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# Less Preventive Healthcare, Fewer Specialist Consultations, and More Avoidable Hospitalisations for Individuals Treated for a Severe Mental Disorder

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**Individuals treated for mental disorders suffer premature death, whatever the cause of death. This phenomenon, a health inequality marker, raises questions about the treatment and access to somatic care for individuals living with a severe mental disorder. Quantitative analysis made through the National Health Data System (*Système National des Données de Santé*, SNDS) makes it possible to characterise their use of general somatic care on a national scale in comparison with the main beneficiaries of the French health insurance system. This data points to a lesser use of preventive healthcare and standard specialist healthcare amongst individuals treated for a severe mental disorder, despite a greater prevalence of most of the main chronic disorders, and a greater frequency of avoidable hospitalisations, despite more frequent consultations with general practitioners (GPs). These results underline the difficulties faced by the healthcare system in satisfactorily meeting the specific needs of people living with a mental disorder and confirm the need to develop measures aimed at improving healthcare access and somatic care for this population with its multiple vulnerability factors.**

In France, the reduced life expectancy of individuals treated for mental disorders is on average 16 years for men and 13 years for women, with variations depending on the nature of the disorder. These individuals have mortality rates that are two to five times higher, whatever the cause of death, and a quadrupled premature mortality rate compared with the general population (Coldefy and Gandré, 2018). These descriptive elements call for explanatory elements on the potential reasons for these damning findings, which suggest that people living with a mental disorder are subject to significant heath inequalities.

A combination of factors is likely to play a significant role in this excess mortality. These factors include, in particular, the effect of a mental disorder on the ability of individuals to maintain themselves in good health (risky health behaviours, differing expressions of physical pain, etc.) and be integrated in society (social isolation, fear of stigmatisation, economic precarity), and the side effects of the long-term consumption of psychotropic drugs. Nevertheless, factors linked to the healthcare system may exacerbate individual risk factors, or at least reflect the failure to

take into account the specific needs and the multiple vulnerability factors of people living with a mental disorder.

We hypothesize that there are difficulties in the somatic care of individuals treated for a mental disorder, from the initial stages of access to the health system and subsequently throughout care pathways in terms of quality and continuity of healthcare. However, these aspects are relatively undocumented in the field of research into the health inequalities experienced by individuals living with a mental disorder, particularly in the national context. The difficulties faced by the healthcare system in adequately meeting the somatic needs of persons living with a mental disorder have thus been little studied in France. Current guidelines to improve the somatic care of patients living with a severe chronic mental disorder initially indicate that "no relevant data relating to screening and treatment practices in France has been clearly identified, which does not make it possible to identify in an objective way practice problems that need to be resolved" (*Fédération Française de Psychiatrie – Conseil National Professionnel de Psychiatrie*, 2015). In order to provide preliminary evidence of potential disparities, our study aims to document the use of general somatic care by individuals treated for a severe mental disorder in comparison with the main beneficiaries of the French health insurance system.

## METHOD

### Conceptual framework

Based on Andersen's model of health services use, we consider that healthcare use results from the combination of a host of factors, including predisposing factors (in particular socio-demographic characteristics), enabling factors (such as an individual's living environment) and healthcare needs, whether they are objective or subjective (Andersen, 1995). We focused on the health inequalities linked to this use of healthcare, which we defined as the differences in access to the healthcare system between individuals that did not result from variations in the health state of these individuals or in the clinical pertinence of their care.

### Nosographic scope of the study

Severe mental disorders correspond to chronic disorders with recurrent episodes that significantly interfere with interpersonal relations and limit social skills and functional capacities. Most of the definitions of these disorders in the international literature are based on an identification that is not solely based on the diagnosis, but which also depends on the severity of these disorders. However, the medical cartography data (see Source inset, p. 3) do not contain precise information about this severity, whether in terms of symptomatology or functional limitations. Our definition of severe mental disorders was therefore based on healthcare use for two types of diagnostic groups that have a lasting impact with functional consequences: psychotic disorders (codes F20 to F29 of the International Classification of Diseases, tenth revision (ICD-10) including, in particular, schizophrenia) and bipolar disorders (code F31 of the ICD-10). The particularities of these disorders amongst young patients and older patients led us to restrict our study to persons aged between 18 and 65.

### Study design

This research is based on a case-control study in which the individuals identified as being treated for a severe mental disorder ("case") in the medical cartography of the National Health Data System (SNDS) for the year 2014 were matched with three controls who were not treated for severe mental disorder but had similar socio-demographic characteristics, as observable in the database. Exact matching was carried out based on five criteria: age, gender, local county (*département*) of residence, inclusion or not in the scheme covering healthcare costs for low-income groups (CMU-C) and the quintile of a deprivation index calculated at the patient's residential zip code (except for overseas *départements*, where this indicator is not available). Matching with three 'exact' controls was possible for 97% of the individuals treated for a severe mental disorder in 2014.

### Indicators of somatic healthcare use used in the study

In order to obtain an exhaustive healthcare system-wide snapshot of the use of general somatic care by individuals treated for a severe mental disorder, we considered a range of complementary indicators, calculated over a two-year period (2015–2016), including: 1/ indicators of general preventive healthcare use (vaccination and cancer screening) and specific preventive healthcare use (monitoring of the side effects of psychotropic drugs); 2/ indicators relating to the existence of a gatekeeper physician and the consultation of general practitioners as well as standard specialist healthcare (dental, gynaecological, and ophthalmic care, whose routine use is recommended even in the absence of a specific disease); 3/ indicators of hospital admissions, excluding psychiatric facilities (in particular, the use of emergency departments and avoidable hospitalisations in Medicine, Surgery, and Obstetrics (MSO), that is to say for medical reasons that would not lead to a hospitalisation if they were correctly followed-up in primary care).

### Analysis

First of all, we carried out a descriptive analysis of the main demographic, socio-economic, and clinical characteristics (in particular in terms of prevalence of main chronic disorders) of individuals treated for a severe mental disorder and their controls. We then compared their use of general somatic care by evaluating the link between the presence of a severe mental disorder and healthcare use, all things being equal, by measuring the adjusted odds ratio (aOR) and its confidence interval at 95% (CI95%), after taking into account the additional factors that may influence this healthcare use through logistical regressions (for the indicators of healthcare use that corresponded to binary variables) or negative binomial regressions (for the indicators of healthcare use that corresponded to count variables). The adjustment factors considered included clinical factors (synthetic index of comorbidities and duration of full-time hospitalisation in a psychiatric facility over the two-year period of the study), individual socio-economic factors (included or not included in the Health Insurance Voucher Schemes (*Aide au Paiement d'une Complémentaire Santé*, ACS)), and factors linked to the living environment (index of social fragmentation, typology of French living territories, taking into account accessibility to healthcare, particularly primary care, developed by the Institute for Research and Information in Health Economics (*Institut de recherche et documentation en économie de la santé*, IRDES), and an indicator of the degree of urbanicity of territories, the urban area zoning). These factors are described in more details in another publication (Gandré and Coldefy, 2020).

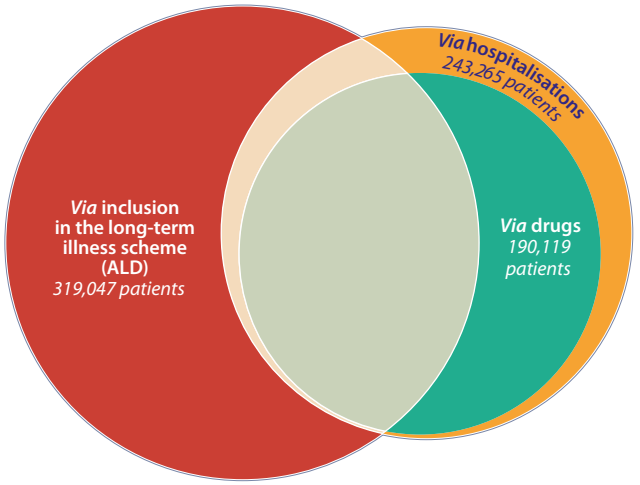
In 2014, just over 428,000 individuals aged between 18 and 65 were treated for a severe mental disorder in France. Most of these patients (n=319,047, 75%) were identified *via* the long-term illness scheme for chronic mental disorders (*Affection de Longue Durée*, ALD) [Graph 1]. 321,000 of them had a psychotic disorder, 137,000 had a bipolar disorder, and 30,000 had both disorders. Because of the difficulties in making an accurate diagnosis in psychiatry (absence of biomarkers, heterogeneity of situations, etc.) and certain healthcare professionals' desire not to "label" patients to avoid any risk of stigmatisation, these figures by diagnostic group should be interpreted with precaution.

## A greater socio-economic vulnerability amongst individuals treated for a severe mental disorder

The individuals treated for a severe mental disorder were initially compared to 33 million people who were not treated for these disorders in the 2014 medical cartography (see the Source inset, p. 3). They are on average older, more often male, and more often beneficiaries of aid schemes that help cover the costs of healthcare: in particular, the Health Insurance Vouchers Scheme (*Aide au Paiement d'une Complémentaire Santé*, ACS), which provides financial assistance for the purchase of private supplementary health insurance and may be granted to beneficiaries of the Disabled Allowance for Adults (*Allocation Adultes Handicapés*, AAH), unlike Complementary Universal Health Insurance (*Couverture Maladie Universelle Complémentaire*, CMU-C)

G1

## Means of identification of patients treated for a severe mental disorder in 2014




**Note:** In the medical cartography of the 2014 National Health Data System (SNDS), the individuals can be identified as being treated for a severe mental disorder, besides their inclusion in the long-term illness scheme (*Affection de longue durée*, ALD), if they have been hospitalised at least once for one of these conditions over the last two years, or over five years if they had also three deliveries of psychotropic drugs in 2014.

**Scope:** Beneficiaries aged between 18 and 65 of the French Social Security System (*Régime général*) and the sub-schemes (SLM) who received treatment, throughout France.

**Source:** The National Health Data System (SNDS). Download the data

## Source

This study is based on the National Health Data System (*Système National des Données de Santé*, SNDS), which contains all the data relating to healthcare consumption that was reimbursed by the National Health Insurance Fund (*Caisse nationale d'assurance maladie*, CNAM), whether in relation to hospital care (including admissions to the emergency ward and hospitalisations in various departments) or community health professionals (GP or specialist physicians, medical exams, and drug delivery in community pharmacies). The SNDS also includes information about patients' individual characteristics, in particular several socio-demographic and clinical characteristics. Hence, it includes a medical cartography of the beneficiaries of the French Social Security System (*Régime général*) and its sub-schemes (*Sections locales mutualistes*, SLM), which means that those who receive care for chronic disorders can be identified. The algorithms that identify the existence of these pathologies are based on the reasons for hospitalisation, inclusion in the long-term illness scheme (*Affections de Longue Durée*, ALD), and the delivery of drugs or medical acts that are tracers because they are specific to the treatment of certain diseases, over a period that sometimes extends to five years (CNAM, 2018). Amongst the non-exclusive categories of chronic disorders that are identifiable in the medical cartography, there is a category specific to mental disorders, which also makes it possible to distinguish the various diagnosis groups within these disorders.

which provides free supplementary health insurance, at the time of the study. They also live in more disadvantaged and socially fragmented areas (see Table). These results confirm the considerable socio-economic vulnerability of individuals treated for a severe mental disorder, which must be taken into account in the analysis of their use of somatic care in comparison with the population that was not treated for these disorders.

## Chronic disorders are more common amongst individuals treated for a severe mental disorder

After performing exact matching between each individual treated for a severe mental disorder and three controls from the medical cartography who are not treated for these disorders, based on their main demographic and socioeconomic characteristics (see Method inset), marked differences between both populations were observed in terms of the prevalence of various chronic disorders. Hence, individuals treated for a severe mental disorder have a poorer general health

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## Principal characteristics of individuals treated or not treated for a severe mental disorder in the 2014 medical cartography

| | Individuals treated for a severe mental disorder YES n = 428,093 | | NO n = 33,225,644 | |
|---|---|---|---|---|
| | Average or n | % or standard deviation | Average or n | % or standard deviation |
| Age | 45.3 | ±11.5 | 41.1 | ±13.4 |
| Gender (female) | 198,887 | 46.5 % | 17,976,313 | 54.1 % |
| Beneficiary of the CMU-C[1] | 56,014 | 13.1 % | 2,990,454 | 9.0 % |
| Beneficiary of the ACS[2] | 79,953 | 18.7 % | 966,333 | 2.9 % |
| **Quintile of the deprivation index (FDep)** | | | | |
| 1st quintile | 74,727 | 17.5 % | 6,494,616 | 19.6 % |
| 2nd quintile | 71,097 | 16.6 % | 6,351,714 | 19.1 % |
| 3rd quintile | 91,747 | 21.4 % | 6,179,252 | 18.6 % |
| 4th quintile | 82,810 | 19.3 % | 5,983,396 | 18.0 % |
| 5th quintile | 81,711 | 19.1 % | 6,034,120 | 18.2 % |
| Social fragmentation indicator | 3.5 | ±2.7 | 2.4 | ±2.7 |
| Place of residence in a Dom[3] | 14,000 | 3.3 % | 1,042,582 | 3.1 % |

[1] CMU-C: Complementary Universal Health Insurance; [2] ACS: Health Insurance Vouchers Scheme; [3] Dom: Overseas *département*.

**Reading:** The higher the values of the deprivation index and fragmentation indicators, the more they reflect a significant level of social deprivation or fragmentation. With regard to the deprivation index, the total percentage does not equal 100% because there are missing values, especially for individuals living in overseas *départements*, where this indicator is not available.

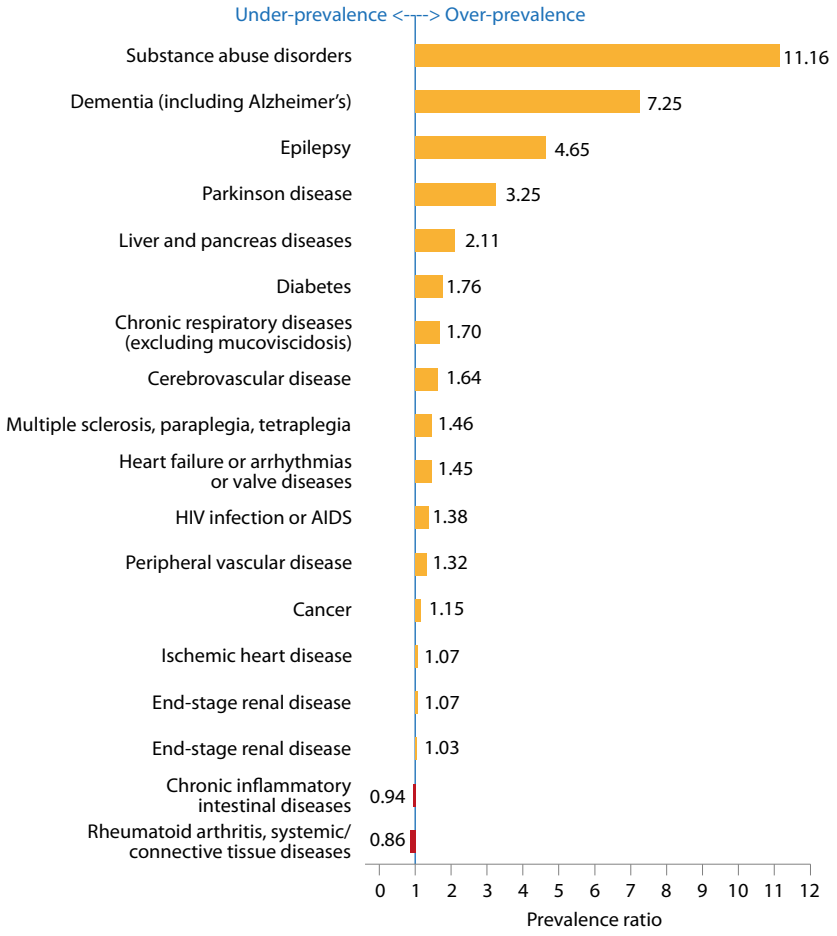
**Scope:** Beneficiaries aged between 18 and 65 of the French Social Security System (*Régime général*) and the sub-schemes (SLM) who received treatment, throughout France.

**Source:** The National Health Data System (SNDS). Download the data

state with a synthetic comorbidity index (Constantinou et al., 2018), adapted so as not to include severe mental disorders, on average equal to 1.7 compared with 0.8 for their controls. Furthermore, all the main chronic disorders are more often present amongst individuals treated for a severe mental disorder, with the exception of chronic inflammatory intestinal diseases, rheumatoid polyarthritis and associated diseases, and other chronic inflammatory diseases. Apart from psychiatric and neurological comorbidities, diseases of the liver or pancreas, diabetes, chronic respiratory diseases (excluding mucoviscidosis) and strokes are particularly over-prevalent amongst individuals treated for a severe mental disorder in comparison with their matched controls (Graph 2). The limited over-prevalence of cancer amongst individuals living with a mental disorder, despite greater excess mortality due to tumours (Coldefy and Gandré, 2018), raises questions about these individuals' cancer care pathways, suggesting potential treatment inequalities, and is the subject of a current research project (see Context inset). Furthermore, the over-prevalence of chronic disorders, which are only considered on the basis of healthcare consumption, amongst individuals treated for a severe mental disorder may be underestimated. Indeed, it is possible that these individuals are also more likely to suffer from undiagnosed or untreated chronic disorders, or whose risk factors are neither monitored nor treated, and which do not therefore appear in the data gathered.

G2

**Prevalence ratio of the main chronic disorders of individuals treated for a severe mental disorder in 2014 in comparison with their matched controls**




**Reading:** The prevalence ratio is the prevalence of each disorder considered amongst the individuals treated for a severe mental disorder compared with their prevalence amongst their controls. Any prevalence ratio higher than 1 indicates an over-prevalence of the disorder considered amongst the individuals treated for a severe mental disorder. For example, it may be concluded that the prevalence for diabetes is 1.8 times greater amongst these individuals than amongst their controls.

**Scope:** Individuals treated for a severe mental disorder in 2014 who were matched and their controls amongst beneficiaries (aged between 18 and 65) of the French Social Security System (*Régime général*) and its sub-schemes (SLM) who had received treatment, throughout France.

**Source:** The National Health Data System (SNDS). Download the data

## Less overall use of preventive healthcare amongst individuals treated for a severe mental disorder

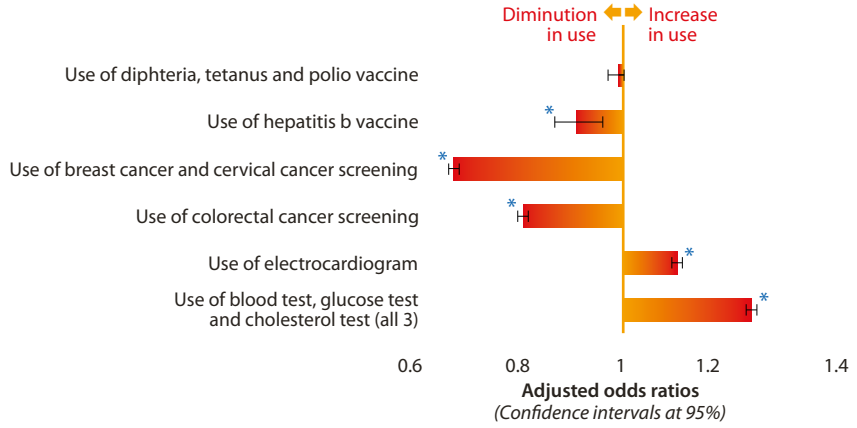
After adjusting for individual clinical and socio-economic characteristics and living environment characteristics, differences are observed in the use of preventive healthcare between the two study populations. It thus appears that there is less use of general preventive healthcare amongst individuals treated for a severe mental disorder. This is true for all the

## Context

This study is based on a project entitled *Comorbidités et parcours de soins somatiques des personnes suivies pour un trouble psychique* (Colchique), which was funded by the The French National Union of Friends and Families of Patients with Mental Disorders (*Union Nationale de Familles et Amis de Personnes Malades et/ou Handicapées Psychiques*, UNAFAM) as part of the 2018 call for research projects entitled *Parcours de vie, Parcours de soins*. It is also part of one of the main components of IRDES's "mental health" research programme, which focuses on inequalities of access to care experienced by persons living with a mental disorder. The study benefitted from the methodological advice provided by Panayotis Constantinou, Christelle Gastaldi-Ménager, Thomas Lesuffleur, and Philippe Tuppin at the National Health Insurance Fund (CNAM), and Nadia Younès and Christine Passerieux (EA 4047, HANDIRESP, Université Versailles Saint-Quentin-in-Yvelines) to define the healthcare use indicators. It will be complemented by the joint research project entitled *Cancers for individuals treated for a mental disorder: which difficulties in care pathways*? (Canopy). This project, coordinated by the Institute for Research and Information in Health Economics (*Institut de recherche et documentation en économie de la santé*, IRDES), and conducted in collaboration with the National School of Public Health (*École des hautes études en santé publique*, EHESP), the Paris University Hospital Group for Psychiatry & Neurosciences (*Groupe hospitalier universitaire Paris Psychiatrie & neurosciences*, GHU), and Nanterre University, was funded for three years as part of the 2019 call for projects: *Projets libres de recherche sur le cancer in sciences humaines and sociales, épidémiologie and santé publique* conducted by the French National Cancer Institute (*Institut national du cancer*, INCA).

G3

**Associations between the presence of a severe mental disorder and the use of preventive healthcare**




* P-value lower than 0.05.

See the definition of the odds ratio in the inset "Definition" opposite.

**Reading:** After adjustment for clinical, socio-economic, and living environment characteristics, the individuals treated for a severe mental disorder generally made less use of preventive healthcare than the general population.

**Scope:** Individuals treated for a severe mental disorder in 2014 who were matched and their controls amongst beneficiaries (aged between 18 and 65) of the French Social Security System (*Régime général*) and its sub-schemes (SLM) who had received treatment, throughout France.

**Source:** The National Health Data System (SNDS). Download the data

## DEFINITION

The **adjusted odds ratio** reflects the significance of the link between the presence of a severe mental disorder and each indicator of healthcare use after adjustment for the other factors likely to be associated with this use. An aOR equal to 1 (or whose confidence interval (CI) includes 1) reflects the absence of a link between the existence of a severe mental disorder and healthcare use; an aOR higher than 1 (and whose CI does not include 1) indicates a link between the presence of a mental disorder and an increase in healthcare use; and an aOR lower than 1 (and whose CI does not include 1) indicates a link between the presence of a severe mental disorder and a decrease in healthcare use. The more the aOR is far from 1, the greater the significance of the link.

## More consultations with general practitioners but fewer consultations with specialists amongst individuals treated for a severe mental disorder

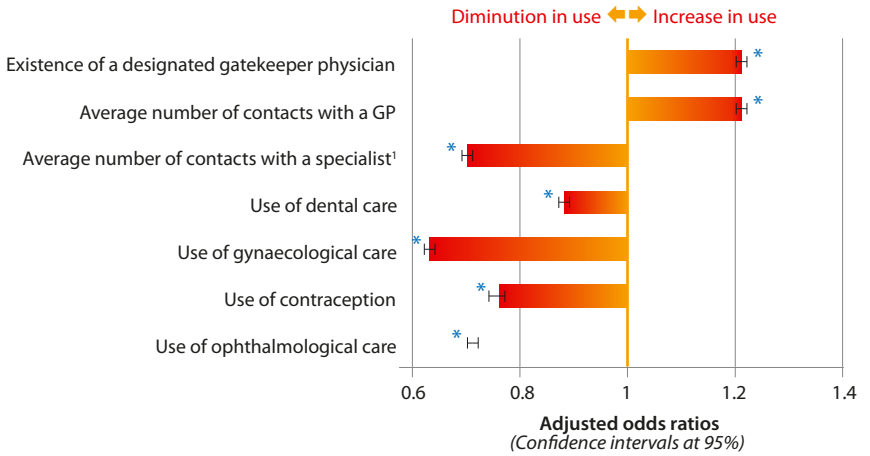
indicators considered, with the exception of the vaccination against DT polio (Graph 3). Particularly marked differences are observed in the use of cancer screening – whether for breast and uterine cancers (aOR: 0.68, 95%CI: 0.67–0.69) or colorectal cancer (aOR: 0.81, 95%CI: 0.80–0.82) [Graph 3] –, which is far less frequent in the population treated for a mental disorder, despite known individual risk factors.

The use of specific preventive healthcare for monitoring the side effects of psychotropic drugs is higher amongst individuals treated for a severe mental disorder than amongst their matched controls (Graph 3), even though these preventive acts can also be performed for other reasons. However, it appears that a significant number of persons living with a mental disorder do not have access to specific preventive healthcare, even though it is strongly recommended in this population. Hence, only 14% of them had an electrocardiogram in the two-year study period, while just over half of them (53%) had a blood, glycaemic, and cholesterol test over the same period. However, some of these tests may have been carried out during a hospital stay in a psychiatric unit and were therefore not identifiable in the National Health Data System (*Système National des Données de Santé*, SNDS). In order to limit the impact on our results, the adjusted analyses include the total duration of full-time hospitalisation in a psychiatric unit in the two-year study period, for each individual.

After adjusting for individual clinical and socio-economic characteristics and living environment characteristics, the presence of an officially declared gatekeeper physician (*médecin traitant*) is more prevalent and the average number of contacts with

G4

**Associations between the presence of a severe mental disorder and the use of GP healthcare and standard specialist healthcare**




[1] For seven specialities (cardiology, dermatology, medical gynecology and obstetrics, gastroenterology, ophthalmology, ENT and rheumatology).

* P-value lower than 0.05.

See the definition of the odds ratio in the inset "Definition" opposite.

**Reading:** After adjustment for clinical, socio-economic, and living environment characteristics, the individuals treated for a severe mental disorder consulted GPs more often but consulted specialists less than the general population.

**Scope:** Individuals treated for a severe mental disorder in 2014 who were matched and their controls amongst beneficiaries (aged between 18 and 65) of the French Social Security System (*Régime général*) and its sub-schemes (SLM) who had received treatment, throughout France.

**Source:** The National Health Data System (SNDS). Download the data

a GP is higher amongst patients treated for a severe mental disorder (Graph 4). This a priori positive assessment of access to primary care physicians must, however, be viewed in perspective.

These results do not reflect the concerns of mental health professionals working in hospital settings with regard to the difficulty of finding a gatekeeper physician for their patients. This may in part be due to the way in which individuals treated for a severe mental disorder are identified in the medical cartography made available in the National Health Data System (SNDS). Hence, 75% of these individuals are beneficiaries of the long-term illness scheme (ALD) [Graph 1], whose affiliation requires a form to be filled in by a gatekeeper physician. This could lead to a mechanical increase in the number of persons declaring such a doctor even though the doctor is not necessarily involved in their follow-up care. Furthermore, the reasons for using healthcare in the community (outside of hospital settings) are not recorded in the National Health Data System (SNDS) and consultations with GPs for somatic issues cannot be distinguished from those directly linked to their mental disorder.

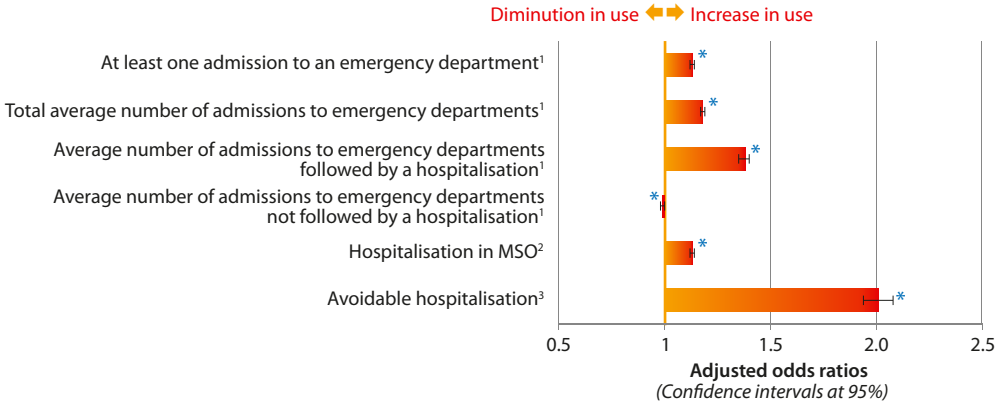
The average number of contacts with a specialist doctor is, however, lower amongst individuals treated for a severe mental disorder in comparison with their matched controls. This observation is confirmed by a less frequent use of all types of standard specialist healthcare. The differences are particularly significant with respect to the use of gynaecological care (aOR: 0.63, 95%CI: 0.62–0.64) and ophthalmological care (aOR: 0.71, 95%CI: 0.70–0.72) [Graph 4]. Specialists can sometimes charge high additional fees. Nevertheless, financial barriers to accessing specialist healthcare alone cannot explain the differences found, because our results are obtained after matching and additional adjustment for socio-economic characteristics between the two study populations.

## More frequent non-psychiatric hospital admissions amongst individuals treated for a severe mental disorder

Non-psychiatric hospital admissions are significantly more frequent amongst individuals treated for a severe mental disorder in comparison with their matched controls. The differences in the use of emergency care remain but are nevertheless significantly reduced by adjustment for individual clinical and socio-economic characteristics and living environment characteristics. The differences are, however, very pronounced with respect to avoidable hospitalisations (aOR: 2.00, 95%CI: 1.94–2.08) [Graph 5]. Such hospitalisations constitute an indicator that makes it possible to identify hospitalisations for reasons that should not have led to hospital care if they had been correctly followed-up in primary care, such as for instance asthma and short-term diabetic complications. The higher incidence of these hospitalisations amongst individuals treated for a severe mental disorder – even after adjustment for their general health state – suggests that their treatment by GPs was not optimal. Our previous findings do not, however, show that our population of interest had less access to GPs (for whom the reasons for consultations are not, however, available in the National Health Data System (SNDS)). It can therefore be hypothesized that our findings result from GPs' difficulties in responding to the needs of persons living with a mental disorder, difficulties which have been previously highlighted in the French context (Norton et al., 2016).

G5

### Associations between the presence of a severe psychiatric disorder and hospital admissions, excluding in psychiatric departments




[1] The reasons for admission to emergency departments are not available in the National Health Data System (SNDS), and only admissions to general (not psychiatric) emergency departments were considered. For admissions to an emergency department followed by a hospitalisation, only those followed by a hospitalisation in Medicine, Surgery, and Obstetrics (MSO) were included.

[2] Exclusion of hospitalisations in MSO for psychiatric reasons or attempted suicide.

[3] For asthma, heart failure, chronic obstructive bronchopneumopathy (COBP), dehydration, short-term diabetic complications, angina without myocardial infarction (entry via the emergency department), a dental problem, nutritional deficiency, or following a vaccination (in particular for the flu).

* P-value lower than 0.05.

See the definition of the odds ratio in the inset "Definition" page 5.

**Reading:** After adjustment for clinical, socio-economic, and living environment characteristics, the individuals treated for a severe mental disorder are much more concerned than the general population by avoidable hospitalisations, particularly for pathologies such as asthma or diabetes-related complications, which should not have led to hospitalisation if they had been regularly treated by a general practitioner in ambulatory care.

**Scope:** Individuals treated for a severe mental disorder in 2014 who were matched and their controls amongst beneficiaries (aged between 18 and 65) of the French Social Security System (*Régime général*) and its sub-schemes (SLM) who had received treatment, throughout France.

**Source:** The National Health Data System (SNDS).

Download the data

## These results reflect disparities in access to general somatic care for individuals treated for a severe mental disorder

The individuals treated for a severe mental disorder in 2014 in France had a poorer general health state –with a greater prevalence of most of the main chronic disorders – than controls with similar socio-demographic characteristics from the general population. It could therefore have been expected that these patients with multiple morbidities and complex healthcare needs would have made greater use of general somatic care. However, our results indicate, conversely, that the opposite is true. They also highlight the extent of this problem: significant associations are almost always observed between the presence of a severe mental disorder and each indicator of somatic healthcare use considered, even after adjustment for the principal clinical, socio-economic, and living environment characteristics of the two compared populations. In particular, less use of general preventive healthcare is observed, notably for cancer screening, as well as of standard specialist healthcare, despite a greater prevalence of comorbidities amongst individuals treated for a severe mental disorder. A higher incidence of avoidable hospitalisations is also observed, despite more frequent contacts with a GP.

These results are, for the most part, unsurprising. The poorer access to general somatic healthcare of disabled persons – including those with a psychological disability – was objectified in France, based on survey data dating from 2008 (Lengagne et al., 2015). This data is, however, more prone to cognitive, memory, and social desirability biases than the objective healthcare consumption data used in our study. Furthermore, our research supports the findings of studies that have focused on certain specific aspects of the use of somatic care by individuals treated for a severe mental disorder, such as the use of dental care (Denis et al., 2020), by providing quantitative data on a vast range of complementary indicators on a national scale and a comparison with the general population.

At this stage, our results do not make it possible to reach a conclusion about the main causes of the disparities found, whether they are factors associated with individual behaviours (social isolation, difficulties in perceiving pain and adhering to treatment, etc.) or with the health system (poor integration of mental and physical healthcare, somatic symptoms wrongly attributed to a mental disorder, stigmatisation of patients by healthcare professionals, complexity of the healthcare system, etc.). Nor do our findings make it possible to reach a conclusion about the factors that could limit these disparities (potential protective role of informal family carers, health and social support services, involvement of community mental health centers in the global treatment of their patients, etc.). They will need to be complemented by more qualitative studies aimed at better documenting the causal mechanisms involved – which is part of the ancillary projects currently being developed based on a mixed method approach. Our results could also be refined through the use of complementary data, such as data from the Permanent Demographic Sample (*Échantillon Démographique Permanent*, EDP), which includes individual information about revenues and tax statuses, cross-referenced with data from the National Health Data System (SNDS) [EDP-Santé]. This cross-referencing facilitates a more precise adjustment for socio-economic inequalities experienced by individuals living with a severe mental disorder and which are likely to affect their use of healthcare. An enrichment of the administrative data that would generate data about the reasons for consulting GPs would also be particularly useful to complement our studies.

Nevertheless, our results already underline the difficulties of taking into account the specific needs of individuals treated for a severe mental disorder. They highlight the necessity to develop specific measures to increase their use of somatic care, assist health professionals to ensure they take into account all healthcare needs of individuals living with a mental disorder, and encourage the treatment of their physical health (for example, *via* the development of therapeutic education programmes that can be run by GPs who appear to be often visited by this population of interest). This initial study may at least increase awareness of the need to improve access to healthcare for people who experience multiple vulnerabilities, in conjunction with the recent but full recognition of this issue by public decision-makers, in particular with regard to people living with disabilities or experiencing precarity (Denormandie and Cornu-Pauchet, 2018; Denormandie and Talbot, 2019; the National Health Insurance Fund (*Caisse Nationale de l'Assurance Maladie*, CNAM), 2020; and *Défenseur des Droits*, 2020). These measures will, of course, need to be developed in collaboration with mental health services users and their relatives, who underlined that appropriate access to the healthcare services they need remains one of the fundamental issues that must be resolved around the world (Wahlbeck, 2015). ♦

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