Supportive Housing in Ontario: Estimating the Need

By Greg Suttor

Wellesley Institute
advancing urban health

January, 2017

Wellesley Institute works in research and policy to improve health and health equity in the Greater Toronto Area through action on the social determinants of health.

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10 Alcorn Ave, Suite 300
Toronto, ON, Canada M4V 3B2
416.972.1010
contact@wellesleyinstitute.com

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Introduction

This report provides preliminary population-based estimates of need for housing with support for people with serious mental illness or addiction in Ontario.

Various approaches can be taken to estimating need for supportive housing. These include use of administrative or clinical data such as waiting lists, consultations with service provider agencies or experts, application or projection of relevant data from broader populations, and social or population surveys.

Population-based estimates are a useful systematic approach to understanding needs. Population-based estimates should be viewed as one approach among others, serving as a form of triangulating and cross-checking of estimates produced by other approaches.

There exist no population-based estimates of need for this type of supportive housing in Ontario. Indeed, a review of the large research literature on supportive housing for people with mental illness or addictions found no general population-based estimates for any jurisdiction, with two notable exceptions. One of these was Waegermakers-Schiff et al. (2014).[1] This source briefly reviewed the range and dominant themes in the mental health housing literature, identified this large gap, and prepared an estimate for Calgary. Another exception was Patterson et al. (2007),[2] discussed below.

As prior research has noted,[3] there are also no standard methodologies for analyses population-based need estimates for housing with support in relation to mental illness (mental disorder) and addictions (problematic substance use). However, there are standard methods for key methodological steps or components – which can be combined into an overall method as discussed below.

Factors Determining Need for Housing with Support

Conceptual Approach

Patterson et al. (2007) provide a basis for a methodology for population-based estimates of need for supportive housing. The following are their components (stages) of estimation:

- Adapting measures of the prevalence of mental disorder, and specifically severe mental disorder;
- Estimating the percentage that are inadequately housed;
- Estimating the percentage that require housing-related support.

The foregoing approach is adapted in the present report, by breaking out components of analysis that are standard in more general housing need studies: the household formation rate (headship rate), and an analysis of households by income level (quintile). The rationale for this is set out in the sections of this report that deal with these components.

There are also interaction effects between some of these factors: for example, between mental illness

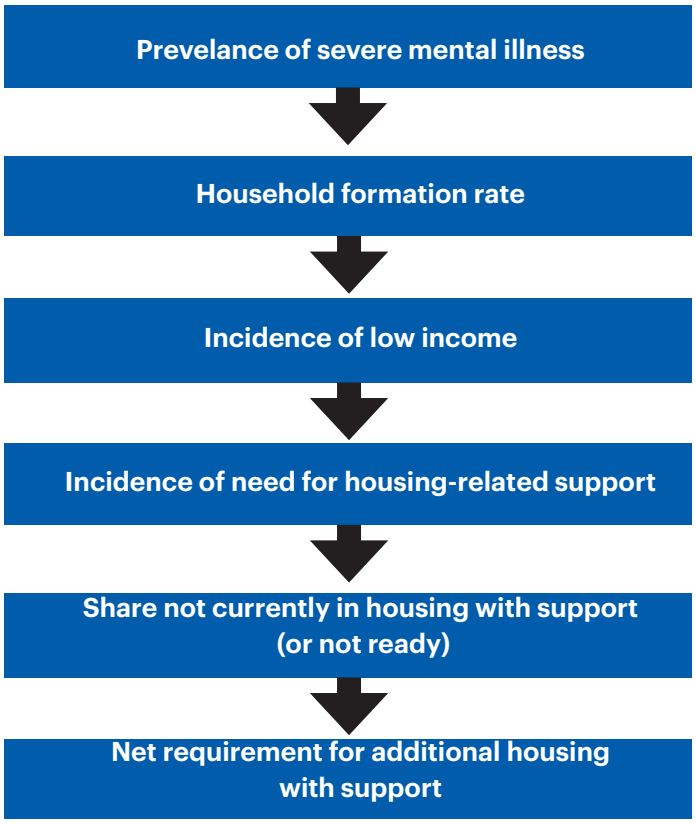
1 Jeanette Waegemakers Schiff, Rebecca Schiff, and Barbara Schneider (2014), "Developing an Estimate of Supported Housing Needs for Persons with Serious Mental Illnesses" *International Journal of Population Research,* Volume 2014 (online, DOI 10.1155/2014/245024).

2 Michelle Patterson, Julian Somers, Karen McIntosh, and Alan Shiel (2007), *Housing and Support for Adults with Severe Addictions and/or Mental Illness in British Columbia* (Burnaby BC: Centre for Applied Research in Mental Health & Addiction, Simon Fraser University. Prepared for the BC Ministry of Health).

3 Waegemakers Schiff et al., p. 2.

and household formation; mental illness and low income; household formation and need for support. These interactions are considered in the discussion that follows.

This series of cascading probabilities is considered in the next five subsections, dealing in turn with prevalence of serious mental illness, household formation rates, income levels, need for housing-related support, and netting out households already in supportive housing. An estimate on this basis is then provided.



Prevalence of Severe Mental Illness

Several studies based on population surveys have established the incidence of mental illness and addictions (mental disorders including problematic substance use).[4] Tables 1 to 3 provide data on this. Of particular interest are studies which break out "serious" or "severe" mental illness or addictions.[5]

Lifetime prevalence is little relevant for the present purpose. For example, if a person has serious

4 See Kessler, Ronald C., Wai Tat Chiu, Olga Demler, and Ellen E. Walters (2005), "Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication," *Archives of General Psychiatry 62* (6): 617-627; Offord, David R., Michael H. Boyle, Dugal Campbell, Paula Goering, Elizabeth Lin, Maria Wong, and Yvonne A Racine (1996), "One-Year Prevalence of Psychiatric Disorder in Ontarians 15 to 64 Years of Age" *Canadian Journal of Psychiatry 41*: 559-563; Rush, Brian, Karen Urbanoski, Diego Bassani, Saulo Castel, T. Cameron Wild, Carol Strike, Dennis Kimberley, and Julian Somers (2008), "Prevalence of Co-occurring Substance Use and Other Mental Disorders in the Canadian Population," *Canadian Journal of Psychiatry 53* (12): 800–809.

5 Canadian Community Health Survey online data, Rush et al. (2008) based on the CCHS, the CMHC 2010 report on the Participation and Activity Limitation Survey are all of relevant interest but do not identify a prevalence of severe cases.

depression or serious drug/alcohol use at some point in their lifetime, this does not *ipso facto* mean that they need housing with supports at the present time. Total lifetime prevalence produces a greatly exaggerated picture of the size of the population with impaired functioning and activity at any given time. Therefore the focus is initially on 12-month prevalence, subject to further comments below.

Table 1
Prevalence of Serious Mental Illness and Addictions tin Ontario and Elsewhere

12-month prevalence – adults

Authors	Survey Source	Population	Overall Prevalence	Prevalence of Severe
CANSIM	CCHS 2012	Canada	10.1	n/a
Patterson et al. (2007)	Various	BC, Adults	28.7	6.3
Kessler et al. (2005)	Co-morbidity survey	USA, English-speaking	26.2	5.8
Bijl et al (2003)	WHO	Canada	19.9	3.9
Bijl et al (2003)	WHO	US, Netherlands, Germany	22.8-29.1	5.4 - 8.2
CMHC (2010)	PALS	Canada	15.4	n/a
OHRC	Disability survey	Canada	4.8	3.5

Sources: see references; see also selected details in tables A1 to A4.

Percent of population 15+ or 18+. See text and Appendix 3 regarding definitions of severity.

- Kessler et al. (2005), from the National Comorbidity Survey Replication (NCS-R) carried out in 2001-2003, covering USA English-speaking population age 18 plus, provide data for "serious," "moderate" and "mild" disorders.
- Bijl et al. (2003) reported estimates of severe mental disorders in four countries, mostly affluent Western ones and including Canada, based on population survey data.
- Patterson et al. (2007), a study conducted for the BC government, provided estimates of mental illness and addictions and of severity. Their prevalence rates for particular disorders draw on several studies that were not separately reviewed for this report.
- The Ontario Human Rights Commission (2015) used data primarily from the 2012 Canadian Survey on Disability, on "mental/psychological disability" (without breakdown by type), and with severity.

These sources use varying definitions of severe, detailed in Appendix 3. Most gave weight to impacts on role and activity in daily life, either as reported by respondents or as previously known from mental health research and clinical practice. Appendix 2 also notes some systematic surveys of prevalence that break out serious or severe mental illness.[6] These data point to a 12-month prevalence of serious or severe mental

6 Of particular interest are the series of systematic literature reviews by Somers, Wairach, Goldner and Hsu published in 2002 to 2006, synthesizing international survey and clinical estimates on prevalence of schizophrenic, anxiety, mood, and substance abuse disorders internationally (see Table A5 in this report, and references); and for a society very similar to English-speaking Canada, Henderson et al. (2000) "Australia's mental health: overview of the general population survey."

illness and addictions of 3 to 6 percent of adult population, with notable differences among the sources.

The high end of the 3 to 6 percent range, with 1 in 20 people or more having serious mental illness or addiction, clearly applies a broad definition of "serious." The 12-month prevalence data are likely to capture many people whose issues will not impair functioning and activity in an enduring way. For example, there will be people who have serious depression or serious drug/alcohol use for a year or two in their life, but (perhaps with supports) – are able to move on from that experience. It is people whose functioning, social roles, and activities of daily life are impaired in an enduring way that are the population potentially needing housing with supports. Some measure of chronicity is needed, as well as more refined or graduated measures of functional impairment, but these were not available in the sources reviewed for this report.

Other sources state a prevalence of serious mental illness ranging between 2 and 5 percent. The MHCC *Turning the Key* cites 2 to 5 percent (see table 8 below) without discussion. The Ontario provincial Auditor's 2008 review of Community Mental Health programs[7] refers to an estimated 2.5 percent of Ontario population, age 16 and higher, having "serious mental illness." Ontario's 1988 Graham report, *Building Community Support for People*, used a much narrower definition, equating to 0.4 percent of population.[8]

Table 2

Estimated Population with Severe Mental Illness and Addictions in Ontario and Greater Toronto

	Population Age 15+	Severe Mental Illness or Addiction (at alternative 12-month prevalence rates)		
		If 2% prevalence	If 3% prevalence	If 4% prevalence
Ontario (2011)	11,058,000	220,000	330,000	440,000
Ontario (2015)	11,601,000	230,000	350,000	460,000
Greater Toronto (2011)	4,995,000	100,000	150,000	200,000
Greater Toronto (2016)	5,642,000	110,000	170,000	220,000

Source: Prevalence rates (see prior sections of report) applied to population age 15 and over, census/NHS 2011 and official population estimates for 2015-2016.

Accordingly, this report uses a 12-month prevalence range of 2 to 4 percent of population having severe mental illness or addictions. This yields the Ontario and Greater Toronto counts in Table 2. These are not measures of the need for housing with supports, but rather are a starting point for the cascading probabilities discussed in the following subsections.

7 Ontario, Auditor General, 2008 report, section 3.06, "Community Mental Health," p. 172. The report does not estimate the share of the population with serious mental illness that requires housing with support

8 Ontario, Provincial Community Mental Health Committee (1988), *Building Community Support for People*, p. 3: "38,000 are severely disabled by schizophrenia, affective disorders, and other mental illnesses." Ontario's 1986 population was 9.1 million as compared to 13.8 million in 2016.

Household Formation (Headship) Rates

People with mental health and addiction disabilities or chronic conditions are more likely to live alone. This means a higher number of dwellings per person are needed in this sub-population than in the population overall.

The relevant statistics are the household formation rate (headship rate), and in particular the propensity to live alone in a one-person household. The household formation rate is the ratio of households to population, and is a measure of the probability that an individual will form a household.[9] To illustrate at the individual level: a couple without children has a rate of 0.5 (1 household per 2 persons), while a couple with one late-adolescent child living at home has a rate of 0.33 (1 household per 3 persons). Household formation (headship) rates for the general population are readily available. For example, for Greater Toronto the census-based household formation rates in 2011 were 50.6% for population age 25 up.[10]

There is an interaction effect between the household formation rate and the incidence of low income (see next subsection). Low income tends to lower household formation because people are less able to pay for a place of their own, even if rented. But social and health policy should not use a logic whereby need is lower as a direct function of economic disadvantage; therefore low income is considered below in regard to need for assistance but is not considered here as a distinct factor in household formation. If people rely on their family or live in an institutional or group setting because of their disability, this reduces household formation. If people rent rooms, this will not show up as a 'household' in census data, even though they are living on their own. If fewer people form or maintain conjugal or other family relationships then household formation will be higher. Empirically, this last factor appears to dominate.

OHRC's *By the Numbers* report found that 22 percent of Ontario residents (age 15 up) with a mental health disability live alone (in a one-person household) – almost double the 12 percent share of the total population that lives alone.[11] This equates to a much large share of households, because the remaining population has less than one household per person.

Table 3 shows that the household type of people with mental health disabilities (age 15 up) is far more likely to be a single-person household (at 41 versus 27 percent of households) and far less likely to be a family with children (13 versus 29 percent).[12] This is calculated from census data and the CMHC analysis of the 2001 *Participation and Activity Limitation Survey.*[13] There is little difference in other household types. The net result is a moderately higher household formation rate, calculated on table 3 as 63 versus 53 percent. This is essentially measuring much the same difference as the 22 vs. 12 percent above: an

9 For a general discussion of headship rates see Michael J. Murphy (1991), "Modelling Households: A Synthesis" *Population Studies 45* (supp.): 157-176. For a recent application to Canada, see Canada Mortgage and Housing Corporation (2013), *Long-Term Household Growth Projections – 2013 Update* (Ottawa: CMHC).

10 Calculated from census and NHS data. Rates for all ages including 15-25 were lower at 43.4 percent. Rates for age 65 up were higher at 56.4% (applies to 65-74 and to age 75 up).

11 Ontario Human Rights Commission (2015), *By the Numbers: A Statistical Profile of People with Mental Health and Addiction Disabilities in Ontario* (Toronto: OHRC) cites data for categories of disability which equate to a total 11.8 percent of Ontario population living alone. This is consistent with 11.7 percent in the2011 census (cat. 98-312-XCB2011030).

12 The percentage in Core Need were little different between the two groups, for other types of households, i.e. non-family shared households, single parents, and couple without children.

13 Canada Mortgage and Housing Corporation (2010), *2001 Participation and Activity Limitation Survey: Issue 4—Profile of the Housing Conditions of Canadians Aged 15 Years and Older with an Emotional/Psychological Disability* (Research Highlight).

Table 3

Household Formation Rates: Estimated Variation by Mental Health

	Estimated Average Household Size	Resulting Household Formation Rate	Distribution by Household Type	
			Persons with "Emotional / Psychological Disability"	All Persons
Living alone	1.00	1.00	41.3%	27.2%
Living with other (non-family)	2.50	0.40	8.3%	7.1%
Lone parent family	2.80	0.36	24.1%	21.4%
Couple without children	2.00	0.50	12.9%	14.8%
Two-parent family	3.80	0.26	13.4%	29.4%
			100%	100%
Overall household formation rate			**63%**	**53%**

Distribution by household type from CMHC (2010), PALS Issue 4—Profile of the Housing Conditions of Canadians Aged 15 Years and Older with an Emotional/Psychological Disability.

Estimated household size calculated here from number of children by household type, Statistics Canada, 2011 census, cat 98-312-XCB (except non-family, 2.5 assumed here).

Overall household formation rate calculated here = ∑ (percent share x Household formation rate for each row)

extra 1 in 10 people with a mental health disability live alone, compared to the general population.

It appears probable that these higher household formation rates are more pronounced for people with more *severe* mental health or addictions issues, but specific data are lacking.

For purposes of the general estimates below, a household formation rate of 60 to 70 percent will be used, i.e. a range close to but skewing upward from the 63 percent cited above.

Prevalence of Low Income

The subset of households that has mental illness or addiction and *low income* may require housing with support. The subset that has lower-middle to upper income can obtain market housing. While a person in the latter group may require housing *support*, he or she does not need a program to provide *housing*.

Low personal income does not directly imply low household income, but it raises the probability. For example, many people with personal income under $20,000 live in a household with two or more earners/

beneficiaries and a resulting combined income above $30,000. At that level the household can afford market rents. Only those with low *household* income require housing assistance.[14]

People with mental health disabilities tend to have lower incomes than others. This reflects the reality that it is more difficult to maintain stable employment, especially high-skilled employment. Two main sources document the relative incomes for Ontario and Canada. Prevalence data from the Canadian Community Health Survey show that one-third[15] of Canadians with selected mental and behavioural disorders are in the first quintile of *personal* income (Table 4).

OHRC's *By the Numbers* report, drawing on the 2012 Canadian Survey on Disability, shows that in Ontario the average personal income and the household income for people with mental health problems are only about 60 percent of the level for those without disabilities. It shows that the incidence of low personal income among people with mental health problems is 20 percent, which is twice the incidence for those without a disability. The incidence of Core Housing Need, an indicator highly correlated with low income, is almost 30 percent, again twice the general rate.[16]

The income differences reported by these two sources are broadly consistent. It is unclear from the two in combination whether the tilt to low *household* income is stronger than that to low *personal* income of not. Differences from the general population will probably be larger for people with a *severe* mental illness or addiction, but specific data are not available.

Table 4

Prevalence of Selected Chronic Conditions by Income Quintile

Canadian Community Health Survey: Indicative Data

	Income quintile (personal income)					Average	Ratio: Lowest quintile value to average	Implied Share in First Quintile
	1st (lowest)	2nd	3rd	4th	5th (highest)			
	Rates per 1,000 population							
Mental & behavioural disorders*	146	90	81	77	64	92	1.6	32%
Anxiety (subcategory)	81	44	42	39	35	48	1.7	34%
Mood disorders (subcategory)	105	64	55	54	39	63	1.7	33%

Source: Canadian Community Health Survey, background data for *Poverty is Making us Sick* (2008)[1]

*Includes include anxiety disorders, mood disorders, Alzheimer's or dementia and schizophrenia.

Share in first quintile is computed arithmetically from the prevalence within equal populations in each quintile.

14 The probability that a person with low personal income is in a low-income household could be calculated from census microdata, but this has not been done for this report.

15 CCHS data used in Lightman et al. *Poverty is Making Us Sick* (background data tables) show prevalence for those in the first quintile of personal income, of 14.6% for any mental or behavioural disorder; 8.1% for anxiety disorder, and 10.5% for mood disorder. This equates mathematically to respectively 32%, 34%, and 33% of those with such conditions being in the first quintile.

16 OHRC p. 43: personal income $18,610 for those with a "mental/psychological disability" vs. $30,578 for those with no disability; household income $51,267 vs. $82,631; p. 29, Core Need 29 vs. 14 percent; p. 46, percent below LICO 19.6 percent vs. 10.4 percent.

These income effects will not be fully offset by rent subsidies if available. An RGI benefit of typically about $7,000 annually, accessible via a long waiting list, does not fundamentally alter the inequality of income or the resulting constrained housing options and reduced ability to afford to run a household.

A reasonable conclusion based on the available data is that about one-third of persons with mental illness or addiction have low *household income*, compared to about one-fifth of all households.

For purpose of the general estimates in section 3, an incidence of low household income of 30 to 40 percent is used, i.e. a range close to but skewing upward from the 33 percent cited above.

Incidence of Need for Housing-related Support

Among people with serious mental illness, the share requiring funded supports to maintain stable housing is high but not universal. Waegemakers Schiff et al. (2014)[17] note that not all require housing-related support. Many people live with chronic depression in a house they own or live with stable tenancies, despite histories of diagnosed schizophrenia. Some people may rely on the support of others in their household.

As noted, the relationship of prevalence to a need for housing with support is not direct. Of all the parameters discussed in section 2 of this report, this one is the least well quantified in existing research. Some key points in this regard:

- Not everyone with a severe or serious mental illness needs housing-related support, even if they are living on their own. For example, substance use disorders, major depressive episodes, and suicidal thoughts are not uncommon in many people's lifetimes and even in a given year, but in many cases this does not mean a need for housing with supports.
- On the other hand, it is not only severe diagnoses such as schizophrenia or psychosis that mean a person needs housing with support. These conditions perhaps most often lead to difficulty keeping regular employment, inadequate income, social isolation, and functional disabilities in maintaining stable housing. But major depression as well as severe drug/alcohol dependency and various other mental illnesses may have the same result.[18]

Durbin et al. (2005, p. 7)[19] reported data on need for support among about 4,300 clients/residents in community mental health housing programs, as part of a broader 1998-2001 assessment of needs in Ontario's community mental health programs and psychiatric hospitals. "Among those receiving service from provincial psychiatric hospitals, 72% of inpatients and 47% of outpatients were assessed as needing housing support. Of those using community mental health services, 35% overall were rated as needing housing support, including 70% of those using ACT, 44% of those using case management and 47% of those using social/recreational programs." Patterson et al. (2007, p. 33), examining needs in BC in consultation with an expert advisory group, concluded on this basis "that approximately 70% of adults with SAMI [serious addictions or mental illness] who are inadequately housed are also inadequately supported."

There is an expected interaction effect between low income and aspects of household formation (especially being in a single-person household), and the need for support. A person with low income who lives alone

17 Waegemakers Schiff, Schiff, and Schneider (2014).

18 ibid., p. 2.

19 Janet Durbin, Lindsey George, Christopher Koegl, and Caitlin Aitchison-Drake (2005), *Review of Ontario Mental Health Supportive Housing System and Potential Data Sources for System Monitoring* (for the Ontario Ministry of Health and Long Term Care).

may be less able to draw on informal family support, or to use his or her better resources to access various types of non-housing-related support.

There is also an expected interaction effect between use of a high versus low prevalence estimate of severe mental illness and the need for support. A higher prevalence estimate will tend to capture more people who have a lesser need for support, thereby lowering the overall incidence of need for housing-related support.

The sources above point to a range of between 50 to 70 percent of persons with serious mental illness needing housing support. This range is used below in estimating the share of the relevant subpopulation that requires housing-related support.

Already Living in or Not Ready for Supportive Housing

In arriving at estimates of unmet need (net requirements) for housing with support, it is also necessary to net out two other populations:

a) Currently living in housing with support

The Wellesley Institute report *Taking Stock of Supportive Housing*[20] identifies approximately 23,000 households in Ontario (including persons in rooms/beds in congregate housing) that currently receive housing with support in regard to mental illness or addictions. This includes housing targeted to chronic homelessness, for people with a high prevalence of mental illness or addictions.

b) Residing in institutions and not ready for community living

Many or most people in institutions such as mental health hospitals are able to live successfully in the community if housing with support is provided, but not all. Some number of people at any given point in time are in institutions and not able to leave for legal or medical reasons. This may include people hospitalized or in quasi-institutional settings with very severe mental illness, people who also have long term care needs, and those who are in jail, prison, or other correctional facilities.

Data to measure this precisely are not readily available. Nevertheless, the general magnitude can be estimated from hospital and correctional (prison and jail) data:

- Nearly 5,200 adults had a long-stay or ALC hospital day for mental health or addictions (fiscal 2007).[21] This would include some – probably a minority – who have a home in the community.
- Ontario has about 8,000 people in correctional institutions. This comprises sentenced custody, as well as remand and other temporary detention; it excludes people on probation, parole, or subject to statutory release or long-term supervision, and conditional sentences. The precise number was 8,253 (2013/14) and 7,785 (2014/15).[22] The prison and jail population has a relatively high incidence of mental illness, especially once addictions are included. It has been reported that in 2007 about one-fifth used prescribed medication for mental health issues; the estimated incidence of mental

20 Greg Suttor (2016), *Taking Stock of Supportive Housing in Ontario* (Toronto: Wellesley Institute).

21 Dale Butterill, Elizabeth Lin, Janet Durbin, Yona Lunsky, Karen Urbanoski, and Heather Soberman (2009), *From Hospital to Home: The Transitioning of Alternate Level of Care and Long-stay Mental Health Clients* (Toronto: Centre for Addiction and Mental Health), p. 13ff.

22 Statistics Canada, "Adult Correctional Statistics in Canada, 2014/2015" http://www.statcan.gc.ca/pub/85-002-x/2016001/article/14318-eng.htm (accessed October 2016).

illness is in the range of one-half to two-thirds, and up to 85 percent if substance use is included.[23]

These population estimates are broad rather than precise. Moreover they do not translate directly to households. The cascading propensities that are elaborated above will not apply precisely to these institutionalized populations, as the incidence of low income will be much higher here. The corresponding number of households appears likely to be approximately one-fifth or less of the combined 11,000 population in these two categories. This implies a preliminary estimate of about 2,000 households.

There is an interaction effect between the hospital and prison/jail population and need for housing-related support: institutionalized population could be lower if sufficient supportive housing were available. This consideration is not specifically factored into the estimates in this report.

The sum of households currently in supportive housing and a household-equivalent count of population in hospitals, prisons, or jails is approximately 25,000. This is a preliminary estimate. This is subtracted from the estimate of need that is generated based on the factors discussed in the preceding subsections.

Preliminary Population-based Estimate of Need

Table 5 sets out the cascading set of probabilities discussed above, thereby estimating a range of population-based need for housing with supports for to mental illness and addictions in Ontario.

Table 5

Estimated Need for Housing With Supports

(Serious Mental Illness and Addictions):

Range of Probabilities based on Cascading Factors

Prevalence of serious mental illness &/or addictions	4%				2%			
	↓		↓		↓		↓	
Percent forming their own household	60%		70%		60%		70%	
	↓	↓	↓	↓	↓	↓	↓	↓
Percent that have low income	30%	40%	30%	40%	30%	40%	30%	40%
	↓	↓	↓	↓	↓	↓	↓	↓
Requiring supports to maintain stable tenancy	50% to 70%				50% to 70%			
	↓	↓	↓	↓	↓	↓	↓	↓
Prevalence of need for housing with supports (households needing housing with support, as a percentage of total adult population)	0.7	1.0	0.8	1.1	0.4	0.5	0.4	0.6

Source: Probabilities based on Tables 1, 3, and 4, and related discussion in text.

23 Maire Sinha (2009), *An Investigation into the Feasibility of Collecting Data on the Involvement of Adults and Youth with Mental Health Issues in the Criminal Justice System* (Statistics Canada, Crime and Justice Research Paper Series, cat. 85-561-M).

However, if a broad definition of severe mental illness is used (4 percent prevalence) then the incidence of need for housing-related support will be pulled lower, and if a narrow definition is used (2 percent prevalence) it will be pulled higher. Therefore it is reasonable to omit the high and low outliers. The resulting estimated need for housing with support is in the range of 0.5 percent to 1.0 percent of the population age 15 or more.

These propensities can now be applied to the actual population of Ontario from Table 2 above. Table 6 uses the 0.5 percent to 1.0 percent ratios generated above and applies them to that population, to produce an estimate of the need for housing with support, expressed as a number of households or housing units.

Population growth

The remaining factor to be considered is population growth. The need for supportive housing is a function not only of existing need, but of ongoing growth.

Ontario's population age 15 and up is projected to grow by about 1.1 percent annually – or 11 percent decennially, i.e. 1.3 million people added each decade. The projected growth rate (age 15 up) is much higher in Greater Toronto, at approximately 15 to 16 percent per decade or 0.9 million. It is projected at 7 percent per decade in the rest of the province, or 0.4 million.[24]

Table 6

Estimated Range of Need for Housing with Support: Ontario

(mental illness or addiction)

	Ontario Population estimate 2015 (age 15+): 11,600,000					
Prevalence, need for housing with support	0.5%	0.6%	0.7%	0.8%	0.9%	1.0%
Resulting need for housing with support	58,000	70,000	81,000	93,000	104,000	116,000
Existing housing with support + institutional	25,000	25,000	25,000	25,000	25,000	25,000
Net requirement, added housing with support	33,000	45,000	56,000	68,000	79,000	91,000

Source: Prevalence from cascading propensities in Table 5; the low (0.4%) & high (1.1%) outliers are omitted – see text.

Population estimates 2016 from Ministry of Finance projections (predating availability of 2016 census).

Applying this to the estimated population-based need for supportive housing yields the following requirements to keep pace with population growth (Table 7).

24 Calculated from Ontario Ministry of Finance (2014), Ontario Population Projections, 2013–2041, Tables 6 and 10 (Reference Scenario). Accessed at http://www.fin.gov.on.ca/en/economy/demographics/projections/table4.html. Decennial increase for Ontario population (millions, age 15+) in overlapping decades: 1.335 (2016-26), 1.366 (2021-31), respectively 11.4 and 11.0 percent. Decennial increase for the GTA (millions) 0.904 (2016-26), 0.927 (2021-31), respectively 16.0 and 15.2 percent.

Table 7 Growth-related Needs in Ontario	
Existing Need for Supportive Housing (alternative estimates)	Units Needed Annually to meet Population Growth (1.1%/year)
58,000	640
70,000	770
81,000	890
93,000	1,020
104,000	1,140
116,000	1,280
Source: Col. 1 from Table 6, 1.1% growth per text. Note: The netting out of existing supportive housing does not apply to growth calculations.	

Conclusions

This report has generated an estimate of the need for housing with support for mental illness and addictions. This is based on cascading prevalence and propensities of severe mental illness, household formation, low income, need for support in this subset, and bearing in mind the population already in housing with support (or in institutions and not ready).

The low end of these estimates is a net requirement of 33,000 units for existing need, plus 640 units annually for population growth. If expressed in terms of units required over a period of a decade, this equates to approximately 4,000 units annually. The corresponding high estimate is 10,000 units annually.

This estimate does not include people who may need housing support due to long-term homelessness and related disabilities or chronic conditions, but do not have a serious mental illness or addiction.

Appendices

Appendix 1 – Comparison to Other Estimates

a) Turning the Key

The Mental Health Commission of Canada's *Turning the Key* report[25] provides some general estimates of need the need for supportive housing for mental illness and addictions; it does not provide an overall population-based estimate.

It cites the prevalence of mental illness in the population, as well as estimates that 30 to 50 percent of the homeless population have serious mental illness, and estimates that 20 to 40 percent of people living with serious mental illness are inadequately housed.[26] It cites the Kirby report data,[27] and notes that this excludes those who are homeless or 'hidden homeless' such as couch surfers. It also notes prior estimates of the incidence of inadequate housing and Core Housing Need (closely related categories) among people with serious mental illness, prevalence of the latter, and the latter among homeless people.

Table 8

Estimates of Housing Need in Turning the Key

Counts of individuals with serious mental illness	Ontario	Canada
1. Total with serious mental illness (based on 2 – 5% prevalence rate)	199,000 – 498,000	521,000 – 1,302,000
2. Inadequately housed (at 20 – 40% of line 1)	40,000 – 199,000	104,000 – 521,000
3. In Core Housing Need (at 27% of line 1 range)	54,000 – 134,000	141,000 – 352,000
4. Homeless with mental illness (at 30–40% of homeless population – see sources below)	17,000 – 46,000	45,000 – 120,000
Source: Trainor et al (2012), Turning the Key. Data rounded here to nearest 1,000.		
Total homeless population used to compute line 4 (at 0.58 – 1.7% of total population):	58,000 – 115,000	151,000 – 299,000

On this basis, *Turning the Key* estimated the range of housing need among people with serious mental illness, shown in Table 8.[28] For Ontario, the low to middle values in lines 2 and 3 of this table are in the same range as the estimates in the present report.

25 John Trainor, Peggy Taillon, Nalini Pandalangat, et al. (2012), *Turning the Key: Assessing Housing and Related Supports for Persons Living with Mental Health Problems and Illness* (Mental Health Commission of Canada and Centre for Addiction and Mental Health).

26 ibid, p. 89.

27 The Kirby data that 27 percent of people with mental illness are in Core Housing Need is mis-cited as 27 percent being homeless.

28 It should be noted that Inadequate housing and Core Need are closely related categories, and that homeless in this source appears to refer to absolute homelessness.

b) Kirby Report

The 2006 Senate committee report on mental illness and addictions (Kirby report)[29] provided an estimate of the number of housing units required to bring the incidence of Core Housing Need among people with mental illness or addictions down to the average level for the Canadian population.[30]

The report cited tabulations prepared by Canada Mortgage and Housing Corporation for the senate committee, that while 15% of the overall Canadian population is in Core Need, for people living with mental illness it is 27% (approximately 140,000 people). The report concluded on that basis that approximately 57,000 new affordable housing units were needed to bring down the proportion of people living with mental illness down to the level for the Canadian population overall. See below on a pro rata application of this to Ontario.

c) AMHO, Time for Concerted Action on Supportive Housing

This report called for 26,190 added units of supportive housing, citing a range of related needs indicators.

It is understood that this figure was intended to correspond to other indicators of need. It is approximately equivalent to the numbers on The Access Point waiting list in the City of Toronto, factored up to provincial population. It also has equivalency to the Kirby report number, factored down from nation to Ontario population, with some adjustment. (The 26,190 is 45 percent of the Kirby 57,000 while Ontario is 38 percent of national population.) The figure was also triangulated on a bottom-up basis from the mix of types of housing with support that, based on the experience of providers, is needed in Toronto.[31]

d) Estimates for Calgary – Waegemakers Schiff, Schiff and Schneider

Waegemakers Schiff et al.[32] estimated the need for supportive housing in Calgary by calculating (a) the known prevalence of schizophrenia, and (b) the relative proportions of people with schizophrenia and other mental health or addictions diagnoses in existing supportive housing.

The rationale is approximately as follows. Schizophrenia is more prevalent than other conditions among those in supportive housing for mental illness and additions. This is due to its severe effects on employment, social support, and personal stability. Its prevalence is clearly measured. Other diagnoses may have less clear-cut or universal implications for housing support. The relative presence in supportive housing of people with such other diagnoses is an indicator of the extent to which those other conditions lead to a need for housing with support. The sum of these two terms (prevalence of schizophrenia, and the ratio of other diagnoses in supportive housing) yields an overall measure of need for supportive housing.

The researchers noted that the prevalence of schizophrenia in various jurisdictions is 0.3 to 2 percent, and 0.8 percent in Calgary. They found, from three prior studies, that the percentage of persons with schizophrenia in supportive housing (for mental illness and addictions) was 55 percent (± 5 %) in various

29 Canada, Standing Senate Committee on Social Affairs, Science and Technology (2006), *Out of the Shadows at Last: Transforming Mental Health, Mental Illness and Addiction Services in Canada* (Final Report of The Standing Senate Committee on Social Affairs, Science and Technology, Hon. Michael J.L.Kirby, Chair) [Kirby report].

30 ibid, section 16.5.3, "Mental Health Housing Initiative" at http://www.parl.gc.ca/Content/SEN/Committee/391/soci/rep/rep02may06part6-e.htm#_Toc133223358

31 Communication, supportive housing providers.

32 Waegemakers Schiff, Schiff and Schneider (2014).

jurisdictions. On that basis they calculate the need for supportive housing.

The implied *rate* of need for supportive housing, although only an absolute figure is set out in the article, is (0.8) + (0.45 / 0.55 x 0.8) = 1.45 percent of adult population.

If applied to the 2011 Ontario or Greater Toronto population, this 1.45 percent would yield respectively 160,000 and 72,000. This is considerably higher than the estimates in the present report.

e) Disability Survey Data and Housing Need

The Statistics Canada 2001 *Participation and Activity Limitation Survey* included data for persons with specific disabilities, one of these being "emotional/ psychological." CMHC analysed the 2001 PALS data with respect to housing need, for people age 15 or more.[33] Data for individuals are tabulated according to whether they live in Core Housing Need. The latter refers to housing that costs no more than 30 percent of household income and is not overcrowded or in serious disrepair, for households with income below the level where local average rents are affordable. Although PALS includes data on "severe" and "very severe" emotional/ psychological disability, housing need was not reported for those subgroups.

The incidence of Core Housing Need was much higher (age 15 up) for people with an emotional / psychological disability, at 22.7 percent versus 9.1 percent of those without a disability. Among those (age 15 up) in renter households, 37.2 percent with an emotional /psychological disability were in Core Need compared to 21.1 percent for those without disabilities.

The higher incidence of Core Need was almost entirely in the age 45-64 bracket, where 42 percent of people with an emotional /psychological disability were in Core Need versus 23 percent of those without disabilities. This age pattern applied with minor differences to both men and women. Although the data do not disaggregate this, it is highly likely that this is correlated with the higher incidence of living alone, i.e. with only one's own income, and the lower incidence of living in a family with children, i.e. with more than one earner on average. Living alone and having an emotional /psychological disability in the peak earning years are strong contributors to high housing need for people with mental health problems.

f) Wellesley Institute, Low income and mental illness (CCHS Data)

Data from the CCHS for the Wellesley Institute's report (2010) *Poverty is Making Us Sick* indicated that the overall incidence of mental and behavioural disorders in the lowest quintile of personal income is 14.6 percent (146 per 1,000). The appropriate interpretation is primarily that mental illness or addictions makes it more likely that a person will be poor; and secondly that low income may also put one at greater risk of some mental illnesses or addictions.

The 14.6 percent has been cited without appropriate caveats as indicating the incidence of need for housing-related supports in the low-income population, or in specific subsets of it. This is not a reasonable or reliable inference on the basis of these CCHS data and is certainly too high.[34] It also creates a risk that it will be cited in ways that contribute to stigmatization and stereotyping of people with low incomes.

33 Canada Mortgage and Housing Corporation (2010), *2001 Participation and Activity Limitation Survey: Issue 4—Profile of the Housing Conditions of Canadians Aged 15 Years and Older with an Emotional/Psychological Disability* (Research Highlight).

34 In addition, the reliability of sub-population estimates in these data requires further review. As well, the Inclusion of age-related dementia, together with high frequency of low income among the elderly, makes it possible that data overstate the prevalence of mental disorders among the general low-income adult population.

g) Homeless people with serious mental illness and addictions

Numerous sources show a high prevalence of serious mental illness and addictions among people experiencing chronic homelessness. This combination is direct evidence of need for housing with supports.

None of these provides an estimate for Ontario. Given that many people are housed but at high risk of homelessness or problematic mental health, the number of homeless people with serious mental illness or addiction is not the total need for housing with support, but rather a significant subset.

h) Long hospital stays and ALC for mental illness and addictions

In the Ontario hospital system, people occupying hospital beds who no longer require that level of care but cannot be discharged, usually due to lack of suitable housing or care available upon discharge, are designated ALC (Alternate Level of Care). A significant share of people in this situation have mental illness or addictions and the key thing in the way of suitable discharge is lack of suitable housing with supports. In addition, many people with these needs have long hospital stays.

Butterill et al.[35] provide data on this based on Ontario health system data for 2007/08. Highlights are:

- There were 5,520 people hospitalized for mental health and addictions reasons who had either long stays or some ALC days.
- Although some were hospitalized for shorter periods, stays of over 90 days were prevalent, and this group and it accounted for 1.06 million bed-days which were either long stays or ALC.
- The long-stay and ALC bed-days among this population accounted for half (51 percent) of ALC and long/stay days among all categories of long-stay patients,
- The long-stay and ALC bed-days comprised half (48 percent) of all patient-days for mental health or addictions needs.

In sum, people hospitalized with mental health issues or addictions who are either there for long periods or become ALC are a significant part of the ALC issue, encountering significant barriers to suitable discharge in to the community. The implication for supportive housing is by no means direct, but if the 1.06 million bed-days were full-year stays, it would equate to 2,900 persons.

This is a measure of fairly severe needs and is much smaller than the broader estimates arrived at above.

35 Butterill et al. (2009) From Hospital to Home, pp. 12ff, 55-56.

Appendix 2 – Selected Evidence on Prevalence of Serious Mental Illness

Table A.1 Prevalence of Mental Illness and Addictions in Canada (CCHS)		
	Prevalence, Age 15+ (percent of population)	
	Lifetime	1-year
Any selected disorder (mental or substance)	33.1	10.1
Any mood disorder	12.6	5.4
Major depressive episode	11.3	4.7
Bipolar disorder	2.6	1.5
Generalized anxiety disorder	8.7	2.6
Any substance use disorder (alcohol or drug)	21.6	4.4
Suicidal thoughts	11.9	3.3
Perceived mental health, fair or poor	7.8	1.3
Schizophrenia or psychosis*	-	1.3
Post-traumatic stress disorder*	-	1.7
Eating disorder*	-	0.4
Attention deficit disorder*	-	2.6
Source: Canadian Community Health Survey, 2012, CANSIM table 105-1101 * Current diagnosed condition (not 1-year prevalence)		

Table A.2

Estimates of Severe Mental Illness and Addictions in BC

	12-month Prevalence per 100	Percent Severe	Calculated Prevalence of "Severe"	"Severe" net of Assumed 50% Co-morbidity
	(a)	(b)	(c)	(d)
Major Depressive Disorder	4.1	35%	1.4	0.7
Dysthymia	1.5	36%	0.6	0.3
Bipolar	0.7	55%	0.4	0.2
Anxiety	12.6	22%	2.8	1.4
Schizophrenia	0.3	70%	0.2	0.1
Psychotic NOS	0.5	40%	0.2	0.1
Substance Abuse Dependence	8.4	30%	2.5	1.25
Eating Disorders (Anorexia Nervosa)	0.6	10%	0.1	0.05
TOTAL			6.3%	3.2%

Source: Columns a & b from Patterson et al. (2007), Section 3, table 1.

(All source data rounded here to 1 decimal. 'Delusional' omitted here due to incidence ≤0.3%).

Columns c & d calculated here from that data; the 50% assumed co-morbidity is from Patterson et al.

Overall prevalence calculated here on 2006 BC population.

Dysthymia is persistent mild to moderate depression.

Table A.3

Prevalence of Serious Mental Illness in the USA

	Total 1-Year Prevalence	'Serious'	Resulting Prevalence of 'Serious' Disorder*
	% of population	% of col 1	% of population
ANXIETY DISORDERS			
Panic disorder	2.7	44.8	1.2
Agoraphobia without panic	0.8	40.6	0.3
Specific Phobia	8.7	21.9	1.9
Social Phobia	6.8	29.9	2.0
Generalized anxiety disorder	3.1	32.3	1.0
Posttraumatic stress disorder	3.5	36.6	1.3
Obsessive-compulsive disorder	1.0	50.6	0.5
Separation anxiety disorders	0.9	43.3	0.4
Any anxiety disorder	18.1	22.8	4.1
MOOD DISORDERS			
Major depressive disorder	6.7	30.4	2.0
Dysthymia	1.5	49.7	0.7
Bipolar I and II disorders	2.6	82.9	2.2
Any mood disorder	9.5	45.0	4.3
IMPULSE CONTROL DISORDERS			
Oppositional defiant disorders	1.0	49.6	0.5
Conduct disorders	1.0	40.5	0.4
Attention-deficit/hyperactivity disorders	4.1	41.3	1.7
Intermittent explosive disorder	2.6	23.8	0.6
Any impulse control disorders	8.9	32.9	2.9
SUBSTANCE DISORDERS			
Alcohol abuse	3.1	28.9	0.9
Alcohol dependence	1.3	34.3	0.4
Drug abuse	1.4	36.5	0.5
Drug dependence	0.4	56.5	0.2
Any substance disorder	3.8	29.6	1.1
ANY DISORDER			
Any	26.2	22.3	5.8
1 disorder	14.4	9.6	1.4
2 disorders	5.8	25.5	1.5
> 3 disorders	6.0	49.9	3.0

Source: Kessler et al (2005), from National Comorbidity Survey Replication (English-speaking US population age 18+). Right-hand column calculated here.

Selected categories were assessed on subsamples rather than the full sample.

Schizophrenia omitted (see text). Impulse control disorders are with reference to respondents age 18 to 44.

Table A.4

Twelve-month Prevalence of DSM-IV Disorders in Five Countries, With Severity

	Canada	Chile	Germany	Netherlands	USA
	Percent of population				
Type of Disorder					
Mood disorder	4.9	9.0	11.9	8.2	10.7
Anxiety disorder	12.4	5.0	11.9	13.2	17.0
Substance use disorder	7.9	6.6	5.2	9.9	11.5
Any disorder	19.9	17.0	22.8	24.4	29.1
Severity of Disorder					
None	80.1	83.0	77.2	75.6	70.9
Mild	12.4	8.1	10.8	14.1	13.8
Moderate	3.6	5.5	6.6	4.2	7.0
Serious	3.9	3.3	5.4	6.1	8.2

Source: Bijl et al. (2003), Exh. 2, data from World Health Organization compilation of national surveys of adult population in 1990-99 period. See caveats in source regarding comparability.

Table A.5

Twelve-month Prevalence of Various Mental Health Disorders (simplified summary)

	Schizophrenic Disorder	Anxiety Disorder	Mood Disorder	Substance use Disorder
	Percent of population			
Prevalence range (95% confidence interval)	0.6–1.2"%	7.5–14.3%	5.7–9.7%	6.4–10.9%
Best estimate of prevalence	0.85%	10.6%	7.5%	8.4%

Source: Goldner et al., (2002); Waraich et al. (2004); Somers et al. (2004), Somers et al. (2006).

Appendix 3 – Definitions of Severity

a) Kessler et al. (2005)

Kessler et al. classify the DSM-IV mental disorders as serious or severe (both terms are used) based on a mix of specific behavioural and diagnostic impacts. These include multiple days 'out of role', days entirely unable to carry out normal daily activities, certain diagnoses, ratings on the Sheehan Disability Scale, and suicide attempts or violence. Verbatim text as follows:

Twelve-month cases were classified as serious if they had any of the following: a 12-month suicide attempt with serious lethality intent; work disability or substantial limitation due to a mental or substance disorder; positive screen results for non-affective psychosis; bipolar I or II disorder; substance dependence with serious role impairment (as defined by disorder-specific impairment questions); an impulse control disorder with repeated serious violence; or any disorder that resulted in 30 or more days out of role in the year. Cases not defined as serious were defined as moderate if they had any of the following: suicide gesture, plan, or ideation; substance dependence without serious role impairment; at least moderate work limitation due to a mental or substance disorder; or any disorder with at least moderate role impairment in 2 or more domains of the Sheehan Disability Scale. (The Sheehan Disability Scale assessed disability in work role performance, household maintenance, social life, and intimate relationships on 0-10 visual analog scales with verbal descriptors and associated scale scores of none, 0; mild, 1-3; moderate, 4-6; severe, 7-9; and very severe, 10.)... To assess the meaning of the severity ratings, we compared number of days in the past 12 months respondents were totally unable to carry out their normal daily activities because of mental or substance problems. The mean of this variable was significantly higher (F = 17.7; P<.001) among respondents classified as serious (88.3) than those classified as moderate (4.7) or mild (1.9).

b) Patterson et al. (2007)

Patterson et al. defined "severe" addictions and/or mental illness (SAMI) based on functional capacity, that is, the person's ability to actively engage in personal, social, and occupational areas of daily life. Verbatim text as follows (p. 16 in original 2007 version):

Given that many individuals whose illnesses do not fall into the categories of psychotic and/or severe mood disorders but who are nonetheless chronically impaired by mental illness and/or substance abuse, we defined SAMI across all of the major mental disorders (Axis I, see DSM-IV-TR) based on estimates of functional capacity (i.e., an individual's ability to actively engage in personal, social, and occupational areas of daily life...)...

It should be noted that our definition of SAMI is somewhat more inclusive than what has been widely used in the past (e.g., NIMH, 1987; Slade et al., 1997). Our definition includes all mood, anxiety and substance use disorders, which are more prevalent in the general population than bipolar and psychotic disorders. While it may be argued that most mood and anxiety disorders are not as severe as psychotic and bipolar disorders, many individuals with Major Depressive Disorder, Post-Traumatic Stress Disorder, Obsessive Compulsive Disorder, Panic Disorder, and Substance Use Disorders are severely impaired. We believe that a definition of SAMI that does not include these disorders underestimates the population that is functionally impaired due to mental illness and in need of housing-related support services.

Our definition of SAMI does not include personality disorders, which often result in long-standing disability.

Inter-rater reliability for personality disorders (Axis II) is much lower than for Axis I disorders (Zimmerman, 1994), and the population prevalence and severity prevalence information is not as reliable. However, the majority of these individuals also have an Axis I diagnosis and should therefore be captured in our estimates. Similarly, we did not include cognitive disorders such as mental retardation, acquired brain injury, fetal alcohol syndrome, dementia, etc. However, 75% of these individuals have a primary diagnosis of mental illness (CARMHA, 2006) and should thus be included in our estimates. We recognize that these disorders result in significant functional impairment, however, the scope of the current project was limited to the major Axis I disorders.

c) Bijl et al. (2003)

Bijl et al. constructed a three-level index of severity based on the type of mental health disorder and its generalized impacts, as understood from other sources, on role impairment. Verbatim text as follows:

To assess severity, we classified respondents with disorders into mild, moderate, and serious cases based on their multivariate disorder profiles. This is only a rough classification because no direct data on severity were collected consistently across the surveys [i.e. in the five different countries]. (p. 127)

A variable ranging between 1 and 20 was constructed for all respondents who met criteria for at least one of the disorders. Some disorders were given one point (dysthymia and simple phobia), others two points (agoraphobia, social phobia, and substance abuse disorders), and others four points (generalized anxiety disorder, major depression, mania, and panic disorder), based on preliminary analyses of the effects of the disorders in predicting summary measures of role impairment. Severity categories were defined based on summary scores as follows: 1–2, mild; 3–4, moderate; and 5–20, serious. (footnote 19)

Even though the severity measure is coarse, it is strongly related to probability of treatment in all countries. This is most reasonably interpreted to mean that demand for treatment was related to severity, presumably mediated by distress and impairment. There is also indirect evidence that the treatment system was responsive to severity in at least three of the countries, as indicated by proportional treatment in the specialty sector increasing with severity. (p. 130)

d) Canadian Survey on Disability (2012) data used in OHRC *By the Numbers* report

The Canadian Survey on Disability ranks "severe" mental/psychological disability on the basis of impacts on activities as reported by the respondent, rather than on the basis of a medical diagnosis. The definition information provided applies to all categories of disability and is not specific to mental heath.

Source: Statistics Canada, *Canadian Survey on Disability, 2012: Concepts and Methods Guide* (2014, cat. 89–654–X — No. 2014001) http://www.statcan.gc.ca/pub/89-654-x/89-654-x2014001-eng.htm

Verbatim text as follows (pp. 9-10):

A severity score was developed using the Disability Screening Questions (DSQ). For each of the 10 disability types, a score is assigned using a scoring grid that takes into account both the frequency of the activity limitations (never, rarely, sometimes, often, or always) and the intensity of the difficulties (no difficulty, some difficulty, a lot of difficulty, or cannot do). The score increases with the frequency of the limitation and the level of difficulty.

A global severity score is derived based on all disability types. A person's global severity score is calculated by taking the average of the scores for the 10 disability types. Consequently, the more types of disability a person has, the higher his or her score will be.

Overall, the global score meets the following three criteria:

- *it increases with the number of disability types;*
- *it increases with the level of difficulty associated with the disability;*
- *it increases with the frequency of the activity limitation.*

To make the severity score easier to use, severity classes were established…

1 = mild disability

2 = moderate disability

3 = severe disability

4 = very severe disability

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