



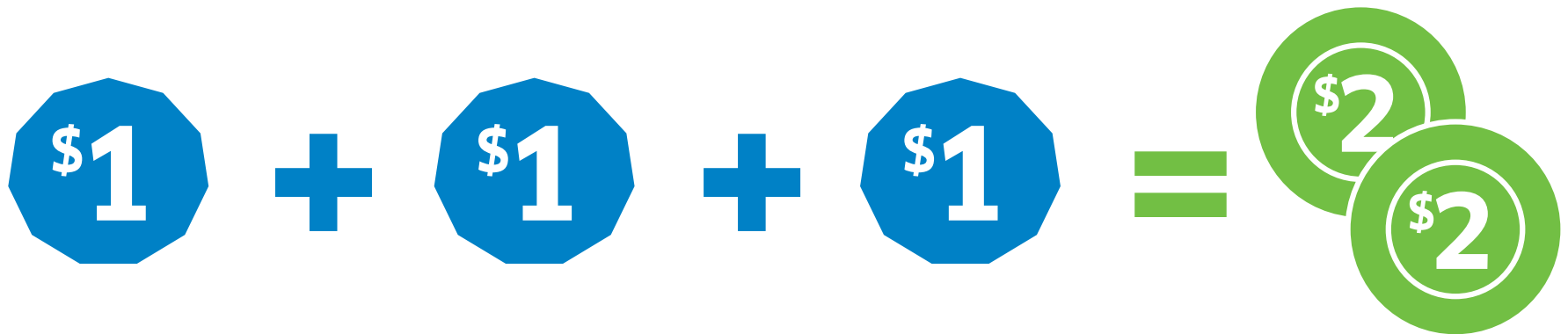
Mental Health
Commission
of Canada

Commission de
la santé mentale
du Canada

Strengthening the Case for Investing in Canada's Mental Health System: Economic Considerations

MENTAL HEALTH COMMISSION OF CANADA

MARCH, 2017



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Foreword

In 2013, the Mental Health Commission of Canada (MHCC) answered the pressing question, “Why invest in mental health?” Forecasting ahead three decades, the MHCC projected the serious economic and social ramifications of failing to make mental health a priority.

The need to invest is no longer in dispute. The Organization for Economic Co-operation and Development, the World Bank and the World Health Organization agree there is no lack of evidence, plans or strategies. Rather, what has been missing is the political will. Now, for the first time, the Government of Canada has identified mental health as a top priority in the new Health Accord.

Strengthening the Case for Investing in Canada’s Mental Health System: Economic Considerations, does more than reiterate the importance of directing funds to mental health. It grapples with the pressing question provinces and territories have faced for many years: “Where to invest?”

We know, for example, that mental health problems often begin in childhood and adolescence. If left untreated, they can persist through to older age. This has a dual human and economic impact.

Strengthening the Case demonstrates that wise mental health spending pays dividends. For example, Ontario’s comprehensive early intervention program, Better Beginnings, Better Futures, saves the system nearly 25 percent in publicly funded services per person. These savings come from fewer physician visits and lowered social welfare and education costs.

The cost effectiveness studies presented in this report highlight the benefits of investing in programs for which there is well-established evidence: quality of care, primary care, prevention and early intervention, improving access

to community-based mental health services for severe mental illnesses, expanding access to counselling and psychotherapies across the age span, and community-based suicide prevention.

For instance, costs that would normally be incurred by hospitals in treating young people presenting in emergency rooms with suicidal thoughts can be halved through the use of interventions by community-based, rapid response teams.

As policy makers, healthcare administrators and elected officials seek to make difficult decisions about where to invest money in mental health programs and services, *Strengthening the Case* can help guide their choices.

It points to Canada-based studies on payoffs in making strategic investments in priority areas – echoed by *Changing Directions, Changing Lives: The Mental Health Strategy for Canada*, as well as the 13 provincial and territorial mental health and addictions strategies.

Strengthening the Case reinforces the value of spending on community services, scaling up early intervention and measuring results – all of which should be viewed as an investment in the health of Canadians, rather than a drain on the public purse.



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Mental Health Commission
of Canada



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Executive Summary

In 2013, the Mental Health Commission of Canada released *Making the Case for Investing in Mental Health in Canada*, which set out a clear economic argument for investing in the mental health of people in Canada. With a cost to the Canadian economy of over \$50 billion, 1.6 million Canadians reporting an unmet need for mental health care, and 7.5 million people in Canada living with a mental health problem or illness, the time for plans and strategies has long past. The time for action is now.

For the first time, the Government of Canada has made mental health a key priority in the new Health Accord. Momentum is growing to make wise investments in mental health.

Strengthening the Case is a crucial piece of the puzzle, clearly demonstrating how provinces and territories can bolster their bottom line while improving mental health outcomes. This win-win proposition makes the case that spending on mental health is an investment in our nation's "mental wealth," rather than a drain on the public purse.

Many mental health problems and illnesses begin in childhood or adolescence. It is therefore not surprising that investing in mental health promotion and early intervention are identified as areas that can stem the tide of economic losses. Equally important, these interventions can lessen the human burden of illnesses that can seriously affect a person's quality of life – from childhood through to older age.

This report highlights nine important Canadian studies that underscore the cost offsets of investing in evidence-based approaches. These effective interventions mirror the

recommendations put forward in *Changing Directions, Changing Lives: The Mental Health Strategy for Canada*, and the 13 provincial and territorial mental health and addictions strategies.

Strengthening the Case gives illustrations of cost savings that result from directing investments to best practice interventions, including:

Practices and programs spanning the continuum of care, such as:

- Community-based rapid-response teams, which can cut health care costs in half among young people experiencing suicidal thoughts;
- Improving access to psychotherapy, which creates improved quality of life and saves about two dollars for every dollar spent;
- Offering one session of counselling for high users of emergency rooms – the cost of which is offset from averted hospital visits and savings from earlier return to work – resulting in net savings of \$21 per client in the first month;
- Providing six psychotherapeutic sessions in primary care for aging adults, resulting in measurable quality of life improvements, versus only providing sedatives or no treatment, with a quantifiable economic benefit of as much as \$13,000 per person;
- Offering people on short-term disability timely collaborative care (between family physician, disability case manager, consulting specialist) resulting in an average of 16 fewer days on disability per person, and less people transitioning to long-term disability.

Prevention and early intervention programs, including examples such as:

- Ontario's Better Beginnings Better Futures Program, a public-health approach to primary prevention and early intervention for families and children, saves four dollars in public expenditures for every three dollars spent;
- Parenting programs such as Positive Parenting Program, or "Triple P," aimed at parents of children with conduct disorders are cost neutral at a minimum, while producing better outcomes.

Intensive services for people living with serious mental illnesses include cost-effective approaches such as:

- Investing approximately \$22,000 per person in the housing first approach, including Assertive Community Treatment for the very high service users, saves as much as \$42,000 in service costs that would have otherwise been incurred.

Chronic underfunding has exacerbated the enormous toll mental health takes on people in Canada, both in human and economic terms.

Look no farther than the 85 accredited community Children's Mental Health Centres, which have wait times as long as 18 months for the two most in-demand services: long-term counselling and intensive therapy. Equally concerning, more than 11,000 people are on the wait list for supportive housing in Toronto alone, and wait lists for intensive mental health case management services can be well over a year, and as long as six years for other related support services.

In 2015, the \$15.8 billion spent by the public and private sectors for mental health care represents just 7.2% of Canada's total health spending (\$219.1 billion). This is well below Canada's G-8 peers, with England's National Health Service, for example, spending 13 %.

The Conference Board of Canada's latest report calculated that the economic impact from depression alone tallies upwards of \$32.3 billion – or more than double Canada's spending on mental health and community care.

Research has long reinforced the importance of focusing on mental health promotion, prevention, and early intervention, and on securing better primary level care for the highly prevalent mild to moderate disorders, as well as ensuring evidence based specialized care is available for people living with severe mental health problems and illnesses.

Research also reinforces that most of the 20% of population who face a mental illness each year can be adequately served at the primary care level-only about 1.5% of the of the population need highly specialized or intensive services.

Global organizations have recently emphasized that worldwide investments in mental health care are inadequate and that scaling up effective prevention and promotion programs is needed to reduce the total economic impact of mental illness worldwide.

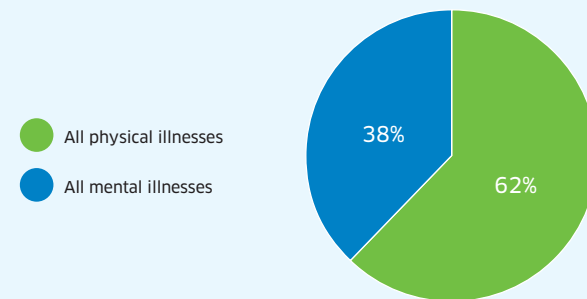
THE SCALE OF MENTAL HEALTH PROBLEMS AND ILLNESSES

Mental health problems and illnesses are common. In 2016, more than 7.5 million people in Canada were likely facing one of the common mental illnesses – which is one in five Canadians, or more than the population of our 13 capital cities combined. This is also nearly twice the number of people in all age groups with heart disease or type 2 diabetes (Smetanin et al., 2011).

Among people under the age of 65, mental illness makes up approximately 38% of all illnesses (Layard, 2012) (see Chart 1).

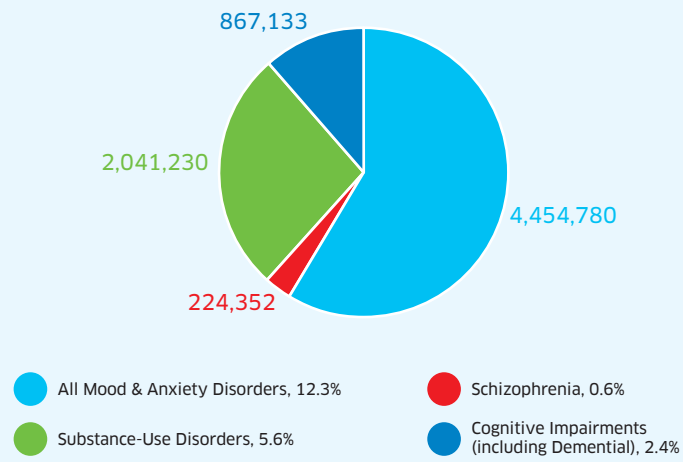
The five mental health conditions that limit daily living and impact health most are major depression, bipolar disorder, alcohol use disorders, social phobia, and depression (Ratnasingham et al., 2012). The most common illnesses among the 7.5 million people over nine years old who were estimated to be living with a mental illness in 2016 in Canada included anxiety, mood, and substance use disorders, followed by dementia and cognitive impairments (Chart 2; Smetanin, 2011). This data is based on the forecasting model commissioned by the MHCC using administrative and surveillance data reported in studies before 2009. In the 2012 Community Health Survey, 4.7% of people in Canada self-reported symptoms consistent with a major depressive episode, 1.5 % with a bipolar disorder, 2.6% with generalized anxiety disorder, and 4.4 % with abuse of, or dependence on alcohol, cannabis or other drugs (Pearson, 2015a).

Chart 1: Illness among people under 65 years of age



Source: Layard, 2012

Chart 2: Estimated number of people aged nine years and over with a mental illness in Canada, 2016



Source: Smetanin et al., 2011 (percentages are of total population in Canada, 2016)

A recent study by the Public Health Agency of Canada reported that about three-quarters of Canadians who used health services for a mental health problem or illness consulted for mood and anxiety disorders. This amounted to almost 3.5 million Canadians (or 10% of the population) who used health services for mood and anxiety disorders in 2009-2010. The study reported that of all population groups, children and youth (ages five-14 years) represented the biggest increase in service use for mood disorders and anxiety disorders between 1996-1997 and 2009-2010 (McRae et al., 2016).

THE HUMAN IMPACT OF MENTAL ILLNESS

More important than these staggering numbers is the impact mental health problems and illnesses has on health outcomes. Mental health problems and illnesses can take an enormous emotional toll. Mental pain is as real as physical pain and can often be more severe (Moussavi et al., 2007). Mental and psychological disabilities are the fourth most common reason people living with disabilities in Canada experience limitations in daily activities (Statistics Canada, 2013). A person living with depression may experience at least 50% more disabling limitations in their life than someone with angina, arthritis, asthma, or diabetes (Layard, 2012).

Researchers estimate that the impact of mental health problems and illnesses is more than one-and-a-half times that of all cancers, when taking into account years of life lost due to premature death and years of reduced functioning (Ratnasingham et al., 2012). In Canada, the impact of depression alone has been estimated to be more than that of lung, colorectal, breast and prostate cancers combined (Ratnasingham et al., 2012).

People living with severe mental illnesses also die younger than the general population. For example, women with schizophrenia disorders die nine years earlier than the general population, and men with schizophrenia die 12 years earlier (Institut national de santé publique du Québec, 2013).

The impact of mental health problems and illnesses extends beyond the individual to family members. In 2012, about 38% of people in Canada had a family member with a mental health problem or illness and 22% had two or more family members with a mental health problem or illness. More than one-third (35%) of people who had a family member with a mental health problem or illness said that it affected their time, energy, emotions, finances, or daily activities. Close to one in five (19%) said that they had personally experienced symptoms of substance use or mental health problems or illnesses in the past 12 months (Pearson, 2015).

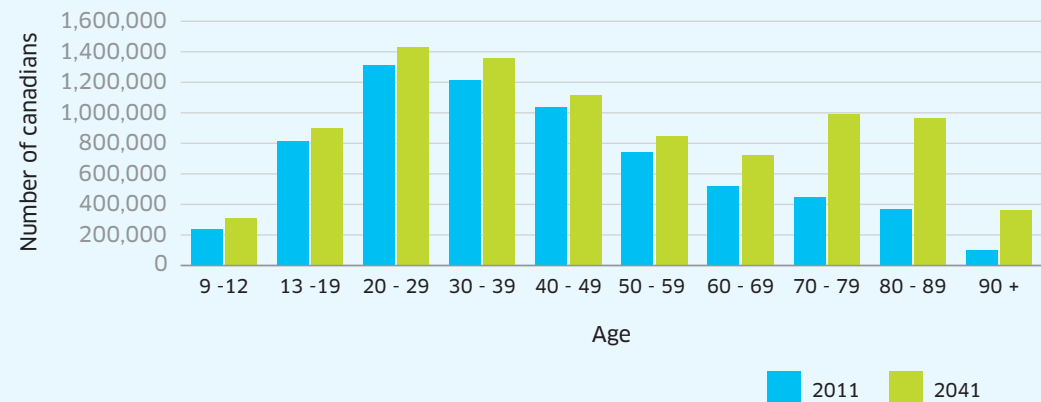
- The impact of mental health problems and illnesses is more than one-and-a-half times that of all cancers.
- In 2012, 38% of people in Canada had a family member with a mental health problem or illness.

MENTAL ILLNESSES IN YOUTH: LIFELONG IMPLICATIONS FOR THE INDIVIDUAL AND THE ECONOMY

The highest rate of mental health problems and illnesses is among young adults ages 20 to 29, a time when young people are generally beginning post-secondary education and careers. Projections to 2041 by the RiskAnalytica 2011 study indicate that this will remain the case for the foreseeable future (Chart 3).

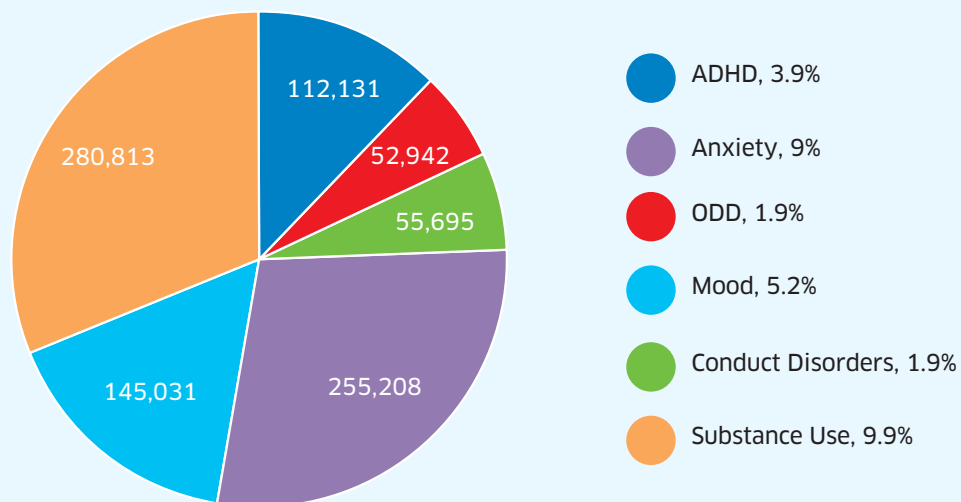
More than 900,000 adolescents (ages 13 to 19) lived with a mental health problem or illness in Canada in 2016. That is about the same number of people who live in Ottawa, Canada's capital city (see Chart 4). This model does not account for mental health problems and illnesses among children under the age of nine. Other studies, such as the recent surveillance report by the Institut national de santé publique du Québec place prevalence among people under 18 at just over 14% of the population. As well, among youth under the age of 12, there have also been significant increases in the diagnosis of Attention Deficit and Hyperactivity Disorders (ADHD) and anxiety disorders (Institut national de santé publique du Québec, 2013).

Chart 3: Age profile of estimated number of people in Canada with mental health problems and illnesses, 2011-2041



Source: Smetanin et al., 2011

Chart 4: Estimated number of people aged 13-19 with a mental illness in Canada, 2016



Source: Smetanin et al., 2011. Percentages are of total population ages 13-19, 2,815,350 in 2016

After unintentional injuries, suicide remains the second leading cause of death among young people ages 15-34 (Statistics Canada, 2016). While suicide rates have decreased slightly, suicide attempts among females ages 15-19 remain troubling. Young women had the highest rate of hospitalizations for self-inflicted injuries in 2014-2015 – three-and-a-half times that of young men in the same age group (Skinner et al., 2016).

Mental health problems and illnesses among children and youth are generally mild to moderate in severity (Kessler, 2012). The most common problems and illnesses among children are anxiety, ADHD, and mood and oppositional disorders; and, while the age of onset for anxiety or depression, for example, can be as late as 17 years of age, often symptoms are already present by age 12 (Boyle & Georgiades, 2010).

Table 1: Age of onset and prevalence of most common mental health problems and illnesses in childhood and adolescence

DISORDER	AGE OF ONSET (RANGE)	PREVALENCE AMONG AGES 4-17
Any anxiety disorder	5-17	6.4%
Attention Deficit and Hyperactivity Disorder (ADHD)	4-17	4.8%
Conduct disorders	4-17	4.2%
Any depressive (mood) disorder	5-17	3.5%
Substance use disorder	9-17	0.8%

Source: Boyle & Georgiades, 2010

Early onset of mental health problems and illnesses has lifelong consequences. Canada's National Longitudinal Survey of Children and Youth, conducted between 1994-2008, found that children who self-report emotional difficulties at ages four to eight were four times more likely to report depression eight years later (CIHI, 2015). Adults living with a mental health problem or illness often report that their symptoms started when they were either children or adolescents (MHCC, 2012). Recent studies are finding that likely half of all adult mental health disorders had begun by the teenage years (Jones, 2013).

We discuss the impact of early onset on lifelong disability burden and its economic implications in the following section.

MENTAL HEALTH IN CANADA'S AGING POPULATION: AN INCREASING ISSUE

The MHCC RiskAnalytica study estimated that more than 1.8 million people over 60 years of age were living with a mental health problem or illness in Canada in 2016 – and, as Canada's population ages, the number of people over 60 years of age experiencing a common mental illness will steadily increase relative to other age groups (Chart 3). The likelihood of experiencing a mental illness begins to increase at 70 years of age. By age 90, there is a four in 10 chance of living with a mental health problem or illness (Smetanin et al., 2011).

While dementia is generally considered to be the predominant mental health problem or illness among older adults, in fact there are nearly as many people over 60 years of age with either anxiety or depression (Smetanin et al., 2011).

Mental health has an impact on physical health and vice versa. For example, older adults with physical health conditions such as heart disease have higher rates of depression than those who are physically well. Conversely, untreated depression in an older person with heart disease can negatively affect the outcome of the physical disease (World Health Organization, 2016). Many older adults, especially those over 85, have complex and interdependent physical, psychological, and social needs that may result in mental illness (CCMHI, 2006).

The impact of mental health problems and illnesses among older adults is apparent in many ways across the system. Adults 65 years and over with mental health problems and illnesses can account for as many as one-quarter of emergency department visits, which experts expect will continue to increase as the population ages (Hakenewerth, 2015). A study of residential facilities in 2009-2010 revealed that 31% of residents showed signs of depression (CIHI, 2011). Hospital stays for mental illness are much longer for seniors than for other age groups. In 2005-2006, seniors were hospitalized for 29 days on average, compared to 16 days for those ages 45-64, and 23% were concurrently diagnosed with drug or alcohol-related disorders (CIHI, 2010).

The rise in the number of people with dementia or cognitive impairment is already being felt across the health system and in families, communities, and by the economy (Alzheimer Society of Canada, 2008). These neurodegenerative conditions often co-occur with other mental illnesses; moreover, mental health problems and illnesses often co-occur with chronic diseases that affect more people as they age (MHCC, 2011).

DISPARITIES AND MENTAL HEALTH

While mental health problems and illnesses affect all populations, social inequality and disadvantage lead to disparities in mental health outcomes (MHCC, 2016). Some populations are more likely than the general population to be exposed to the social determinants that increase the likelihood of developing a mental health problem or illness, such as food insecurity, inadequate housing, unemployment, low income, racism, and poor access to healthcare. Many studies show close links between the socioeconomic determinants of health and measures of mental health and well-being in childhood and adolescence (Von Rueden et al., 2006).

In Canada, Indigenous peoples face unique challenges and disparities in health because of historical and current injustices, socioeconomic conditions and political marginalization. Numerous Canadian commissions and reports have documented the ways in which the legacy of colonialism – which included the systemic dispossession of land, the residential school system, the 1960s child welfare “scoop,” the intentional weakening of Indigenous social and political institutions, and racial discrimination – has had lasting effects on Indigenous peoples in Canada, including youth. Many First Nations, Inuit and Métis continue to face inequitable social conditions and systemic barriers to culturally appropriate and culturally safe mental health services, which can greatly impact mental wellness.

ECONOMIC IMPLICATIONS OF MENTAL HEALTH PROBLEMS AND ILLNESSES

Lacking, inappropriate, or poor treatment and care for mental health problems and illnesses have significant implications for Canada's economy. Decision makers have ample evidence on how to bend the total cost curve. Investments in evidence-based programs that focus on early and timely intervention can go a long way to prevent or mitigate the impact of illnesses over the life course. This is true for even the most severe mental health problems and illnesses. A number of global organizations have recently emphasized that the problem is not a lack of knowledge about how to improve outcomes, but rather that misplaced priorities have blocked adequate action by OECD member countries (OECD, 2014; Patel, 2015).

MENTAL HEALTH-RELATED COSTS TO OUR ECONOMY: STUDIES AND EVIDENCE

The MHCC estimates that the total cost to Canada's economy incurred by mental health problems and illnesses is currently well over \$50 billion annually, or nearly \$1,400 for every person living in Canada in 2016.

Over the past decade, at least four major Canadian studies have analyzed the costs of mental health problems and illnesses to the economy on a national basis. But each study has used different cost components and methods to estimate total economic impact. Health economists distinguish between three types of costs.

First are direct expenditures: private and public expenditures incurred in providing services and supports in the illness treatment, care, and recovery process. Second, indirect or spillover costs are those absorbed by the economy. These costs represent lost output because of illness, work-related disability or early death (PHAC, 2009). Indirect costs absorbed by the economy are incurred in a number of areas, including through:

- employer costs due to absenteeism, presenteeism, and turnover of employees;
- private and public disability insurance costs;
- costs incurred by public income support and social programs for those who cannot work or become disengaged from their community;
- lost tax revenue due to unemployment and underemployment; and
- costs incurred by caregivers.

Third, some studies also estimate the intrinsic value of better health and subjective consequences of illness, such as measuring loss of quality of life (quality-of-life-adjusted

life-years), disability (disability-adjusted life-years) or willingness to pay. These are known as intangible costs.

Direct costs, when invested in best-evidence interventions and services, can offset indirect and intangible costs. However, all types of costs increase unnecessarily when people facing a mental health problem or illness cannot access treatment, are treated very late in the course of the illness, or do not get the right or most up-to-date treatment.

The MHCC asked the Institute of Health Economics (IHE) in Alberta to analyze differences among the Canadian studies. Based on IHE analysis, which shows that each study measures different cost elements, the total cost of mental illness to Canada's economy is estimated to be well over \$50 billion (see Table 2). Only one of these studies monetizes intangible costs (Lim, 2008). None of the studies calculate certain important direct as well as social spillover costs, such as those incurred by the justice system.

Not only are there three types of costs to estimate, but we can also measure indirect costs (i.e., impacts on productivity) differently. The most comprehensive approach to measuring these costs employs a human capital approach, as was used in the recent Conference Board of Canada study. This study modelled productivity loss for the two most common mental illnesses, anxiety and depression. It estimates \$49 billion in lost productivity for these two most common conditions alone. A more conservative approach is the friction cost method, as used in the MHCC-commissioned RiskAnalytica study.

Table 2: How do the four major Canadian studies on the costs of mental illness differ?

STUDY	\$,000 IN 2015 CDN DOLLARS			
	Estimated total	Direct costs ⁺⁺	Indirect costs: productivity loss	Intangible costs (quality-of-life value)
Lim, 2008	50,909	5,509	19,671 ^{**}	31,237
Jacobs, 2010	20,233	20,233		
RiskAnalytica, 2011 (total)	51,403		6,739 [*]	
<i>Subtotal: Excludes dementia and cognitive impairment</i>	23,822	23,822		
<i>Subtotal: dementia and cognitive impairment</i>	20,843	20,843		
Conference Board 2016, Depression	32,300		32,300 ^{**}	
Anxiety ⁺	17,300		17,300 ^{**}	

Based on analysis by Institute of Health Economics for the MHCC, October 2016.

* Friction cost and human capital methods used.

** Indirect costs include dementia.

+ Depression and anxiety may co-occur, so cannot add the two.

++ Variously includes direct services provided in health care, some social services, income support programs, as well as expenditures covered by private insurers.

NOTE: The Public Health Agency of Canada also calculated three aspects of direct costs for neuropsychiatric conditions (costs of drugs, hospital and physician care) which totalled \$11.4 billion in 2008, the second highest category of costs following cardiovascular diseases at \$11.7B.

Our best estimate of total public and private non-dementia-related direct costs for mental health care and supports in 2015 was nearly \$23.8 billion (\$51.4 billion when dementia care is included) (Table 2). We estimate that nearly 17.8% of these expenditures consist of private payments for disability insurance income and medications, as well as Employee Assistance Programs (EAPs), such that public expenditures on non-dementia-related mental health services in 2015 are estimated to be just over \$19.5 billion (Table 3).

As Table 3 shows, we estimate the following breakdown in costs:

- 66.6% (or \$15.8 billion) is spent on health and community care-related services, including:
 - in-patient services in general hospitals, psychiatric hospitals, and long-term care;
 - prescription drugs (private and public);
 - physician fees; and
 - community and social services, including outpatient services, community mental health services, supportive housing and employment, and addictions services.
- 22.8% (or \$5.4 billion) goes toward income support programs (i.e., private and public disability payments).
- 10.6% (or \$2.5 billion) is spent on other services, such as supporting non-profit organizations that provide general housing, mental health services in educational settings, and EAPs.

Expenditures in the justice system are not included in this calculation.

Table 3: Estimated allocation of direct costs in 2015 dollars

EXPENDITURES	% OF TOTAL	TOTAL DIRECT EXPENDITURES (\$,000)	% PRIVATE	PUBLIC EXPENDITURES ONLY (\$,000)
In-patient services	15.9	\$3,787.70		\$3,787.70
Community services	27.1	\$6,455.76		\$6,455.76
Physician fees	8.6	\$2,048.69		\$2,048.69
Prescription medications	15.0	\$3,573.30	54.7	\$1,618.70
Sub-total health care related	66.6	\$15,865.45		\$13,910.85
Other services	10.6	\$2,525.13	12.3	\$2,214.54
Sub-total health care and services	77.2	\$18,390.58		\$16,125.39
Income support	22.8	\$5,431.42	36.4	\$3,454.38
Total income support and services		\$23,822.00	17.8	\$19,579.77

Source: Calculated in 2015. Source data provided in Smetanin et al. (2011) and Jacobs, 2010.

In Canada, the estimated \$15.8 billion spent by the public and private sectors in 2015 on non-dementia-related mental health care represented approximately 7.2% of Canada's total health spending (\$219.1 billion). This spending is well below that of other western countries. By comparison, the National Health Service in England spends 13% of its health spending on a similar set of services (OECD, 2014).

The OECD's recent analysis of spending on mental health worldwide concluded that even England's 13% spending might be too low, given that mental illnesses represent as much as 23% of the total disease burden (OECD, 2014). A recent study, funded in part by Global Challenges Canada, reiterated that worldwide investments in mental health are in fact meager, and that scaling up effective prevention programs and interventions is needed to reduce the total economic impact of mental health problems and illnesses worldwide (Chisholm et al., 2016).

Spending on evidence-based direct services and upstream interventions can mitigate indirect and intangible spillover costs, whether from lost productivity, disability insurance payments, premature death, disability limitations, or costs arising from social exclusion or poor quality of life. The Conference Board of Canada's latest report calculated indirect costs due to depression alone at \$32.3 billion. This is well over what we spend on providing public services for all mental health conditions. As many experts now attest, spending on effective services should be viewed as an investment in, rather than a cost to, the economy (Loeppke, 2008).

The following section highlights key areas in which Canadian studies have confirmed international research about the potential for cost offsets and overall saving if investments are made in evidence-based approaches.

CURRENT EXPENDITURES ON SERVICES ARE NOT MEETING NEEDS

UNMET NEEDS

Spending less on mental health in Canada than OECD counterparts might not be an issue if needs were being met and spending was allocated to right areas. Yet in 2012, an estimated 1.6 million Canadians reported through the Community Health Survey that their need for mental health care was only partially met or not met at all. Needs for medications were most likely to have been met, while counselling needs were the least likely to have been met: 36% reported that their need for counselling was not met at all or was only partially met (Sunderland, 2013).

The service-need gap in mental health is a worldwide issue ranging from 32.2% to ~50% for common mental health problems and illnesses (OECD, 2014). The OECD's 2014 report notes that some countries (e.g., the UK, Australia, Finland, New Zealand and Sweden) have undertaken steps to bridge this gap, especially in the areas of child and youth prevention and intervention services, and expanding access to mental health services for common mental health problems and illnesses.

SYSTEM PRESSURES

Evidence of pressures on the system in Canada include data that show a 45% and 37% increase between 2006-2007 and 2013-2014, respectively in emergency department hospitalizations for mental health problems and illnesses among children and youth (CIHI, 2015). The greatest increase in hospital use has been among young people 10-17 years old, those with mood and anxiety disorders, and those living in urban areas (CIHI, 2015). Other troubling signals of inadequate community and primary care, early intervention, and prevention or mental health promotion efforts are the number of hospitalizations for self-harm among the 10-17 year-old age group. This increased an alarming 85% between 2006-2007 and 2013-2014 (CIHI, 2015). Further, while evidence continues to show that nearly 80% of people with mental health problems and illnesses have seen a family physician in a given year (Institut national de santé publique du Québec, 2013), very few young people had contact with a physician in the community before an emergency visit or inpatient stay, and only 21% of the visits or stays were followed up with a physician within seven days (CIHI, 2015).

WAIT TIMES

CIHI has identified emerging provincial efforts to track wait times for community mental health services (CIHI, 2012). While some provinces are beginning to measure certain wait times for accessing mental health services, such as in Nova Scotia's average wait-time database, Canada does not have a system for monitoring community-based mental health service wait times and there are few national standards (other than the standard set by the Canadian Psychiatric Association to see a family physician or psychiatrist) (CPA, 2006).

The Fraser Institute conducts a regular survey on wait times through Canadian Medical Association (CMA) members, but only 5.5% of psychiatrists responded to their most recent survey. Of the 236 responses in the 2015 survey, psychiatrists reported that wait times to see a psychiatrist in Canada range from 59 weeks in Newfoundland to 15 weeks in Ontario. This is an increase of more than one week from 2014. They also reported that, after seeing a specialist, additional wait times to start a course of brief psychotherapy range from three to 22 weeks and from five to 14 weeks to access an assertive community treatment or a similar program, depending on which province is providing care (Barua, 2015).

Children's Mental Health Ontario (CMHO) recently reported that its 85 accredited community Children's Mental Health Centres have wait times of as much as 18 months for the two most in-demand services (long-term counselling and intensive therapy) (CMHO, 2016). CMHO has reinforced that investments in timely access to outpatient and community services like these prevent children and youth from seeking and incurring more expensive hospital care costs.

While only 1.5% of the population lives with a severe mental illness (e.g., schizophrenia or bi-polar disorder) in any given year, up to one-third of this population requires intensive and continuing care in specialized—and most costly—services, and is often more vulnerable to homelessness and justice system involvement (IHE, 2014). There are more than 11,000 people on the wait list for supportive housing in Toronto alone and wait lists for related services are reported to be as long as six years. Of these people, as many as 1,900 are on wait lists for intensive mental health case management services that can take at least one year to fill (Toronto Supportive Housing, 2016).

Failing to meet the mental health needs of people in Canada also has cost implications for physical health-care services. An Alberta study that reviewed 42 million billing records for representative samples of Albertans who received health care services over a nine-year period reported substantially higher health care costs and physician visits (exclusive of psychiatrist visit costs) on average for Albertans with mental illness than those who did not – as much as two and half times higher (Crawthorpe, D. et al., 2011).

ROLE OF PRIMARY CARE

While wait times tend to focus on access to specialty care, Lesage's 2010 framework for differentiating levels and intensity of need demonstrates that the majority of need can in fact be met by providing services at the primary and community care levels (see Table 4). Only a small percentage of the 20% of the population who have a mental health problem or illness each year requires access to more costly specialized services. Most receive adequate assessment and treatment in primary care settings where approximately 80% of the population are already getting care for other health conditions. Approximately 3.5% of the population would benefit from support from specialist services, but only about 1.5% need highly specialized or intensive care. This evidence is consistent with the tiered approach to care recommended in *The Mental Health Strategy for Canada* and in almost every provincial/territorial mental health strategy. It directs policy makers to place a higher emphasis

on increasing access to services at the primary and community care levels – which is where most people with mental health problems and illnesses prefer to access services.

Table 4: Framework for estimating level of need for mental health services, adult population

	PROPORTION IN THE COMMUNITY	BEST PRACTICE LEVEL OF SERVICE	POPULATION	DEGREE OF DISABILITY	DURATION
Severe and persistent	0.5%	Specialist	Psychoses	Severe and persistent	Lifetime
Severe	1.0%	Specialist with primary	50-50% non-affective psychotic disorders/ bipolar disorders and 50% other mental disorders	Severe	Chronic and acute
Serious	3.5%	Primary with specialist	Other mental disorders with comorbidity	Serious	Acute and chronic
Moderate	10%	Primary	Anxiety, depressive, impulse control and substance abuse disorders	Moderate to mild	Episodic
Mild	15%	Primary / public health	Anxiety, depressive, impulse control and substance abuse disorders; adjustment/ psychological distress	Mild to none	Transient but at risk

Source: Lesage, 2010

DECIDING WHERE TO INVEST

Just as there is strong epidemiological evidence that directs policy makers to the most effective types of services, there is also robust international evidence and consensus to what extent these are cost-effective interventions (Patel, 2015). A good deal of this research has long reinforced the importance of focusing on upstream efforts in mental health promotion, prevention, and early intervention (Knapp, 2011, CIHI; Roberts, 2011; Friedli, 2007; Lesage, 2017), and on securing better care for the highly prevalent mild to moderate disorders (OECD, 2014) as well as for people with severe mental health problems and illnesses (OECD, 2014).

The OECD, the World Bank, and the World Health Organization (WHO) agree that we do not lack evidence, plans or strategies; instead, policy makers need to allocate resources to evidence-based interventions. *The Mental Health Strategy for Canada* and the strategies and plans in each of the 13 provinces and territories are based on this evidence. They all point to the need to focus on upstream efforts, timely intervention, improved access to evidence-based treatments, and addressing inequities and the social determinants in transforming mental health care.

CANADIAN EVIDENCE

While there is resounding international evidence about the cost-effectiveness of certain interventions in mental health, the MHCC asked a health economist and a psychiatric epidemiologist to assess how high-quality Canadian studies and consensus statements might guide investment priorities. Of the 500 studies reported on in the literature, they identified nine such studies in seven areas (IHE, 2016). The studies in Table 5 highlight a few specific interventions, each of which show the range of effective interventions across the continuum of care, corresponding to the Lesage framework in Table 4 above.

Examples of cost-effective programs in community mental health care include using community-based rapid-response teams, which can halve health care costs per young person with suicidal thoughts, or creating improved access to psychotherapy, which saves about two dollars and creates improved quality of life for every dollar spent. This is also true for adopting the housing first approach for helping people who are homeless and living with serious mental illnesses. Ontario's Better Beginnings Better Futures Program is an example of an effective public-health approach to primary prevention and early intervention. It has replicated earlier targeted comprehensive early intervention programs. This Ontario program saves four dollars in public expenditures for every three dollars it spends. Table 5, below, summarizes the results of the Canadian studies.

Table 5: Cost-effective investments across the continuum

AREA	CANADIAN STUDIES	COST EFFECTIVENESS	TIER
<p>Suicide prevention:</p> <ul style="list-style-type: none"> - Rapid response teams - Quebec roll out of the European Nuremberg Alliance Against Depression multi-modal prevention program 	<p>Latimer, E. et al. (2014)</p> <p>Vasiliadis, H. et al. (2015)</p>	<p>Cost effect for the treating hospital:</p> <ul style="list-style-type: none"> - Costs of the rapid response teams were \$1,886 lower than the control group (average cost per person for the experimental group was \$2,114, while for the control group was \$4,000). - Estimate a reduction of 4,981 suicide attempts and 171 suicides in Quebec. - Cost neutral. Considering the human capital approach to assess the health and societal costs, the results show cost savings reaching \$3,979 per life year saved. 	<p>Public health, community, mental health & primary care</p>
<p>Child and youth mental health:</p> <ul style="list-style-type: none"> - Better Beginnings, Better Futures Program – Ontario - “Triple P” Parent Program for children with conduct disorders 	<p>Roche, J. et al. (2008)</p> <p>Escobar Doran, C et al. (2011)</p>	<ul style="list-style-type: none"> - Cost per person over four years in program: \$2,964; outcomes: \$3,902 less in publicly funded services (social welfare, family physician visits, grade repetition), for net savings per person of \$938. - At least cost neutral with better outcomes. 	<p>Targeted public health / primary prevention</p>
<p>Psychological services:</p> <p>Simulation of increasing access for depression within family physician gatekeeper system</p>	<p>Vasiliadis, et al. (2017), in Press</p>	<p>\$1,292 for psychotherapy sessions and two GP/FP visits per year per person with increase of 0.17 in quality adjusted life years per person. Saving on average of \$2,590 per person.</p>	<p>Primary care - community mental health</p>

AREA	CANADIAN STUDIES	COST EFFECTIVENESS	TIER
<p>Workplace mental health:</p> <p>Cost-effectiveness of a collaborative mental health care program for people on short-term disability.</p>	<p>Dewa et al. (2009)</p>	<p>Average cost: \$2,023 per person; outcome: \$503 per person saving in disability benefit; fewer people transition to long-term disability; and 1,600 additional workdays for the 100 people studied.</p>	<p>Primary care - community mental health</p>
<p>Mental health of aging populations:</p> <p>Six-week course of cognitive behavioural therapy (CBT) group therapy and six-week treatment of private CBT therapy compared to sedative therapy or no treatment.</p>	<p>Tannenbaum, C. et al. (2015)</p>	<p>CBT cost benefit: \$13,010 US over sedative and \$14,411 over no treatment.</p>	<p>Primary care - community mental health</p>
<p>Diversion from hospital services:</p> <p>Offer single-session counselling for ER walk-ins.</p>	<p>Horton, S. et. al (2012)</p>	<p>Cost saving of \$21 per person in the first month due to averted visits to ER and earlier return to work.</p>	<p>Primary care - community mental health</p>
<p>Housing for people living with serious mental illness:</p> <p>Access to permanent housing with community-based support (assertive community treatment [ACT] or intensive case management, depending on intensity of needs).</p>	<p>MHCC, National Final Report, 2014, plus numerous peer-reviewed publications</p>	<p>Cost range: \$14,177-\$22,257 per person.</p> <p>Cost reductions in other services: \$42,536 per person for the 10% with highest service use at start of study.</p>	<p>Intensive specialized care</p>

AREA	CANADIAN STUDIES	COST EFFECTIVENESS	TIER
<p>Best practices for people with serious mental illnesses:</p> <p>Provides benchmarks for staffing and availability of high and medium intensity support in community mental health teams, and best practice recommendations for access to psychological therapies, crisis, psychosocial and primary care services.</p>	<p>IHE, Lesage et al. (2014)</p>	<p>Major cost effective interventions:</p> <ul style="list-style-type: none"> - <i>Assertive Community Treatment</i> programs, implemented in accordance with the best practice model, result in reduced health care costs and improved outcomes through reduced number of hospitalizations and emergency room visits. - <i>Crisis Resolution Teams</i> are a cost-effective alternative to hospital admission resulting in reduced bed usage and higher patient satisfaction. - The cost per day for crisis houses is lower than in inpatient hospital care and an admission to a crisis house is associated with greater user satisfaction than an inpatient admission. - Small treatment centres (8-15 beds), with access to a team of specialists in a recovery-oriented homelike environment are much lower cost than beds in large facilities and result in greater client satisfaction. - Mental health courts with links to treatment and social supports that would not otherwise be available reduce cost to the justice system. - Health service costs decrease when people with serious mental health problems and illnesses enter the workforce, and supported employment programs better help people enter and stay in the workforce. 	<p>Intensive specialized care</p>

The limited number of studies that resulted from the literature review emphasizes that we must build capacity within Canada's mental health research community. More research efforts are needed to generate robust cost-effectiveness and evaluation studies in order to guide ongoing investments and system transformation. In 2014, the OECD also called for a larger focus on outcome measures and to develop shared indicators for measuring progress across member countries (OECD, 2014).

However, the Canadian studies and reports also illustrate and reinforce the spectrum of evidence-based interventions that align with priorities recommended in the 13 provincial/territorial mental health strategies, as well as in *The Mental Health Strategy for Canada*. They illustrate key priority areas that a majority of the strategies and plans share. There is broad agreement that we need to increase investments in mental health to more closely approximate how much is spent by our OECD counterparts. *The Mental Health Strategy for Canada* recommends a two-percentage point increase in each health and social spending for mental health, which would require spending \$4 billion more per year on mental health care than was spent in 2015. But more importantly, the current research evidence converges with sector consensus on where to spend in order to better meet needs. This includes focusing on quality of care, investing upstream in public health and primary-care prevention, intervening early, improving access to community-based services, expanding access to psychotherapies for those with moderate as well as severe mental illnesses across the age span, and investing in community-based suicide prevention.

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