

Surveillance of Personality Disorders in Québec: Prevalence, Mortality and Service Utilization Profile

CHRONIC DISEASE SURVEILLANCE

Number 11

Summary

Methodology	2
Results	6
Discussion	16
Conclusion	18

Introduction

The prevalence of personality disorders in the general population has been evaluated by two large-scale studies on two continents using two different measurement tools based on two versions of the Diagnostic and Statistical Manual of Mental Disorders (DSM). The NESARC (National Epidemiologic Survey on Alcohol and Related Conditions) conducted in the United States on 43,093 subjects indicates a prevalence of 14.8% based on the DSM-IV (Grant et al., 2004) and the Torgersen study conducted in a European capital (Oslo) on 2,053 subjects reveals a prevalence of 13.4% based on the DSM-III (Torgersen et al., 2001). Group B personality disorders (narcissistic, borderline, antisocial, histrionic) represent a significant proportion of the disorders recorded, particularly in terms of prevalence, health care system utilization and clinical impact (e.g.: suicide). While the results of these two studies are similar in terms of overall prevalence, the numbers vary widely for each of the group B disorders. Thus, the prevalence of narcissistic personality disorder varies between 0.8% and 6.2%, that of borderline personality disorder varies between 0.7% and 5.9%, that of antisocial personality disorder ranges from 0.7% to 3.6% and that of histrionic personality disorder is about 2% for both studies (Grant et al., 2008; Grant et al., 2004; Stinsons et al., 2008; Torgersen et al., 2001). The prevalence of personality disorders appears to be the same for both men and women, but their service utilization can vary.

If we consider just borderline personality disorder, absence from work and care represent a cost to society estimated at between \$25,000 (van Asselt et al., 2007) and \$50,000 (Grant et al., 2008) per year and per patient (or 17,000 to 34,000 €). In medico-economic terms, the high prevalence and the average annual cost associated with this condition underscore its major impact on our health care system.

Administrative databases make it possible to monitor prevalence in populations that have accessed the health care system and received a diagnosis. However, there probably exists a gap between the actual prevalence and the prevalence based on diagnoses recorded in administrative databases. To our knowledge, only one study compares the specificity and sensitivity of the diagnoses of borderline personality disorder reported in such databases with diagnoses based on a standardized instrument (Comtois et al., 2014). It appears that, with regard to administrative data, screening ability is low (sensitivity was 15%) but diagnostic accuracy is excellent (specificity was 97%). Thus, administrative databases can be used to study personality disorders in the general population, although overall prevalence is underestimated as compared with data from standardized instruments. These databases make it possible to observe what is considered to be clinically relevant by physicians evaluating patients in the health care system.

Psychiatric mortality is another factor receiving increasing attention. Several recent publications (Nordentoft et al., 2013; Høye et al., 2013) maintain that psychiatric mortality is especially high among patients with a personality disorder. The years of life lost for these patients, as compared to the general population, was recently estimated to be as high as over 25 years (Ajetunmobi et al., 2013). Moreover, a significant portion (approximately 17%) of suicides appears to be associated with a personality disorder (Arsenault-Lapierre et al., 2004). However, suicides represent only a portion of the excess mortality in this population, with natural causes being cited particularly often (Ajetunmobi et al., 2013; Nordentoft et al., 2013).

The use of medical services by this clientele is significant in all areas (consultation and medication) (Hörz et al., 2010). Approximately 80% of these patients have been hospitalized for psychiatric reasons. They often make use of emergency services (Keuroghlian et al. 2013). This use of health care services often involves both psychiatric and physical aspects. The aim of this report is to describe the use of administrative databases to estimate the prevalence of diagnosed group B personality disorders, along with service utilization and mortality. This group will be compared to personality disorders outside of group B and to serious or common psychiatric conditions (schizophrenia, anxio-depressive

disorders) concerning which the INSPQ has already published (Lesage et al., 2012).

Methodology

Data sources

The results published in this report were produced using data from linked administrative databases of the Régie de l'assurance maladie du Québec (RAMQ) and the ministère de la Santé et des Services sociaux du Québec (MSSS), which together form the Québec Integrated Chronic Disease Surveillance System (QICDSS). These databases consist of the health insurance registry, the physician claims database, the hospitalization database, and the vital statistics death database. The health registry provides information on demographic data as well as on periods of health insurance eligibility. The physician claims database compiles all medical acts billed to the RAMQ, while the hospitalization database identifies the primary and secondary diagnoses associated with each hospital admission. The codes of the 9th revision of the International Classification of Diseases (ICD-9) were used to code diagnoses in the physicians claims database for the entire observation period, as well as in the hospitalization database up until March 31, 2006; since April 1, 2006, the codes of the 10th revision (ICD-10) have been used in the hospitalization database. Causes of death for the mortality analyses were extracted from the death database.

Identification of cases and measurement of prevalence and incidence

To be considered to be suffering from a personality disorder (group B or non-group B), an individual must have received, during a given year (April 1 to March 31), a diagnosis of a personality disorder recorded in the physicians claims database or a primary diagnosis of a personality disorder recorded in the hospitalization database. For the cumulative prevalence, diagnoses were included regardless of when they were pronounced. The diagnostic codes associated with personality disorders are as follows:

- a) group B personality disorders (ICD-9 codes: 301.1; 301.3; 301.5; 301.7; 301.8; 301.9);
- b) personality disorders not in group B (non-group B) (ICD-9 codes: 301.0; 301.2; 301.4; 301.6).

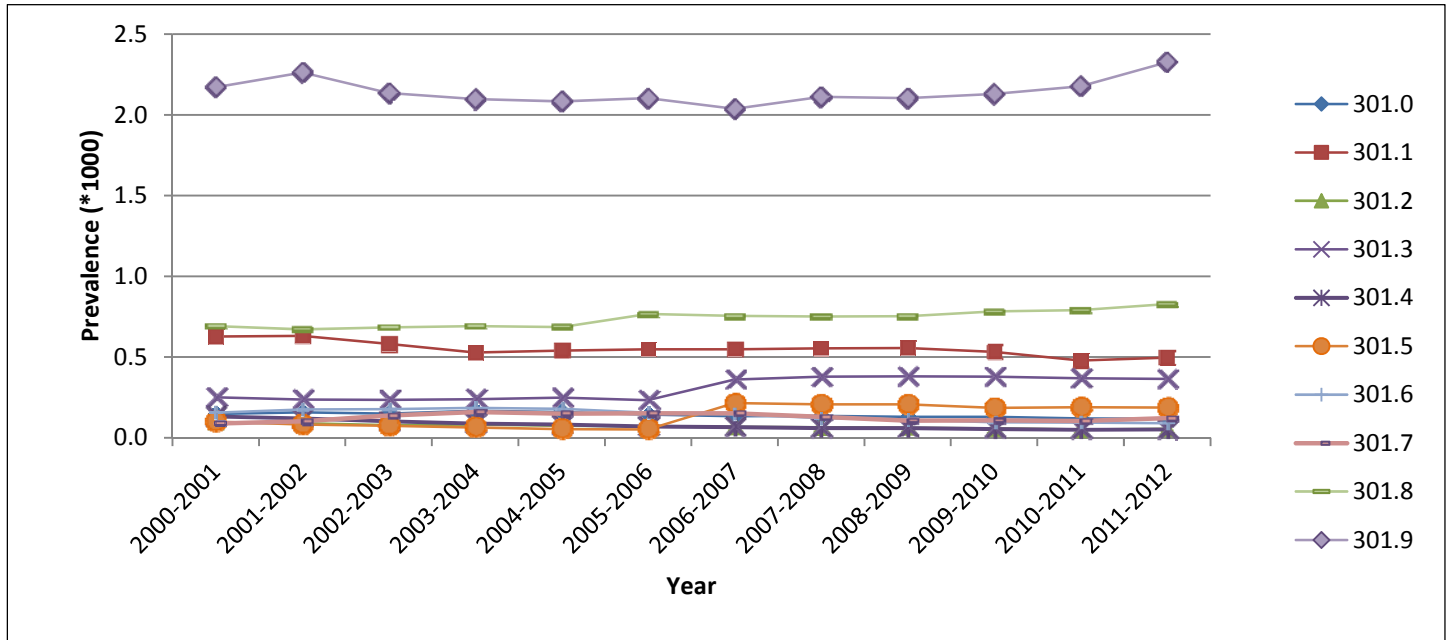
The case definition was established by a group of psychiatrists and psychologists, working in Québec, with expertise in the management of patients with a personality disorder. All of the codes selected correspond to clinical entities included in or closely related to group B, as defined in the DSM 5. Group B was chosen based on clinical relevance (frequency, severity, health care use, validated treatments) as determined by the expert group. Formally, unspecified personality disorder (301.9) is not included in group B. Nevertheless, the expert group chose to include it in group B rather than in non-group B disorders, to reflect common practice within the province, in which, cases of borderline personality disorder are generally billed to the RAMQ with a 301.9 diagnosis code. This choice could indicate a decrease in the specificity of case definitions, and a corresponding increase in sensitivity. The same applies for avoidant personality disorder (301.82) which is part of group C according to the DSM (non-group B in

this study), but is included in the largest category of other personality disorders (301.8) which are part of group B. Finally the expert group chose to include dysthymic personalities (301.1) and epileptoid personalities (301.3) in group B because of their clinical description. The former includes cyclothymia (301.13) and the latter has no equivalent in the DSM.

Annual prevalence was the indicator selected to evaluate the magnitude of personality disorders in the population. Therefore, an individual must meet the inclusion criteria for a given year to be considered a prevalent case of diagnosed mental disorder. The choice to represent personality disorder prevalence using annual prevalence differs from the choice made for other chronic diseases, such as diabetes, for which prevalence is calculated cumulatively over a number of years. Lifetime prevalence thus includes recent cases and long-standing cases, whereas annual prevalence includes only individuals having met the case definition during a given year. Annual prevalence better represents the burden on health care services, but less aptly demonstrates the chronic and more widespread nature of this mental disorder. The same choice was made by the INSPQ in its first report on mental disorders (Lesage et al., 2012), and by the Public Health Agency of Canada in its first report on the surveillance of mental disorders (Public Health Agency of Canada, 2015). However, lifetime prevalence has also been calculated and will be presented.

Table 1 describes the types of personality disorders associated with the various ICD-9 codes, and their correspondence to the American DSM 5 classification. Figure 1 indicates the relative importance of each code, including the one for unspecified personality disorders (301.9). The evolution over time is characterized by remarkable stability.

Figure 1 Annual prevalence of diagnosed personality disorders for each ICD-9[#], Québec, 2000-2001 to 2011-2012



#: see Table 1 for code correspondences.

Table 1 Correspondence of codes to diagnoses for ICD-9, ICD-10 and DSM 5 for each group in this study (group B and non-group B)

	ICD-9 code		ICD-9 personality disorders	ICD-10 code	ICD-10 personality disorders	DSM personality disorders
Group B	301.1		Dysthymic (affective) ^a	F34.0	Cyclothymia	
				F34.1	Dysthymia	
				F60.89	Other specific personality disorders	
	301.3		Epileptoid (explosive)	F60.3	Emotionally unstable personality disorder	Borderline
	301.5		Histrionic	F60.4	Histrionic	Histrionic
				F68.12	Factitious disorder	
	301.7		Sociopathic or asocial	F60.2	Antisocial	Antisocial
	301.8	301.81	Other personality disorders	F60.81	Narcissistic	Narcissistic
		301.82		F60.6	Avoidant	Avoidant ^b
		301.83		F60.3	Emotionally unstable personality disorder	Borderline
Non-group B	301.9		Unspecified	F60.9	Unspecified	Unspecified
	301.0		Paranoid	F60.0	Paranoid	Paranoid
	301.2	301.20	Schizoid	F60.1	Schizoid	Schizoid
		301.22	Schizotypal	F21	Schizotypal	Schizotypal
	301.4		Obsessive-compulsive	F60.5	Obsessive-compulsive	Obsessive-compulsive
	301.6		Asthenic	F60.7	Dependent	Dependent

^a: diagnosis considered by experts to belong to group B, without correspondence in the DSM.

^b: Group C diagnosis according to the DSM (i.e., non-group B in this report).

Periods covered and comparisons

The estimates obtained are based on longitudinal follow-up. The period of analysis begins on April 1, 2000 and ends on March 31, 2012.

Comparisons over time and between regions were carried out using age-adjusted measurements. These measurements were obtained using the direct standardization method applied to the age structure of the Québec population in 2001.

Lack of information in the administrative database concerning services rendered outside Québec could limit the accuracy of interregional comparisons. In reality, the bordering regions of Ontario or New Brunswick (for example, the Outaouais, Gaspésie-îles-de-la-Madeleine and Abitibi-Témiscamingue regions), where a portion of the population receives medical care in the neighbouring province, may contribute to an underestimation of prevalence measurements.

Calculation of mortality

Abridged mortality tables based on the Chiang method were used to calculate the life expectancies of persons with mental disorders by five-year age groups; that is, 1-4 years, 5-9 years, and so on up until 85 years and over (Chiang, 1984). The life expectancy calculations were based on mortality data recorded between April 2001 and March 2011. The analysis of causes of death takes into account deaths occurring during a given year of persons meeting the case definition during the same year.

Overall excess mortality and excess mortality stratified by main cause of death for persons with personality disorders were calculated using age-adjusted mortality rate ratios and are presented according to the status of the person, either suffering or not suffering from a personality disorder.

Definition of services

Service utilization profiles were structured according to the place where services were rendered and the specialty of the physician involved: family physician

(general practitioner), psychiatrist, or other specialist. Information regarding service sites was collected in the physicians' claims database, which classifies institutions. Consequently, private physicians' offices have been distinguished from public institutions and, within hospitals, outpatient, emergency and psychiatric consultations have been differentiated. Information on the vocation of a hospital in which an individual stayed derives from the hospitalization database.

Results

Prevalences of personality disorders

In 2011-2012, the diagnosed annual prevalence (number of cases in one year) was about 3.6 per thousand inhabitants. The level of prevalence varies according to age and sex. The annual prevalence is 3.0 and 4.3 per thousand inhabitants among men and women, respectively. Additionally, in 2011-2012, the age groups with the highest annual prevalence were those of 18-24 years and 25-39 years. Among women, the 18-24 years age group prevalence rate experienced significant growth, increasing from almost 4/1000 in 2000-2001 to more than 6/1000 in 2011-2012.

Figure 2 Annual prevalence of group B personality disorders by age and sex, Québec, 2000-2001 and 2011-2012

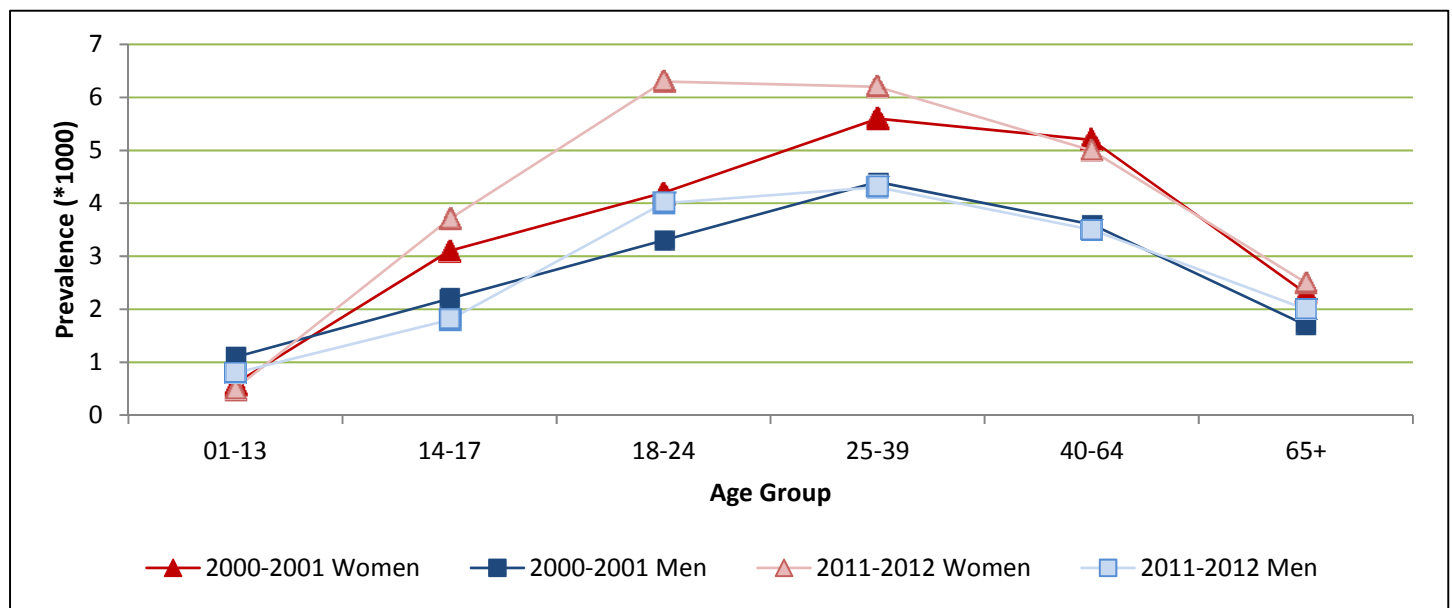


Figure 3 Lifetime prevalence of personality disorders in men (total, group B and non-group B) by year, Québec, 2000-2001 to 2011-2012

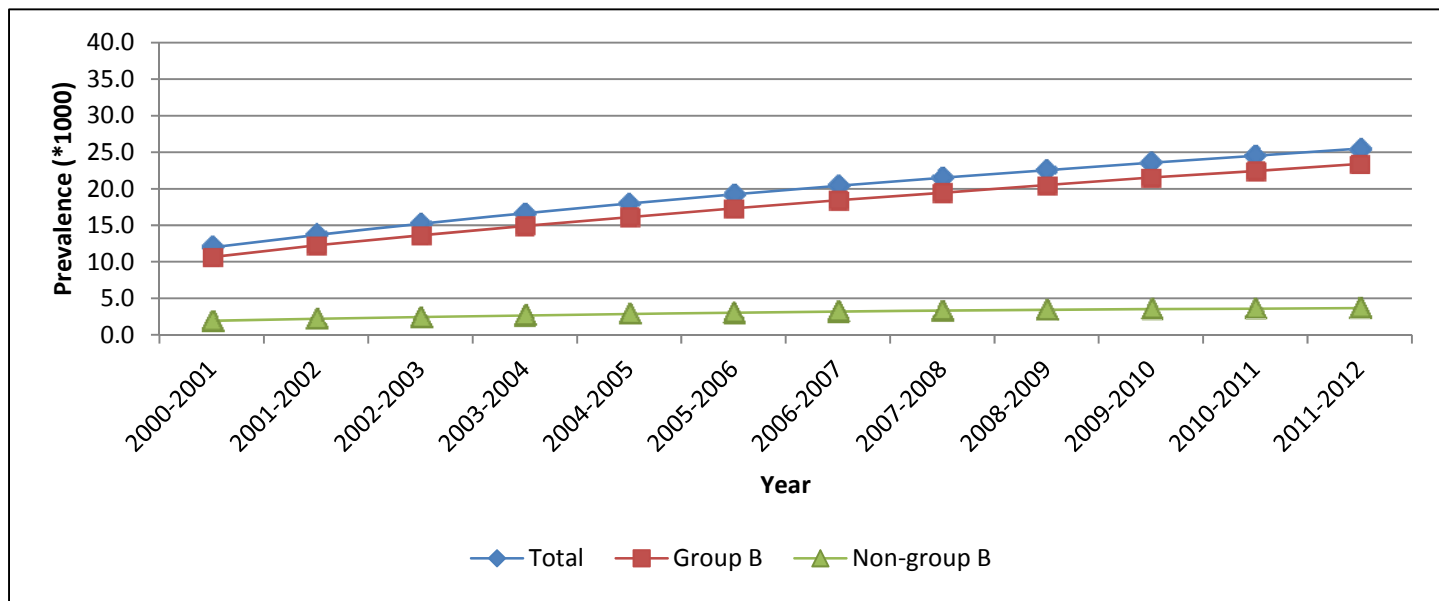
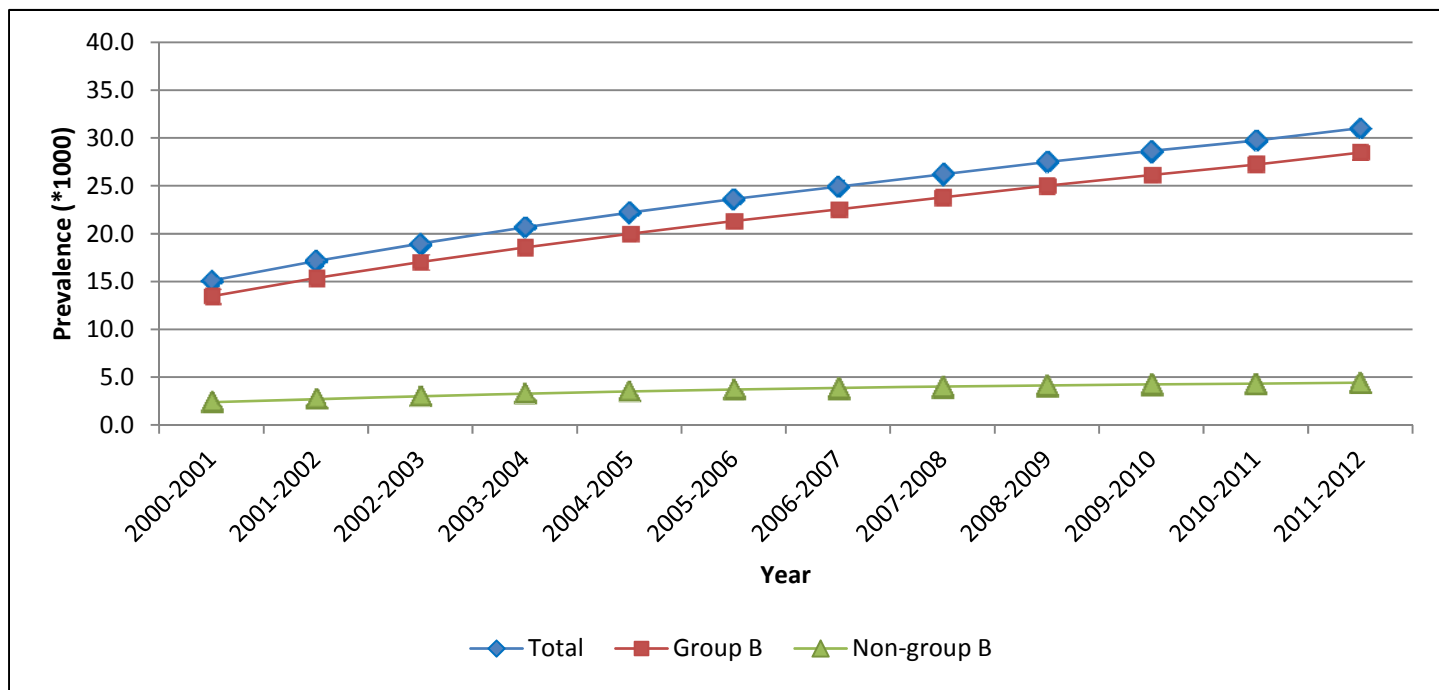


Figure 4 Lifetime prevalence of diagnosed personality disorders in women (total, group B and non-group B) by year, Québec, 2000-2001 to 2011-2012



Figures 3 and 4 report cumulative cases for the period under observation (lifetime prevalence). Lifetime prevalence appears to be increasing over time, with new cases being treated consistently each year. A plateau in prevalence has not yet been reached. It is worth

observing that the group B phenomenon dominates the full set of personality disorders, since removing the non-group B makes almost no difference to the total, and this is the case for men and for women.

Table 2 Number and prevalence, adjusted annually and for lifetime, of group B personality disorders, by health region, Québec, 2011-2012

	Lifetime prevalence			Annual prevalence		
	Number	Prevalence (*1,000)	95% CI	Number	Prevalence (*1,000)	95% CI
Bas-Saint-Laurent	6.005	30.0	29.2-30.8	825	4.4	4.1-4.7
Saguenay—Lac-St-Jean	7.230	26.6	25.9-27.2	1.105	4.2	3.9-4.4
Capitale-Nationale	22.280	31.4	31.0-31.8	3.060	4.4	4.3-4.6
Mauricie et Centre-du-Québec	14.200	29.0	28.5-29.5	2.120	4.5	4.3-4.7
Estrie	12.330	40.2	39.4-40.9	1.415	4.8	4.5-5.0
Montréal	46.125	24.5	24.3-24.7	6.135	3.3	3.2-3.4
Abitibi-Témiscamingue	3.225	22.5	21.7-23.3	360	2.6	2.3-2.9
Côte-Nord	2.455	26.2	25.2-27.3	375	4.1	3.7-4.5
Gaspésie—Îles-de-la-Madeleine	2.440	26.2	25.1-27.3	350	4.0	3.6-4.4
Chaudière-Appalaches	11.070	27.2	26.7-27.7	1.195	3.0	2.8-3.2
Laval	9.325	23.4	22.9-23.9	1.355	3.5	3.3-3.6
Lanaudière	10.550	22.0	21.5-22.4	1.805	3.8	3.6-4.0
Laurentides	13.865	25.6	25.2-26.0	2.145	4.0	3.9-4.2
Montréal	37.750	26.1	25.9-26.4	5.350	3.8	3.7-3.9
Québec	207.369	26.0	25.9-26.1	28.621	3.6	3.6-3.7

Table 2 presents the number of persons diagnosed with a group B personality disorder as well as the lifetime and annually adjusted prevalence by health region for 2011-2012. Confidence intervals of 95% enhance the reliability of interpretations of regional variations.

Life expectancy at 20 years by sex is shown in Table 3. Compared to the general population, the life expectancy of persons treated with a group B personality disorder is reduced by 13 years for men and 9 years for women.

This result is similar to that observed for patients with schizophrenic disorders. Figure 5 compares the causes of death for persons with and without group B personality disorders. For those without a personality disorder, cancer (33%) and circulatory diseases (28%) are the two main causes. For the patient population with a group B personality disorder, suicide is the leading cause of death with more than 20%, followed by the same two causes as for persons without a personality disorder (cancer (19%) and circulatory diseases (19 %)).

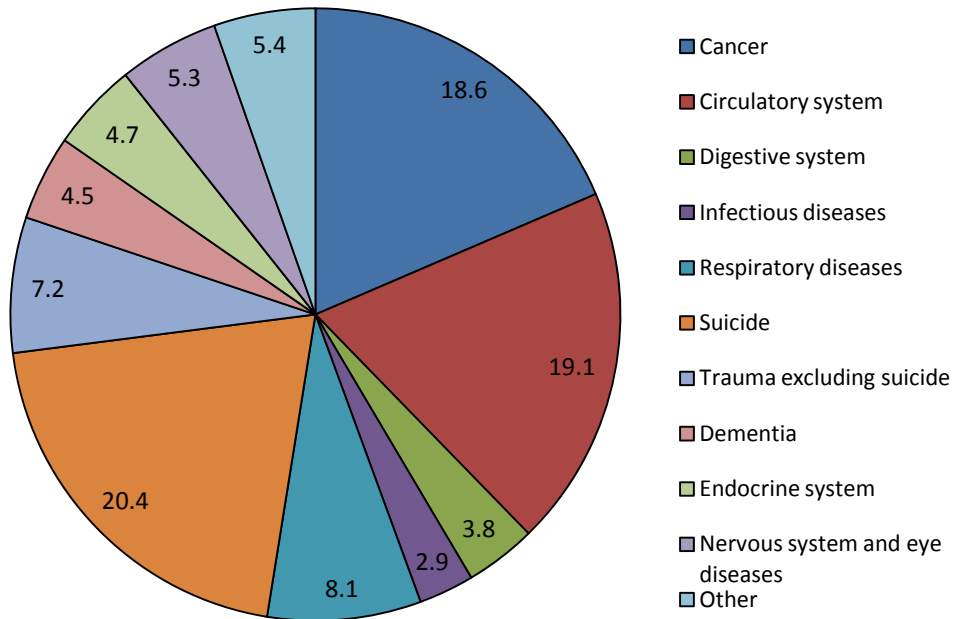
Mortality

Table 3 Life expectancy at age 20, by mental disorders and by sex based on mortality rates from 2001-2002 to 2011-2012

	Life expectancy at age 20 (in years)	
	Men	Women
Québec (general population)	59	64
Mental disorders	51	59
Anxio-depressive disorders	55	65
Schizophrenic disorders	48	54
Group B personality disorders	46	55

Figure 5 Proportion (%) of causes of death for persons suffering or not suffering from a group B personality disorder, Québec, 2000-2009

Suffering



Not suffering

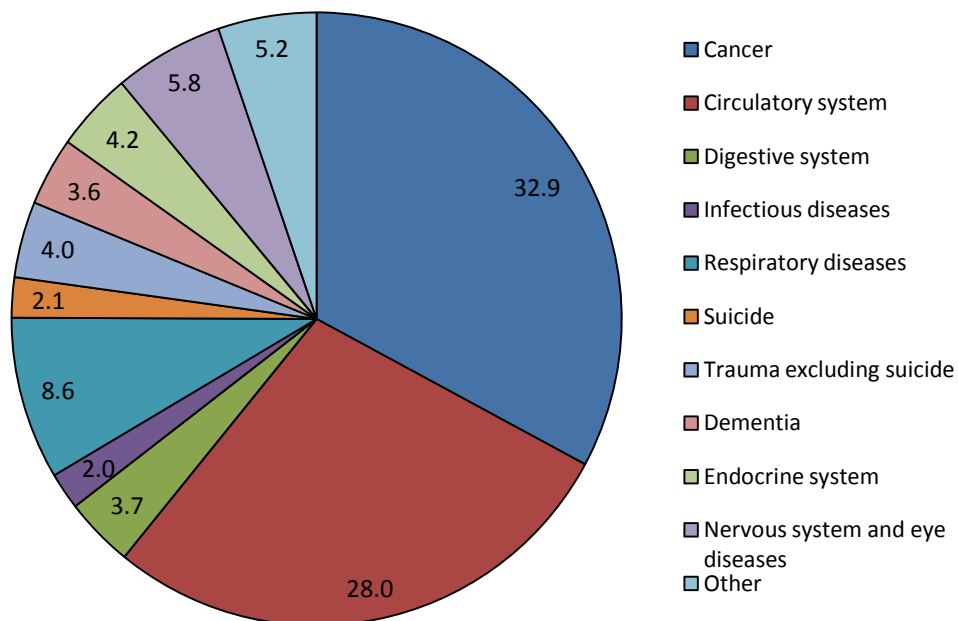
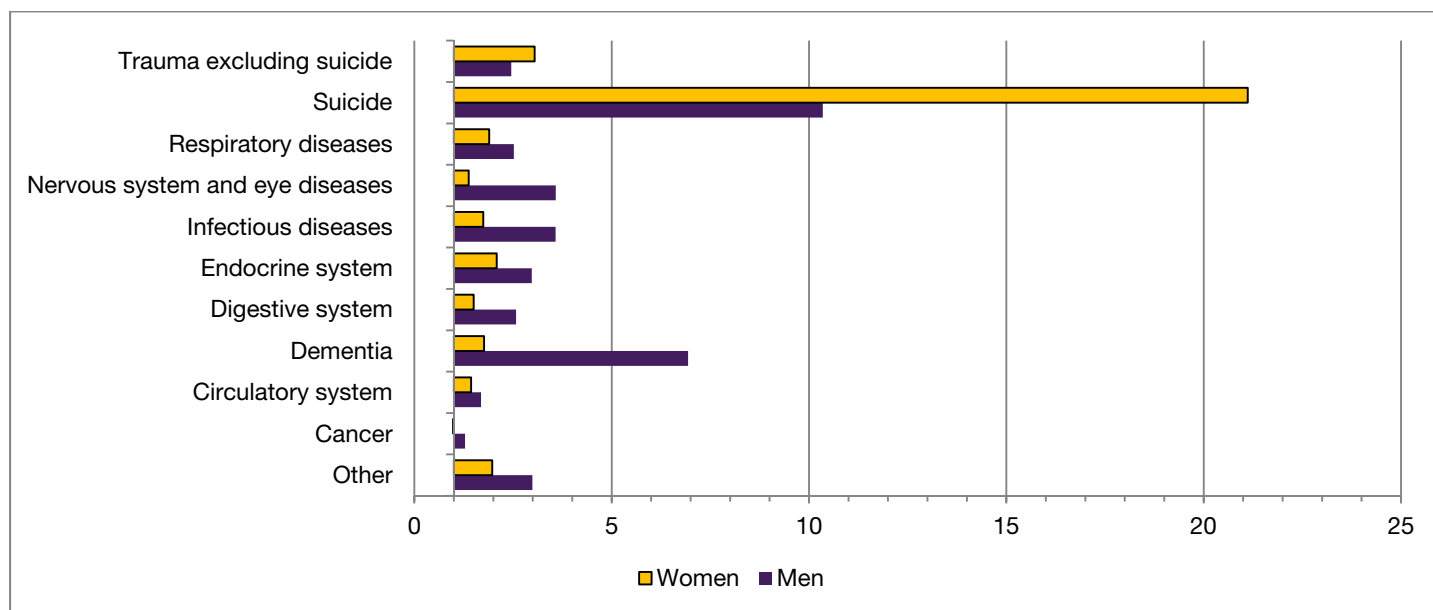


Figure 6 Rate ratio (suffering from group B personality disorder: not suffering) for causes of death by sex, Québec, 2000-2009



In Figure 6, the rate ratio indicates the mortality rate for each category of cause of death for persons suffering from group B personality disorders divided by that of persons not suffering from these disorders. A ratio of 1 means that mortality rates are comparable in the two groups (suffering vs. not suffering). A ratio greater than 1 means that the mortality rate is higher for persons

suffering from group B personality disorders. Note that there is no diagnostic category for which this ratio is less than 1. In other words, for each category of death (natural or unnatural, such as suicide), the mortality rate is abnormally high (excess mortality) for the patient population suffering from a group B personality disorder as compared to those not suffering.

Figure 7 Service utilization profile for persons suffering from a group B personality disorders, anxio-depressive disorders and schizophrenia, Québec 2011-2012

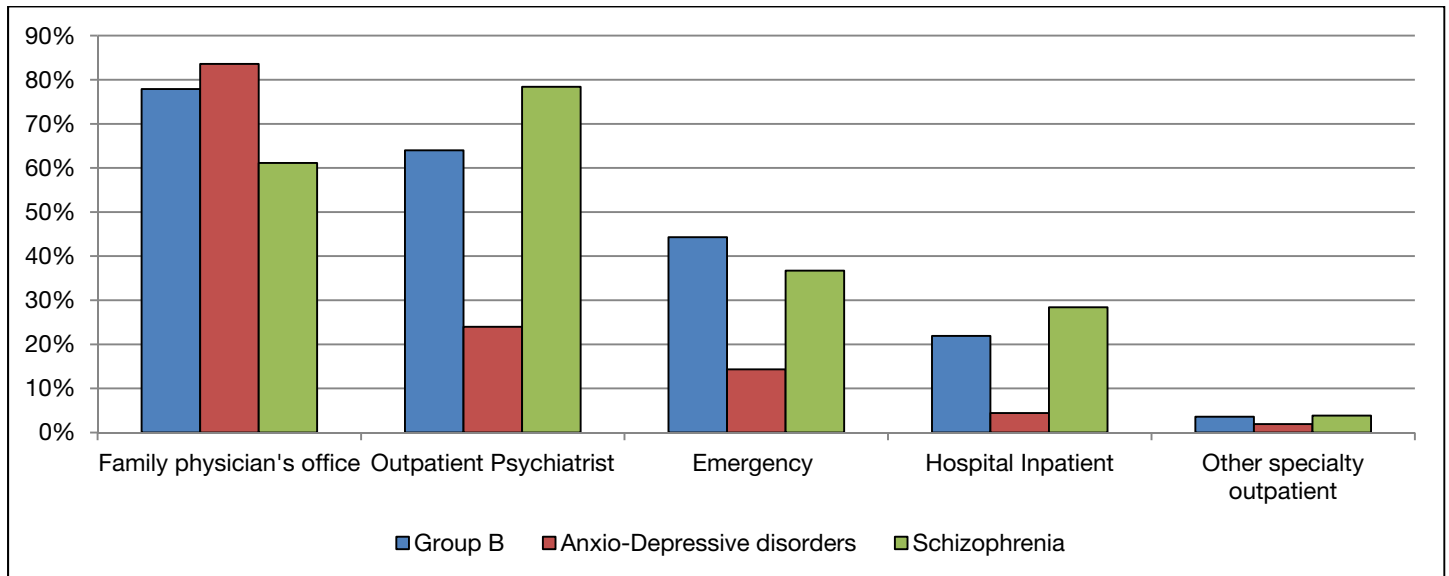
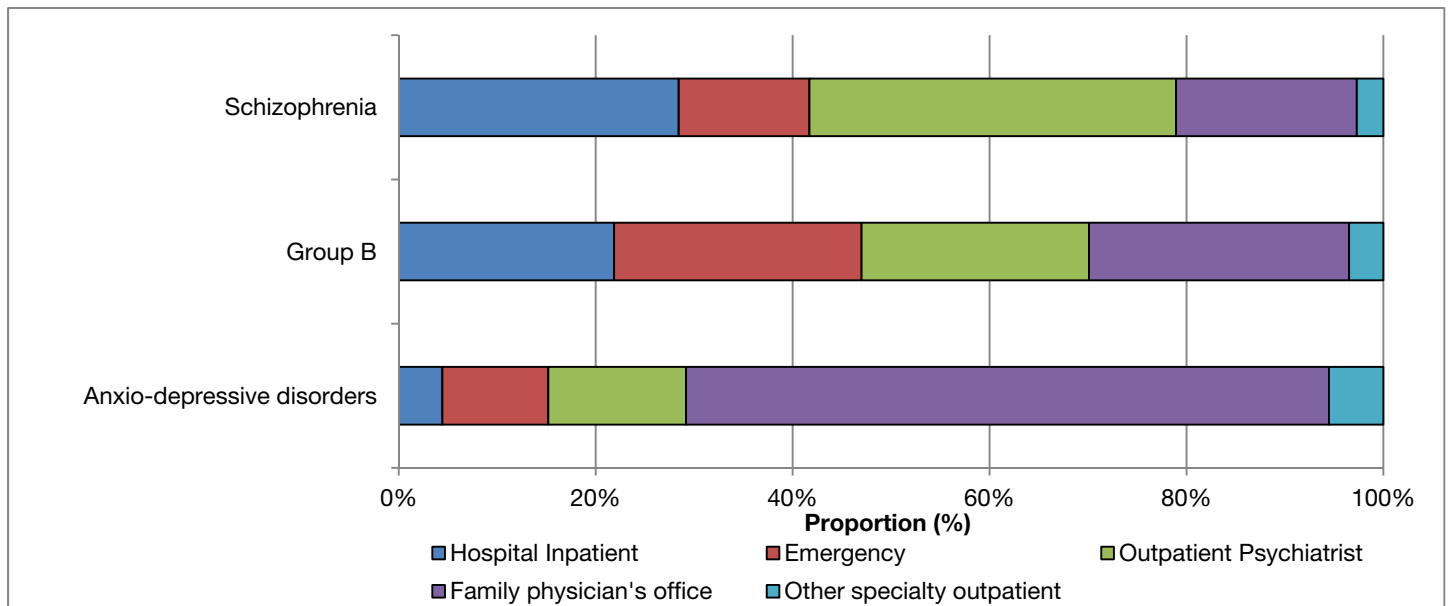


Figure 8 Hierarchical service utilization profile for persons suffering from a group B personality disorders, anxio-depressive disorders and schizophrenia, Québec 2011 - 2012



To establish and compare mental health services utilization profiles, different situations were examined for all persons diagnosed with group B personality disorders, anxio-depressive disorders and schizophrenic disorders. Comparison populations allow for identification of the particularities associated with the service utilization of each psychiatric population.

Specifically, the situations examined (Figure 7) were where the patient:

- was seen by a family physician in his or her office;
- was seen by a psychiatrist as an outpatient;
- was seen in emergency department;
- was hospitalized;
- was seen by a medical specialist, other than a family physician or a psychiatrist.

The hierarchical mental health services utilization profile (Figure 8) allows for identification of the most significant service (in terms of cost and intensity) received by a patient in a given year. Thus, the roles of different mental health professionals or services (first line family physicians, psychiatrists, emergency and secondary hospitalization) are ordered hierarchically as follows:

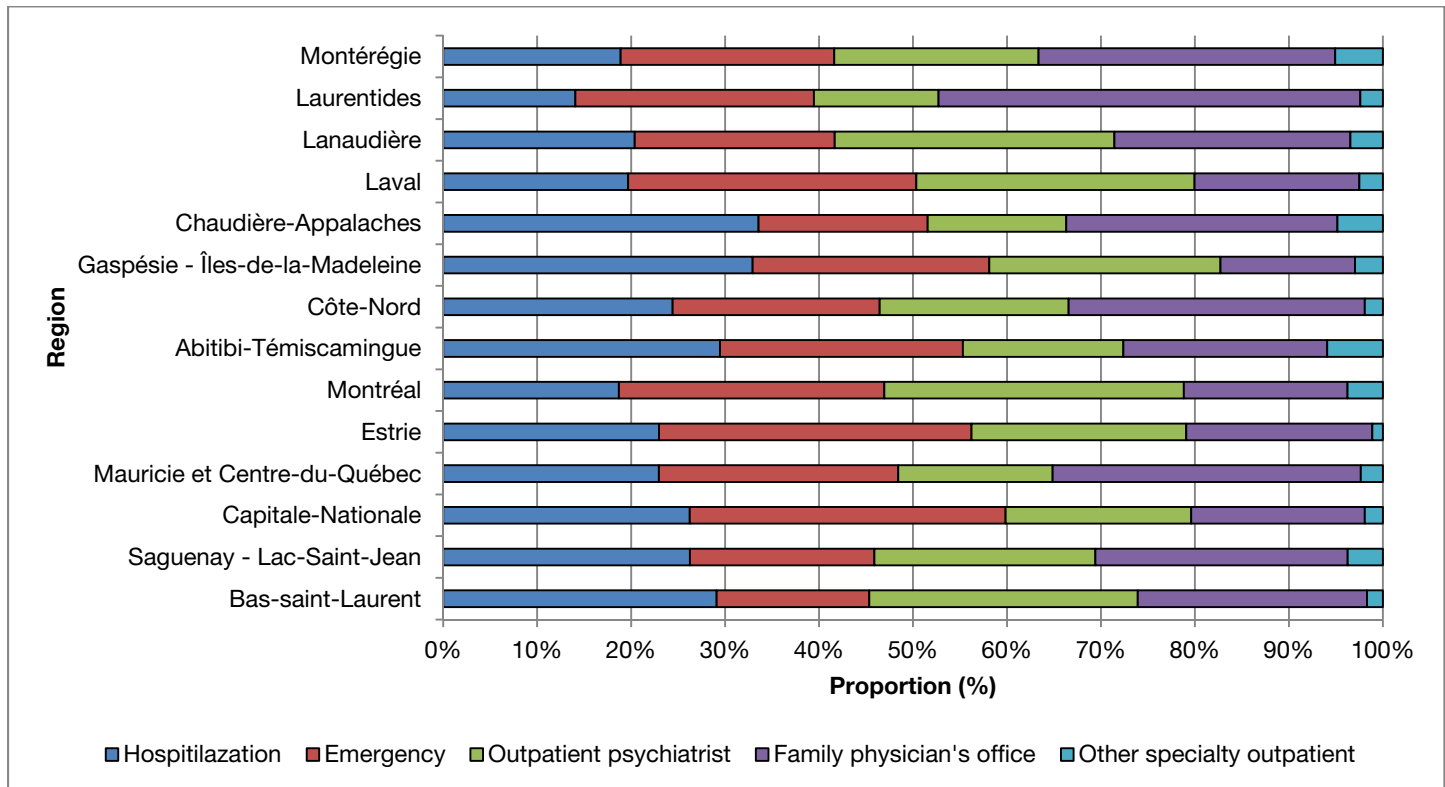
- I. Hospitalization;
- II. Emergency department;
- III. Psychiatrist, seen as an outpatient;
- IV. Family physician, seen in office;
- V. Other medical specialist.

For example, a person who was hospitalized during the previous year is included only in the “hospitalization” category, even if he or she was seen an emergency department or in a family physician’s office.

As is the case for persons having been diagnosed with schizophrenia, those with a group B personality disorder have a heavy service utilization profile. In fact, nearly 50% of them had either been hospitalized or had visited the emergency department during the year of their diagnosis, and if outpatient visits to a psychiatrist are included, the proportion of those having made use of a specialized service climbs to 70% (Figure 8). In comparison, almost 80% of people suffering from schizophrenia and almost 30% of those with an anxio-depressive disorder used specialized services. It can also be observed that persons diagnosed with group B personality disorders are heavy users of emergency services (44%) exceeding even persons suffering from schizophrenia (37%).

Figure 9 shows the hierarchical mental health services utilization profile of persons with group B personality disorders by health region for the year 2011-2012. Note that this profile differs little from one region to another.

Figure 9 Hierarchical mental health services utilization profile for persons with group B personality disorders by health region, Québec, 2011-2012



Discussion

Group B personality disorders – a high prevalence

The lifetime prevalence of diagnosed cases based on the health administrative databases seems significantly lower than that found by large-scale studies of the general population. While the prevalence based on our data approaches 2.5% for men and 3% for women, the expected prevalence for the full set of personality disorders is close to 14% (Grant et al., 2004; Torgersen et al., 2001). The prevalences expected in the clinical population (psychiatry), would also be higher, especially those expected for the full set of personality disorders (40%) (Newton-Howes et al., 2010), for group B personality disorders (13%) and for unspecified personality disorders (14%) (Zimmerman et al., 2005). The studies referred to were carried out on the general population, on samples ranging from a few hundred cases to several tens of thousands, using different instruments and different nosographic classifications.

The diversity of the methodologies used contributes to the heterogeneity of their results.

These differences can be explained by several non-exclusive causes. With respect to methodology, the relatively short period of time covered in the database (a little more than a decade) raises the possibility that the entire phenomenon was not captured. A plateau does not seem to have been reached for lifetime prevalences. Other authors have also emphasized the quality of the studies (in particular the NESARC) used for comparison, which could be said to overestimate the phenomenon (Paris, 2010).

Moreover, health administrative databases reflect under-detection, when compared with standardized evaluations of the population. Based on a study by Comtois (Comtois et al., 2014), projections would indicate that the algorithm used in this report captures 2 cases of group B personality disorder for every 10 that are actually present in the population. This order of magnitude, in fact, corresponds to the difference between the prevalence

observed in this report and that found by Grant's study of the general population (Grant et al., 2004).

The particularity of a health administrative database is that it only captures diagnoses given three conditions: 1) that the user has had contact with the health care system, 2) that the disorder is detected and a diagnosis given, and 3) that the diagnosis of a personality disorder is considered to be the dominant clinical diagnosis. However, clinical co-morbidities are very high in this population and may be seen and reported as the dominant clinical manifestation when a diagnosis is coded. For example, a client with a substance abuse and a personality disorder may be coded only for substance abuse, and thus the condition defined as a personality disorder would not be recorded. This means that the users captured by our method are those whose diagnosis of a personality disorder was considered primary. As compared with the annual prevalence, the cumulative prevalence partially corrects for under-reporting by reporting all cases, regardless of the time of diagnosis. Pragmatically, the cases included under annual prevalence probably represent the cases of personality disorder considered to be the most severe by physicians, from among all cases.

Apart from issues relating to sufferers' access to care and to physicians' assessment of the relevance of a diagnosis, other phenomena help explain the difference between the observed prevalence and the prevalence reported in studies of the general population: inadequate training, stigma associated with the diagnosis, strictly psychological therapeutic approaches that do not involve medical intervention or a view of the problem as hopeless, and thus not requiring diagnosis. The impact of these factors is not measurable in our data.

The difference observed between group B and non-group B disorders, in terms of prevalence, can be explained by the greater service utilization of persons in group B (externalizing behaviours), rather than by a real difference in prevalence.

Excess mortality among persons with group B personality disorders – re-evaluating the notion of severity

The severity of a medical condition is judged, in particular, by its impact on mortality. The loss of between 9 and 13 years of life, depending on sex, compared to the general population, gives a measure of the impact of this condition. According to this criterion, group B personality disorders represent a condition as severe as schizophrenia and probably more severe than diabetes (reduced life expectancy at birth of 10 to 11 years; Public Health Agency of Canada, 2011).

Calculation of life expectancy is based on a cross-sectional method. Life expectancy at age 20 is therefore that which would be expected if individuals of age 20 were subject throughout their lives to levels observed in the current mortality table. In order to obtain more robust estimates, life expectancy calculations were based on mortality data observed over a 10-year period, from 2001 to 2010 inclusively. For each age stratum, active treated cases are defined as those of individuals having been diagnosed with a personality disorder during a given year. Use of a cross-sectional method calls for caution in the interpretation of the measured life expectancy at age 20 of persons with identified personality disorders. In fact, this measurement represents the average number of life years remaining beyond age 20 for individuals subject to the mortality conditions of cases treated and active during the period under study.

The results from these Québec data appear to be lower than those of the data emerging in the international literature, which place the years of life lost at a range between 13 and 25 on average (Ajetunmbi et al. 2013; Nordentoft et al., 2013). However, these results are based on patients admitted to psychiatric care and not on those contacting the full range of health care services, as with the Québec results. Additionally, the excess mortality of men with a personality disorder has been reported to be greater than that of women with the same mental disorder (Høye et al., 2013).

The effect of gender was especially observable in relation to two causes, namely suicide (predominantly women) and organic brain syndromes (predominantly men). It is possible that men with group B personality disorders who develop dementia are more frequently

directed toward the health care system, their environment being less able to support them with this added co-morbidity. It is also likely that the personality changes accompanying the onset of dementia lead to the diagnosis of a personality disorder for men. This may be a consequence of addictive behaviours or of an increased risk of injury. Men with group B personality disorders are, in fact, more likely to engage in thrill-seeking behaviour than women.

The mortality rates for various causes of death are significantly higher among patients with a group B personality disorder, compared to the rest of the population. The risk of suicide is generally the focus of special attention, with good cause. It accounts for a major portion of mortality in this population. Nevertheless, the significance of causes of death associated with a physical medical cause must be mentioned. Thus, an approach centered on suicide prevention is required to combat the excess mortality related to this illness, but management including, as with schizophrenia, attention to living habits and physical co-morbidities would improve life expectancy (Lesage et al., 2015).

With regard to suicide, the significant difference in the suicide rate ratio of the two sexes should also be stressed. It may be surprising to see that the suicide rate ratio is higher for women than for men, given that surveillance data indicates that, in Québec, four times as many men commit suicide as women (Gagné & St-Laurent, 2010). It must be understood that the rate ratios presented here are calculated for each sex, and represent the increased risk of death as compared to women and men with no diagnosed mental disorder.

The medical services utilization profile of persons with group B personality disorders – an initial observation

During a given year, visits to a family physician remain the main service used by persons suffering from a group B personality disorders. First line medical services thus seem to respond to 80% of the service needs of those with a personality disorder who use the system. In this respect, their profile is similar to that of those with anxio-depressive disorders (Lesage et al., 2012). However, when we consider the use of other, more intensive or more specialized services (psychiatry, hospitalization and

emergency), their profile is comparable to that of patients with schizophrenic disorders. Thus, this group of patients appears to have a service utilization profile similar to that of those with other disorders. Specifically, they demonstrate a strong propensity to use primary care services, like those with anxio-depressive disorders, but also a strong movement toward specialist services, like those with schizophrenia. It can be observed, moreover, that they are among the heaviest users of emergency services.

These profiles are congruent with observed data reported in the literature which indicates heavy use of hospitalization and emergency services (Zanarini et al., 2004). They also underline the gap between actual practices and international recommendations, which promote ambulatory management as opposed to hospital programs. This inadequacy can be explained by the scarcity of care programs devoted to this clientele. Best practices indicate that the effective treatment of borderline personality disorder requires the use of specialized and specific programs. In their absence, patients turn instead to other programs or to general psychiatric care which tends to result in heavy and inadequate use of services (Fallon, 2003).

Thus, there is reason to believe that although the system responds adequately through the distribution of primary care and specialist services, the small number of specialized programs offered increases inadequate utilization of specialist resources. However, it should be noted that our study does not capture differences in the organizational structure of each sector (in some regions, the primary care services manage care for individuals with a personality disorder, whereas in others, this is done by the specialist and sometimes the specific programs). This points to a potential avenue for improving the organization of health care in this area. This would be in addition to raising awareness of personality disorders among professionals and in the general population.

Aims could include providing evaluated services as required, favouring a proper match and collaboration between the individual and the various service providers, and developing an appropriate support plan that promotes the recovery of these individuals while preventing their regression (raising the individual's awareness of personality disorders to prompt acknowledgement and motivation to seek treatment, and

raising awareness among health and social services professionals concerning the importance of proper service alignment and of the essential therapeutic framework).

Conclusion

Group B personality disorders represent a common psychiatric condition. Their mortality rate classifies them among chronic disorders, both psychiatric and physical, with very high case fatality (Lesage et al., 2012; Lesage et al., 2015). Moreover, and notably, the excess mortality associated with this psychopathology does not take into account the psychological suffering experienced by the persons afflicted, or their relatives, or the impact experienced on the level of psychosocial functioning. The severity of this psychiatric condition quite evidently influences the service utilization profile of those who suffer from it, and this profile closely resembles that of persons with schizophrenic disorders. Given the context of the seriousness of this condition, the service utilization profiles reveal a lack of alignment with international recommendations, calling into question not the amount of resources devoted to such disorders, but rather the failure to channel those resources into specialized programs. It remains to be demonstrated that such specialized programming can significantly improve the symptoms, quality of life and life expectancy of persons with group B personality disorders.

Bibliography

- Ajetunmobi O, Taylor M, Stockton D, Wood R. Early death in those previously hospitalised for mental healthcare in Scotland: a nationwide cohort study, 1986-2010. *BMJ Open*. 2013 Jul 30;3(7).
- Arsenault-Lapierre G, Kim C, Turecki G. Psychiatric diagnoses in 3275 suicides: a meta-analysis. *BMC Psychiatry*. 2004 Nov 4;4:37.
- Chiang CL. The life table and its applications. Robert E. Krieger, 1984.
- Comtois KA, Carmel A. Borderline Personality Disorder and High Utilization of Inpatient Psychiatric Hospitalization: Concordance Between Research and Clinical Diagnosis. *J Behav Health Serv Res*. 2014 May 30.
- Fallon P. Travelling through the system: the lived experience of people with borderline personality disorder in contact with psychiatric services. *J Psychiatr Ment Health Nurs*. 2003 Aug;10(4):393-401.
- Grant BF, Hasin DS, Stinson FS, Dawson DA, Chou SP, Ruan WJ, Pickering RP. Prevalence, correlates, and disability of personality disorders in the United States: results from the national epidemiologic survey on alcohol and related conditions. *J Clin Psychiatry*. 2004 Jul;65(7):948-58.
- Grant BF, Chou SP, Goldstein RB, Huang B, Stinson FS, Saha TD, Smith SM, Dawson DA, Pulay AJ, Pickering RP, Ruan WJ. Prevalence, correlates, disability, and comorbidity of DSM-IV borderline personality disorder: results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *J Clin Psychiatry*. 2008 Apr;69(4):533-45.
- Hörz S1, Zanarini MC, Frankenburg FR, Reich DB, Fitzmaurice G. Ten-year use of mental health services by patients with borderline personality disorder and with other axis II disorders. *Psychiatr Serv*. 2010 Jun;61(6):612-6.
- Høyе A, Jacobsen BK, Hansen V. Sex differences in mortality of admitted patients with personality disorders in North Norway--a prospective register study. *BMC Psychiatry*. 2013 Nov 26;13:317.

Keuroghlian AS, Frankenburg FR, Zanarini MC. The relationship of chronic medical illnesses, poor health-related lifestyle choices, and health care utilization to recovery status in borderline patients over a decade of prospective follow-up. *J Psychiatr Res*. 2013 Oct;47(10):1499-506.

Lesage A, Émond V, Rochette L. Surveillance of Mental Disorders in Québec: Prevalence, Mortality and Service Utilization Profile. Institut national de santé publique du Québec, 2012. 16 p.

Lesage A, Rochette L, Émond V, Pelletier E, St-Laurent D, Diallo FB, Kisely S. A surveillance system to monitor the excess mortality of the mentally ill in the Canadian context. *Can J Psychiatry*. 2015, forthcoming.

Newton-Howes G, Tyrer P, Anagnostakis K, Cooper S, Bowden-Jones O, Weaver T, COSMIC study team. The prevalence of personality disorder, its comorbidity with mental state disorders, and its clinical significance in community mental health teams. *Soc Psychiatry Psychiatr Epidemiol*. 2010 Apr;45(4): 453-60.

Nordentoft M, Wahlbeck K, Hällgren J, Westman J, Osby U, Alinaghizadeh H, Gissler M, Laursen TM. Excess mortality, causes of death and life expectancy in 270,770 patients with recent onset of mental disorders in Denmark, Finland and Sweden. *PLoS One*. 2013;8(1).

Paris J. Estimating the prevalence of personality disorders in the community. *J Pers Disord*. 2010 Aug;24(4):405-11.

Public Health Agency of Canada, Diabetes in Canada: Facts and figures from a public health perspective. Ottawa, 2011.

Public Health Agency of Canada, Report from the Canadian chronic disease surveillance system: Mental Illness in Canada, 2015. Ottawa, 2015.

Stinson FS, Dawson DA, Goldstein RB, Chou SP, Huang B, Smith SM, Ruan WJ, Pulay AJ, Saha TD, Pickering RP, Grant BF. Prevalence, correlates, disability, and comorbidity of DSM-IV narcissistic personality disorder: results from the wave 2 national epidemiologic survey on alcohol and related conditions. *J Clin Psychiatry*. 2008 Jul;69(7):1033-45.

Torgersen S, Kringlen E, Cramer V. The prevalence of personality disorders in a community sample. *Arch Gen Psychiatry*. 2001 Jun;58(6):590-6.

van Asselt AD, Dirksen CD, Arntz A, Severens JL. The cost of borderline personality disorder: societal cost of illness in BPD-patients. *Eur Psychiatry*. 2007 Sep;22(6):354-61.

Zanarini MC, Frankenburg FR, Hennen J, Silk KR. Mental health service utilization by borderline personality disorder patients and Axis II comparison subjects followed prospectively for 6 years. *J Clin Psychiatry*. 2004 Jan;65(1):28-36.

Zimmerman M, Rothschild L, Chelminski I. The prevalence of DSM-IV personality disorders in psychiatric outpatients. *Am J Psychiatry*. 2005 Oct;162:1911-8.

Surveillance of Personality Disorders in Québec: Prevalence, Mortality and Service Utilization Profile

Acknowledgements

The authors wish to thank the persons from the Direction de la santé mentale and from the Direction générale adjointe de la santé publique in the ministère de la Santé et des Services sociaux who reviewed this document for their judicious comments.

Previously published (English version listed where available):

- Number 5: Tendances temporelles de la prévalence et de l'incidence du diabète, et mortalité chez les diabétiques au Québec, de 2000-2001 à 2006-2007
- Number 6: Surveillance of Mental Disorders in Québec: Prevalence, Mortality and Service Utilization Profile
- Number 7: Surveillance des cardiopathies ischémiques au Québec : prévalence, incidence et mortalité
- Number 8: Prevalence of Hypertension in Québec: A Comparison of Health Administrative Data and Survey Data
- Number 9: Portrait des fractures ostéoporotiques chez les adultes québécois âgés de 50 ans et plus pour la période 1997-1998 à 2011-2012
- Number 10: Surveillance de la maladie d'Alzheimer et des maladies apparentées : étude de faisabilité à partir des fichiers administratifs

AUTHORS

Lionel Cailhol
Hôpital régional de Saint Jérôme
Institut universitaire en santé mentale de Montréal, Université de Montréal

Alain Lesage
Institut universitaire en santé mentale de Montréal
Bureau d'information et d'études en santé des populations
Institut national de santé publique du Québec

Louis Rochette
Éric Pelletier
Bureau d'information et d'études en santé des populations
Institut national de santé publique du Québec

Évens Villeneuve
Institut universitaire en santé mentale de Québec

Lise Laporte
McGill University Health Centre
Centre de recherche, Centre jeunesse de Montréal-Institut universitaire

Pierre David
Institut universitaire en santé mentale de Montréal, Université de Montréal

LAYOUT

Sylvie Muller
Bureau d'information et d'études en santé des populations
Institut national de santé publique du Québec

EXTERNAL REVIEW

Simon Poirier
Centre hospitalier de l'université Laval, CHU Québec

TRANSLATION

Nina Gilbert, Angloversion

This document is available in its entirety in electronic format (PDF) on the web site of the Institut national de santé publique du Québec at: <http://www.inspq.qc.ca>.

Reproduction for the purpose of private study or research is authorized under Section 29 of the Copyright Act. Any other use must be authorized by the Government of Québec, which holds the exclusive intellectual property rights for this document. Authorization may be obtained by submitting a request to the central clearing house of the Service de la gestion des droits d'auteur of Les Publications du Québec, using the online form at the following address: <http://www.droitauteur.gouv.qc.ca/autorisation.php>, or by sending an email to: droit.auteur@cspq.gouv.qc.ca.

Information contained in the document may be cited provided the source is mentioned.

Legal deposit – 4th quarter 2015
Bibliothèque et Archives nationales du Québec
Library and Archives Canada
ISSN: 1922-1754 (printed version)
ISSN: 1922-1762 (PDF)
ISBN: 978-2-550-73191-7 (French printed version)
ISBN: 978-2-550-73192-4 (PDF)
ISBN: 978-2-550-74099-5 (printed version)
ISBN: 978-2-550-74100-8 (PDF)

© Gouvernement du Québec (2015)

Publication N°: 2046

The translation of this publication was made possible with funding from the Public Health Agency of Canada.

**Institut national
de santé publique**

Québec

