay, improved patient satisfaction, improved patient attitudes (e.g., self-efficacy, confidence), improved educational and employment outcomes, and increased utilization of services. Further, well-designed research is required to confirm whether or not strength-based interventions are effective for people with serious mental illness.	2014	Review not available on Health Systems Evidence	1/7
What are the five key things that	Effectiveness of patient involvement in the planning	This review did not find any studies that assessed the effectiveness of patient involvement with regards to health status, quality of life or patient satisfaction.	2000	5/9 (AMSTAR	2/41

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
make a difference?	and development of health care (122)	Patient involvement often led to improved provision of information to patients. It has also been shown to lead to efforts to make services more accessible through strategies like extending opening times, simplifying appointment procedures, improving transport to treatment units, and improving access for people with disabilities. A survey of leaders of public-involvement initiatives of Health Systems Agencies in the United States found that the majority of respondents thought that patient involvement improved quality of care, and almost half thought that it led to improvements in health status. Further research is required to determine the effects of patient involvement on health status, quality of life and patient satisfaction.		rating from McMaster Health Forum)	
	The impacts of patient and public involvement in the United Kingdom National Health Service (123)	Research evidence included in this review was mostly observational and low quality. Patient and public involvement had various impacts on the delivery of healthcare services. There were multiple examples where new or improved services were developed (e.g., relocation of services), but the role of patient or public involvement in the development of such services was unclear. Patient and public involvement often resulted in increased or improved information development and dissemination, both in the form of information for patients and the public, and also training for providers. There was limited evidence of the costs of patient and public involvement.	2009	Review not available on Health Systems Evidence	0/42
	Effectiveness of service user involvement in the delivery and evaluation of mental health services (124)	Studies included in this review were mostly low quality. There were no serious disadvantages associated with engaging current or former mental health service users as employees, researchers or trainers. Some studies showed benefits associated with engaging users in or alongside case management services, including improved quality of life, fewer reported life problems and improved social functioning. Involving service users as interviewers resulted in less client satisfaction. Individuals trained by service users were more likely to have positive attitudes toward service users. Engaging service users with severe mental disorders appeared feasible.	2001	6/10 (AMSTAR rating from McMaster Health Forum)	1/12
	The concept of patient involvement in mental health care (125)	This review found that there are various models of patient involvement in mental health care, with no clear consensus. Based on the findings of included studies, authors proposed a holistic model of patient involvement in mental health care. The model developed by authors consisted of determinants of patient involvement, the	2010	Review not available on Health Systems Evidence	0/42

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Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		concept of involvement, short-term outcomes and the desired long-term improvement in quality of life. According to the model, the determinants that influence the patient involvement process include: communication and information provision, provider attitude toward patient involvement, resources available for patient involvement, education and support of all stakeholders involved in patient involvement, availability of procedures for patient involvement, and existence of a legal framework for involvement. The concept of involvement should consider: definition of patient involvement, specificity of patient involvement, reasons for patient involvement, organizational level of involvement, power of individuals involved in the process, diversity of patient groups, different participatory methods, the formality of the involvement process, and related concepts (empowerment, shared decision-making and recovery). The desired short-term outcomes of patient involvement in mental health care include: patient empowerment, satisfaction, accessibility of health services, quality of care, and recovery. There is limited evidence of the effects of patient involvement in mental health care on patient outcomes.			
What are key themes from mental health strategies in other jurisdictions?	No relevant systematic reviews were identified for this question				

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