

Do Canada and the United States Differ in Prevalence of Depression and Utilization of Services?

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Objective: This study compared the prevalence of depression and the determinants of mental health service use in Canada and the United States.

Methods: The study used data from preliminary analyses of the 2003 Joint Canada/United States Survey of Health, which measured Canadian (N=3,505) and United States (N=5,183) resident ratings of health and health care services. Cross-national comparisons were made for the 12-month prevalence of *DSM-IV* major depression, 12-month service use for mental health reasons according to the type of professional seen, and determinants of service use. **Results:** The rates of depression were similar in Canada (8.2%) and the United States (8.7%). However, U.S. respondents without medical insurance were twice as likely as Canadian respondents and U.S. respondents with medical insurance to meet the criteria for depression. Rates of mental health service use did not differ between Canada (10.1%) and the United States (10.6%). In the United States, medical insurance was not a determinant factor of service use. However, U.S. respondents with no medical insurance were more likely than the other two groups to report an unmet need. Also, among those with depression, U.S. respondents with no medical insurance were less likely to use any type of mental health service (36.5%) than U.S. respondents with medical insurance (55.7%) and Canadians (55.7%). Further, a positive correlation between a mental health need and service use was observed in Canada but not for those without medical insurance in the United States. **Conclusions:** There was no difference in the prevalence of depression and mental health service use between Canada and the United States. Among those with depression, however, disparities in treatment seeking were found to be associated with medical insurance in the United States. Both Canada and the United States need to improve access to health services for those with mental disorders, and special attention is needed for those without medical insurance in the United States. (*Psychiatric Services* 58:63–71, 2007)

The burden of disease attributable to depression is formidable: depression is becoming the major source of disability, second only to cardiovascular diseases; it is the main source of disability in the Canadian workplace (1) and the U.S. workplace (2). However, recent population surveys in both countries have shown that a majority of affected people did not receive treatment in the 12 months before being interviewed (3–5). Factors associated with unmet need for treatment in the United States have included age, race and ethnicity, type of insurance coverage, and income, as well as rural residence (5,6). Similarly, in Canada factors that were associated with unmet need for treatment included older individuals, low levels of education, and rural residence (7).

In the United States there have recently been several important reports calling for initiatives to expand mental health services and treatment for psychiatric disorders (8,9). Canada in turn has been working on a national mental health care policy that would call for a reorganization of the mental health delivery system to increase services and improve accessibility and responsiveness for a system that is recovery oriented (10).

In both countries deinstitutionalization in the past years has changed the delivery of mental health services. Now a majority of services are delivered on an outpatient basis in general hospitals and nursing homes and by primary care clinicians, psychologists,

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psychiatrists, social workers, and psychotherapists.

In Canada, under the Canadian Health Act, only services that are provided in hospitals and by physicians are publicly funded. It has been estimated that 70% of health care is covered and the remaining 30% is a mix of private insurance and out-of-pocket costs (11). Although we do not have actual proportions, we can estimate that the actual out-of-pocket costs for mental health services are even higher than 30% given the different discretionary treatments available (for example, private psychologists).

In the United States the development of insurance-based financing (including Medicaid and Medicare) has fostered the emergence of markets providing greater autonomy and choice to individuals with mental illnesses as consumers of health care. Even persons with the most severe mental illness receive community-based care financed through public insurance (12). Further, in the United States, an important part of charitable care is rendered to those without medical insurance (11).

Previous studies comparing outpatient mental health service use and psychiatric disorders in the early 1990s in Ontario, a Canadian province, and the United States reported lower prevalence of both in Ontario (13,14). The presence of a psychiatric disorder was found to be a strong predictor of mental health service use in both countries, but a greater association of use with need was observed in Ontario (13). Further, income was associated with mental health services use in the United States but not in Ontario (15). Differences in survey methods raised comparability issues: a diagnosis of depression in Ontario required a higher level of impairment than it did in the United States.

Given the changes seen in the mental health delivery system, a more recent study considering mental health service use in both countries is of interest. Such international comparisons may elucidate health system factors related to access and availability of mental health services, which can contribute evidence to inform and improve mental health policy making.

Further, describing each country's use of the mental health care system can serve to inform future comparisons, which may elucidate whether countries that implement and follow their national mental health policies see improvements and a more efficient allocation of services.

Our article covers data from the Joint Canada/United States Survey of Health (JCUSH), which uniformly assessed health status and access and use of services in Canada and the United States (16).

The objective of this study was to examine cross-sectional data from the JCUSH population survey to determine whether Canada and the United States differed with respect to the reported prevalence rate of depression; the prevalence of mental health service use by type of provider; and the determinants, using Andersen's model of predisposing, enabling, and need factors (17), related to service use for mental health reasons.

Methods

Data

The JCUSH is a nationally representative telephone survey that was administered in 2003 in Canada and the United States (16). The study populations, persons aged 18 years and older who live in noninstitutional dwellings, were contacted by using random-digit dialing. The sampling design aimed to produce nationally representative data for both Canada and the United States, and age-standardized weights were produced (18). In total, 3,505 of 5,311 Canadians and 5,183 of 10,366 Americans responded to the survey. The survey was administered in both countries by Statistics Canada by using the computer-assisted telephone interview method, the same questionnaire, and the same interviewing team. The questionnaire was designed by both countries and administered in French and English for Canadian interviews and in English and Spanish for U.S. interviews. The content of the JCUSH was based on existing questions found in both countries' separate ongoing health surveys: the Canadian Community Health Survey (CCHS) and the National Population Health Survey in Canada and the National Health In-

terview Survey in the United States. Measures of quality assurance included using highly skilled interviewers and training interviewers with respect to survey procedures and the questionnaire. More details on the survey content and methods used are presented elsewhere (16).

Past-year health service use for mental health reasons

Service use in the past 12 months for mental health reasons was ascertained as follows: "In the past 12 months, have you seen or talked on the telephone to a health professional about your emotional or mental health?" Information on type of health professional consulted was also ascertained. Mental health service use was studied according to the following combinations: any type of health professional, a general practitioner or family doctor, a psychiatrist, a psychologist, and another professional provider (for example, nurse, social worker, or counselor). Past-year use of primary care providers was also examined as three combinations of service use: general practitioner or family doctor only, general practitioner or family doctor and at least one other health professional, and any health professional except for a general practitioner or family doctor.

Explanatory variables

Mental health service use was studied as a function of depression, as well as a function of other factors found in the survey. Predisposing factors of interest were age, sex, marital status, education, country of birth (Canada or United States versus abroad), and racial origin (white versus other). Enabling or impeding factors studied were household income adjusted for household size (quintiles), insurance coverage for prescription medication, having a regular medical doctor, and current health insurance coverage (for the United States sample only; the study assumed that all Canadians had basic health insurance).

In this study depression was represented as the likelihood of a major depressive episode based on responses to a subset of items from the World Health Organization's (WHO's) Composite International Diagnostic Inter-

view (CIDI). The scores obtained from these questions were coded for *DSM-III-R* and transformed into a probability estimate of a diagnosis of a major depressive episode. The presence of depression was based on the probability (>.90) that the respondent would have been diagnosed as having a major depressive episode in the past year if he or she had completed the full version of the CIDI. The measure of depression was based on the short form of the CIDI (CIDI-SF) used by WHO for epidemiologic and cross-cultural surveys, and its value has been supported in comparison to the longer form (19). Other studies have also validated the reliability of using the CIDI-SF to diagnose depression (20,21), as well as the relevance of using predictive diagnostic instruments such as the CIDI-SF in telephone surveys and large-scale health surveys (22).

Other need factors studied included perceived unmet emotional or mental health need, perceived general health, emotional problems, presence of a chronic medical condition, and the impact of long-term physical conditions, mental conditions, and health problems on the principal domains of life—that is, whether and to what extent the amount or the kind of activity is reduced. Disability was derived from five questions about vocational restriction of activities. If the respondent positively endorsed any one of the five items, they were considered to have a disability. Questions were the following: Because of a physical, mental, or emotional problem, do you need the help of other persons with personal care, do you need help in handling routine needs, were you kept from working, were you limited in the kind or amount of work, and were you limited in any way in any activities?

Statistical analysis

Logistic regression was used to model any type of mental health service use, as well as by provider type, as a function of country, depression and other predictors, and correlates of service use (predisposing, enabling or impeding, and need factors). Country-specific differences with respect to determinants of mental health

service use were also studied. In order to account for the different health care systems in the two countries, a variable with three categories was created and included in all analyses as dummy variables, Canada (reference), United States with medical insurance, and United States without medical insurance. The following interactions were tested between the three categories—Canada (reference), United States with medical insurance, United States without medical insurance—and sex, country of birth, race, depression, unmet mental health need, perceived general health, emotional problems, presence of a chronic condition, and disability.

Multivariate analysis of depression was also studied as a function of health care system (Canada versus the United States with medical insurance and the United States without medical insurance) and potential confounders (age, sex, marital status, education, income, country of birth, race, prescription insurance, and regular medical doctor).

Estimates and their 95% confidence intervals (CIs) were computed by using the Bootvar program developed by Statistics Canada (23). All estimates presented are weighted and account for the effect of the sampling design. One thousand bootstrap weights were used to calculate the 95% CI. The data were analyzed by using the SAS statistical software version 9.1.

Results

Sample and general population characteristics

Sample characteristics of both countries were compared with their respective national statistics. The age distribution of the Canadian sample was similar to the one obtained from the general adult Canadian population for both males and females (24). Further, no significant difference was observed between the Canadian sample and the general population of Canada with respect to sex (54% and 51%, respectively), country of birth (81% and 82%), average household income (Can\$55,287 and Can\$52,050), insurance for prescription medication (77% and 68% of full-time workers), and having a regular medical doctor (85% and 86%)

(24). The age distribution of the U.S. sample was similar to that of the general U.S. population (25) for both males and females. Further, the U.S. sample did not differ significantly from the general population with respect to sex (57% and 57%, respectively), mean household income (US\$53,152 and US\$59,067) and median total household income (US\$45,500 and US\$43,318), country of birth (85% and 88%), race (white: 77% and 78%), health insurance coverage (90% and 85%), and having a regular medical doctor (81% and >76%) (25).

According to the samples, compared with the Canadian respondents, more U.S. respondents had finished high school and attended a university and were born in the country in which they resided, and fewer reported being white and having a regular medical doctor (Table 1).

Depression and health indicators

Past-year prevalence of reported depression did not differ between countries (Table 2). However, when the analyses controlled for study variables, there was a difference in meeting the criteria for depression among U.S. respondents without medical insurance as opposed to Canadian respondents (odds ratio [OR]=2.3, CI=1.5–3.6) and U.S. respondents with medical insurance (OR=2.3, CI=1.6–3.4). Canadian and U.S. respondents differed with respect to perceived general health, emotional problems, and chronic conditions (Table 2).

Prevalence of mental health service use

The past 12-month prevalence of the use of any type of health professional service by country among all respondents and among respondents with depression is presented in Table 3. As shown, no significant difference in mental health service use was observed between countries. On average 10.1% of Canadian respondents and 10.6% of U.S. respondents used services for mental health reasons. In both countries, the general medical system was the most widely used.

Among respondents with depression, U.S. respondents without medical insurance (36.5%) were less likely

Table 1

Predisposing and enabling factors of respondents in the Joint Canada/United States Survey of Health, by country^a

Variable	Canada (%)	United States (%)
Female	50.9	52.0
Marital status		
Married, common law, or partner	65.4	63.7
Widowed	5.7	6.3
Separated or divorced ^b	7.8	10.8
Single or never married	21.2	19.2
Respondent's education ^b		
Less than high school	19.7	11.8
High School or equivalent degree	31.0	37.4
Trades certificate or vocational school	21.5	14.0
College university or college, including below bachelor's degree	27.7	36.9
Born in Canada or the United States, respectively ^b	80.0	83.8
Race (white) ^b	82.1	72.3
Income quintile		
Lowest	20.2	20.0
Lower middle	20.7	21.6
Middle	19.1	19.0
Upper middle	21.0	19.9
Highest	19.0	19.5
Has insurance for prescription medication	76.7	79.3
Has health insurance coverage ^c	100.0	88.6
Has regular medical doctor ^b	84.9	79.6

^a Percentages are weighted. The mean±SD age was 45.1±8.7 in Canada and 45.4±20.8 for the United States.

^b Significant differences of $p < .05$ between countries

^c Percentage assumed for Canada

than Canadian respondents (55.7%) and U.S. respondents with medical insurance (55.7%) to use any type of service. Further, among respondents with depression, U.S. respondents (6.9%) were less likely than Canadian respondents (14.6%) to see a general practitioner or a family doctor plus any other professional in the past year.

Determinants of service use for mental health reasons

When the analyses controlled for study variables, no difference was observed between U.S. and Canadian respondents for any type of service use or by the type of provider seen.

Restricting the analysis to U.S. respondents showed no difference in

mental health service use or in the type of provider seen between those with and without medical insurance.

In multivariate analyses, depression remained on average the most significant predictor of any type of service use (OR=10.4, 95% CI=8.3–13.1), as well as for all types of provider combinations studied ($p < .001$). Other predictors and correlates of service use among the need, enabling, and predisposing variables studied are summarized in Table 4.

Further analysis of self-reported unmet health care need for mental health reasons showed that U.S. respondents without medical insurance were more likely than Canadian respondents (OR=3.4, CI=1.32–8.72) and U.S. respondents with medical insurance (OR=6.1, CI=2.6–14.5) to report ever having an unmet emotional or mental health need in the past 12 months, after the analyses controlled for predisposing and enabling and impeding study factors.

Among the interactions tested, compared with Canadian respondents in the respective groups, U.S. respondents without medical insurance who endorsed criteria for having major depression were less likely to use any type of services and consult with a psychologist, U.S. respondents without medical insurance and with emotional problems were less likely to consult with a psychiatrist, and U.S. respondents without medical insurance and with a poor perception of their general health were

Table 2

Prevalence of reported conditions and health indicators among respondents in the Joint Canada/United States Survey of Health, by country^a

Variable	Canada (%)	United States (%)	χ^2	df	p
Depression	8.2	8.7			
Perceived general health: good, very good, or excellent	88.4	85.5	5.70	1	.017
Emotional problems: happy or somewhat happy	97.0	95.5	4.55	1	.033
Affected by long-term health problems					
Never	70.3	70.9			
Sometimes	9.7	10.2			
Often	20.0	18.9			
Has a chronic condition	33.7	37.1	4.17	1	.041
Has a disability	22.0	22.1			
Unmet need for mental health problem	1.2	1.0			

^a Percentages are weighted.

Table 3

Prevalence rate (%) of service use by provider for mental health reasons among respondents in the Joint Canada/United States Survey of Health^a

Type of service	Among respondents with depression									
	Among all respondents					United States				
	Canada		United States		Canada		With insurance		Without insurance	
	Rate	95% CI	Rate	95% CI	Rate	95% CI	Rate	95% CI	Rate	95% CI
Use of services for mental health reasons										
Any type of service use	10.1	9.1–11.2	10.6	9.7–11.5	55.7	49.5–61.9	55.7	49.9–61.5	36.5 ^b	25.0–48.1
General practitioner or family doctor	6.4	5.5–7.2	5.3	4.7–6.0	37.9	31.9–43.9	31.2	25.9–36.6	24.9	14.5–35.3
Psychiatrist	1.6	1.2–2.1	2.7	2.1–3.1	10.2	7.0–13.3	13.9	10.1–17.8	—	—
Psychologist	2.3	1.8–2.8	1.9	1.5–2.3	13.8	9.7–18.0	10.5	7.1–13.9	—	—
Other professional provider	2.8	2.3–3.4	2.7	2.3–3.2	15.6	10.8–20.4	14.2	10.2–18.1	—	—
Use of services in the general medical system										
General practitioner or family doctor only	4.4	3.7–5.2	4.1	3.5–4.7	23.2	18.1–28.4	24.1	19.1–29.2	18.1	9.3–27.0
General practitioner or family doctor plus any other professional	2.0	1.5–2.4	1.2	.9–1.5	14.6	10.5–18.8	7.1 ^b	4.3–9.9	—	—
Anybody but a general practitioner or family doctor	3.8	3.1–4.5	5.2	4.5–5.8	17.8	13.1–22.5	24	19.2–28.9	11.6	5.8–18.5

^a Estimates presented are weighted, and bootstrap weights were used in computing 95% confidence intervals. Estimates are not presented when the coefficient of variation exceeded 40.0.

^b Confidence intervals do not overlap. Comparison between Canada versus U.S. with insurance and Canada versus U.S. without insurance.

less likely to use other types of services. In regard to mental health need, no difference was observed between Canadian respondents and U.S. respondents with medical insurance (estimates of interaction terms are available upon request).

Discussion

Despite response differences, the JCUSH survey respondents sampled were a representative group of the Canadian and U.S. general populations. The past-year prevalence of major depression was 8.2% in Canada, and it was 8.7% in the United States. The Canadian estimate is similar to the one reported for the annual prevalence of major depression (7.4%) from cycle 1.1 (2000–2001) of the CCHS, which also used the CIDI-SF (22). The U.S. National Comorbidity Survey Replication, which surveyed a household population aged 18 years and older, similarly reported the 12-month prevalence of a mood disorder at 9.5% (26). Furthermore, the recent cycle 1.2 (2002) of

the CCHS Mental Health and Well-Being Survey, which used the full CIDI, reported a 12-month prevalence of major depression and a manic episode of 4.8% and 1.0%, respectively, in a household sample aged 15 years and older (27). Although the CIDI-SF has been shown to overestimate the prevalence of depression (22), its use in within-study comparisons remains relevant for evaluative purposes.

Results presented here were based on data collected from Canadian and U.S. respondents in a single survey in which all respondents were administered the same items and were probed to the same degree. This design comparability increases the validity of the comparisons between the two countries. Canadian and U.S. samples did not differ with respect to reported disability, the impact of health problems on daily life, and reported unmet need as a result of mental health problems. More information on the direct comparisons of health indicators is presented elsewhere (16).

In this study 12-month prevalence rates of depression were similar between Canada and the United States, and this finding was true for any age group or sex (16). In the United States depression, however, was associated with medical insurance, which agrees with recent studies highlighting the inverse relationship between socioeconomic status and mental illnesses (28,29).

In the 12-month prevalence of any type of service use for mental health reasons, among all respondents, no difference was observed between countries, or within the United States, after the analyses adjusted for medical insurance and for other determinant factors. As with previous studies, in both the United States and Canada respondents consulted mostly with a general practitioner or family doctor for mental health reasons (4,5,29–34). Although findings were not statistically significant ($p=.051$), our study showed that U.S. citizens were more likely than Canadians to consult a psychiatrist and any other professional

Table 4Predictors and correlates of type of service use among respondents in the Joint Canada/United States Survey of Health^a

Variable	Type of service	OR	95% CI
Need factors			
Unmet mental health need	Other type of services	2.5	1.2–5.2
	General practitioner or family doctor plus any other professional	3.3	1.4–7.8
Poor or fair perceived general health ^b	General practitioner or family doctor plus any other professional	2.1	1.1–3.8
Emotional problem ^c	Any type of services	2.3	1.6–3.3
	Psychiatrist	2.6	1.6–4.3
	Psychologist	2.9	1.7–5.1
Disability	Any type of services	1.3	1.0–1.7
	Other type of services	1.9	1.3–2.9
Affected by long-term health problems in daily life			
Sometimes	Any type of services	2.5	1.8–3.5
	General practitioner or family doctor	2.4	1.6–3.8
	Other type of services	2.1	1.2–3.8
Often	Any type of services	2.0	1.5–2.5
	General practitioner or family doctor	1.9	1.4–2.7
	Other type of services	2.6	1.7–3.9
Enabling or impeding factors			
Has insurance for prescriptions	Any type of services	1.5	1.0–2.1
Has regular medical doctor	Any type of services	1.6	1.2–2.2
	General practitioner or family doctor	3.3	2.1–5.4
Income	Psychiatrist ^d	2.1	1.2–3.6
	Psychologist ^e	2.6	1.4–4.9
	Other type of services ^f	2.3	1.3–4.1
Predisposing factors			
Female versus male	Any type of services	1.9	1.6–2.4
	All other combinations ^g	—	—
Married versus single	Any type of services	.7	.5–.9
	Psychologist	.4	.3–.7
Education (some university versus less than high school)	Any type of services	1.6	1.1–2.4
	Other type of services	2.9	1.5–5.3
	General practitioner or family doctor plus any other professional	3.0	1.1–8.2
Race (white versus other)	Any type of services	2.9	2.2–3.8
	General practitioner or family doctor	3.0	2.1–4.4
	Psychiatrist	1.7	1.1–2.6
	Other type of services	2.4	1.5–3.9

^a Estimates presented are weighted and were obtained from multivariate analyses that adjusted for study variables.^b Perceived general health: poor or fair versus good, very good, or excellent^c Emotional problems: somewhat unhappy, unhappy, or extremely unhappy versus happy or somewhat happy^d Upper middle versus lowest quintile^e Upper versus lowest quintile^f Middle versus lowest quintile^g $p < .02$; OR and 95% CI values are not available

but a general practitioner for mental health reasons. This may be due to differing public perceptions, in which U.S. citizens think mental health should be dealt with and care sought strictly at a specialty level and that mental health issues should not be divulged at the primary-care level because of social stigma. In contrast, in Canada general practitioners are usually the gatekeepers to other health services and, therefore, may limit the number of referrals to psychiatrists.

A recent study by Mojtabai and

Olfson (35), which also used data from the JCUSH survey on cases with probable depression, found that there was no difference in the prevalence of contacts with any provider for mental health reasons between the United States and Canada. Our study goes a step further and considers medical insurance in the United States as a potential determinant of service use. However, when medical insurance was considered in our study, the analysis of cases with depression showed that U.S. respon-

dents without medical insurance were less likely than Canadians and U.S. respondents with medical insurance to use any type of mental health service. This further highlights the importance of increasing access to services for mental health reasons among those without medical insurance, persons who, as previously reported, are also more likely to meet the criteria for depression.

Among respondents with depression, Canadians were twice as likely as U.S. respondents to consult in the

past year with a general practitioner or family doctor plus another type of health professional, as has been reported in another study (35), and this finding was true regardless of whether U.S. respondents had medical insurance. This difference may in part be explained by the inadequate referral system between the general and specialty mental health systems in the United States, as concluded from the results of a telephone survey that found that more than half of primary care physicians reported having difficulties in obtaining psychiatric and outpatient mental health referrals (36). In Canada a national initiative has been under way to encourage collaboration between the primary and mental health care sectors (37), which may encourage physicians to refer and support a collaborative model of mental health care.

With respect to determinants of service use, our results showed that among the need factors, depression was the most significant and common predictor of overall use of services. Respondents reporting an unmet mental health or emotional need were more likely to use other types of services (for example, from a nurse, social worker, or counselor) and to consult a general practitioner or family doctor plus at least one other type of health professional, which has been similarly reported in Australia (38).

Income in this study was positively associated with consulting a psychiatrist or psychologist and negatively associated with the use of other types of services. Others have similarly reported that income and socioeconomic status play a role in the type of mental health treatment sought (14,15,39).

Among the predisposing factors studied, sex, race, education, and marital status were important determinants of service use for mental health reasons. Females were more likely than males to use services (13, 30,31,34,40,41), as were respondents who were married as opposed to the single or never married (14,31,32,41) and those with a university degree as opposed to respondents having less than a high school education (42,43). These findings are nearly universal in

the broader health services utilization literature. Race also played a role in service use for mental health reasons. Previous reports suggest that differences in perceived acceptability in using health services for mental health reasons may in part explain the difference in service use for ethnic groups (31) and for males (32,44).

In both countries, sex, education, and race are important factors in service use for mental health reasons. White males and Native American Indians compose a majority of suicide deaths in both countries, where suicide rates have reached 11.9 per 100,000 in Canada (45) and 11.0 per 100,000 in the United States (46). Public health efforts to increase access to mental health services among vulnerable and at-risk populations should be furthered. Mental health education and awareness programs should be sensitive to target populations with respect to sex and cultural factors.

Country-specific differences between determinants and mental health service use suggest that U.S. respondents with no medical insurance and a mental health need (probable depression, emotional need, or perceived poor general health) were less likely to use services than Canadians and those without a need. This finding suggests a more important and positive association of a mental health need and depression and seeking mental health services in Canada. Similarly, Mojtabai and Olfson (35) reported that depression severity, as a function of the number of depressive symptoms, was more closely associated with mental health service use in Canada than in the United States.

Our analyses were based on data collected from the JCUSH survey. The data held a number of limitations, as reported (16), which should be considered when interpreting the results. First, study participation was elicited through random-digit dialing and therefore excluded a small portion of households that did not have a telephone (4.4% in the United States and 1.8% in Canada). Although no information was available to compare these households with those of the general population, it has been estimated that those without a telephone

belong to lower income levels.

Second, the target sample excluded people residing in institutions, those living in Canadian and U.S. territories, and the homeless. These excluded groups tend to have specific types of mental health issues and different patterns of health service use; therefore, our results may not entirely apply to these populations.

Third, the response rates were low: 66% of Canadian residents and 50% of U.S. residents participated. The agencies did not keep any information (sociodemographic characteristics or health status) concerning nonrespondents, and therefore, any attempt to describe this selection bias was not possible. We therefore attempted to present data on how representative these samples were by considering various characteristics of their respective general populations. The samples did not differ significantly on a number of population characteristics, which adds to the generalizability of the results. However, the lower participation rate in the United States may have underestimated existing differences between the two countries. A higher percentage (about 5%) of the U.S. sample had medical insurance than reported for the U.S. general population, which may have attenuated any differences that might have existed in the prevalence of service use had the U.S. group without medical insurance not been underrepresented. Further, it is important to note that insurance coverage in Canada was assumed to be 100%, which is not entirely accurate because nonphysician services remain an out-of-pocket cost. It was not possible to estimate the number of Canadians with private insurance plans, usually through employee assistance programs, that would cover part of these costs.

Fourth, the results were based on self-reported data, which may be subject to recall bias as well as a social desirability bias. Because the same survey methods were used in both countries, these information biases are most likely nondifferential and would underestimate any difference between the two countries.

Fifth, depression was measured with the CIDI-SF version, which

tends to overestimate depression, compared with the full CIDI or the Schedules for Clinical Assessment in Neuropsychiatry, which is regarded as a diagnostic gold standard (47). However, the CIDI-SF remains a relevant tool when carrying out within-study comparisons, as is the case here (22).

Sixth, the measure of mental health service use was limited to whether the respondent had seen or talked on the telephone to a health professional for an emotional or mental health reason. This definition did not include whether the respondent was taking any medication for mental health reasons or the quality or adequacy of care received. Therefore, the definition of mental health service used in this study did not permit us to determine whether proper and adequate mental health care was received.

Finally, although these cross-sectional surveys give a picture of the prevalence of mental disorders and the type of provider seen for mental health service use, future longitudinal studies can clarify the temporal relationship between health determinants and type of provider seen, which can elucidate the effectiveness of care received or sought. This will also give a clearer picture as to drivers of specific types of provider combinations of mental health service use during a given year. Future research may also consider the comparison between determinants of use with respect to psychiatric versus nonpsychiatric disorders, which may lead to a better understanding of health service use in regard to population characteristics as well as access to different areas of health services in both countries.

Conclusions

Although we did not study system delivery variables beyond the crude variables of country and U.S. medical insurance, system differences between Canada and the United States did not lead to significant differences in utilization factors. Individual differences in use exist in each country independent of medical insurance and socioeconomic factors, which implies that individual psychological and cultural factors play an important part

in seeking help beyond the part played by financial barriers.

However, our findings also show that disparities exist in seeking mental health services among those with a mental disorder and reported mental health need, which is associated with medical insurance in the United States. There is also a more important and positive correlation between a mental health need and seeking services in Canada as opposed to those without medical insurance in the United States (but not those with medical insurance in the United States). This finding may suggest that mental health services in Canada cover the population's needs more effectively.

Finally, in both Canada and the United States almost half of the respondents with depression did not seek services. In both countries aims to decrease disparities in mental health service use should include culturally sensitive and population-specific approaches. Further attention in the United States should focus on improving access to services in order to diminish the gap between unmet mental health needs and service use in the U.S. population without insurance.

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