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Variable Care Modalities for Schizophrenic Disorders in Health Care Facilities in 2011

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Schizophrenia, a severe and debilitating mental disorder, affects around 1 to 2% of the adult population in France; approximately 400,000 people (*Haute autorité de santé*, HAS, 2007). By nature, not only is it one of the severest psychiatric disorders in terms of suffering for those affected and their families, but also one of the most costly for society: early-onset, often developing into a chronic disorder leading to frequent hospitalisations, the intensity of treatments, and a high level of disability leading to difficulties maintaining a job.

Based on data supplied by the Medical Information System for Psychiatry (Rim-P), the aim of this study is to extend knowledge on the treatment of this disorder in French health care facilities. After presenting the characteristics of patients monitored and treated in these facilities, differences in the modalities of care provided are observed according to type of health care facility. These are as varied as the different phases of this complex disorder requiring a wide range of care modalities: from full-time hospitalisation to a range of part-time and out-patient care.

Schizophrenia is a severe mental disorder whose onset generally occurs during adolescence or early adulthood. It is characterised by a range of very variable symptoms: the most impressive being delusions and hallucinations but the most disabling being social withdrawal and cognitive disabilities. With an average lifetime prevalence rate at 1% of the population (McGrath, Susser, 2009), schizophrenia is the most widespread of adult psychoses*. It affects between 1 and 2% of the adult population in France, which amounts to approximately 400,000 people (HAS, 2007). The annual incidence ratio is approximately 1.5 for 10,000 cases (Hautecouverture *et al.*, 2006), the most recent studies showing considerable variations according to area (McGrath *et al.*, 2008).

The World Health Organisation (WHO) classes schizophrenia in the group of the ten most disabling diseases. As a result, it is a major cause of social withdrawal and precariousness, and patients' life expectancy is on average ten years less than in the general population due to the high suicide rate and the higher incidence of somatic symptom respiratory, cardiovascular and infectious diseases (Guelfi, Rouillon, 2012). It is currently admitted that the prognosis more especially depends on the quality of psychosocial support, access to

* See definition in box page 2.

health care and compliance with the proposed treatment regimens. Early diagnosis and the administration of new antipsychotic drugs together with a decrease in long-term hospitalisations and an enhanced psychiatric support have considerably modified the progression of this disease over the long-term (Llorca, 2004). Today, adapted care results in a durable remission in a third of cases (Andreasen *et al.*, 2005).

Schizophrenia is also one of the most severe disorders in terms of the suffering it causes for both the patients and their families but also in terms of its cost for society. Due to its specific characteristics (early-onset, chronic development, high rate of hospitalisation and care aiming at rehabilitation, high level of disability, difficulties maintaining a job), schizophrenia is the most costly of mental disorders (Zeidler *et al.*, 2012). Its cost is estimated at 1.1% of national health expenditures (Charrier *et al.*, 2013).

This study aims at providing better knowledge of this population and the care provided in French health care facilities. The first section presents a description of patients monitored for schizophrenic disorders in health care facilities and the type of care modalities proposed. The second section deals more specifically with the differences in the care modalities provided between different types of health care facility. Schizophrenia is a complex disorder, the different phases of the illness and its various symptomatic forms require a wide range of care modalities ranging from full-time hospitalisation to various forms of part-time and outpatient care and monitoring. The exploitation of the Medical Information System for Psychiatry (Rim-P, *Recueil d'informations médicalisées en psychiatrie*) database, set up in 2007, provides an insight into this population and hospital-based care provision at national level.

Context

This study falls within the framework of research projects developed by IRDES on the disparities in psychiatric care provision. This first publication on schizophrenic disorders is part of a research project financed by the DREES aimed at providing an overview of care provision for depressive and schizophrenic disorders in French health establishments and its regional disparities. It follows two previous publications, one on the provision of care for depressive disorder (Coldefy, Nestrigue, 2013b) and the other on the regional disparities in the supply and organisation of psychiatric care (Coldefy, Le Neindre, 2014).

Definitions

Schizophrenia is a severe and debilitating psychiatric disorder in the diagnostic category of chronic delusional psychoses. With an early onset, generally during adolescence, schizophrenia is characterised by a break of contact with one's environment, reality and autistic thought patterns. Its main manifestations are delusions, visual or auditive hallucinations, disturbed thought processes and long-term affectivity. With time, this disorder becomes chronic and results in a major psychological disability.

Psychoses are mental disorders. They result in periodic inability to determine what is real from what is not. They give rise to delusions and hallucinations.

Depressive disorders are long-term mood disorders that, according to their intensity, can have serious negative consequences on the daily lives of sufferers. It results in melancholia, loss of interest, a drop in energy, self-esteem and self-confidence.

Neuroses are mental disorders that do not alter sense of reality. Behaviours can be disturbed whilst remaining socially acceptable and without being totally disorganised. The main manifestations are excessive anxiety, hysterical symptoms, phobias, obsessive compulsive disorder symptoms and depression.

Modalities of psychiatric care

Three main types of care provided in adult psychiatry can be distinguished, used exclusively or not: outpatient care, full-time care and part-time care.

Out-patient care defines all types of care provision that do not include hospitalisation. In the majority, patients are seen within the framework of consultations in a Medical-Psychological Centre (CMP, *Centre medico-psychologique*). CMP are receptions and care coordination units. They organise all care teams' extra-hospital activities by coordinating them with hospital units in terms of prevention, diagnosis and care provision, interventions in patients' homes or home substitute institutions (*e.g.* Medical-social structures, prisons, etc.).

Liaison psychiatry, that is to say care or interventions in hospital somatic units (medicine, surgery and obstetrics (MCO, *unités d'hospitalisation somatique de médecine, chirurgie, obstétrique*), constitutes the second major care modality in outpatient psychiatric care.

Full-time care is almost exclusively composed of full-time time hospital care. It is provided in care centres where patients are under surveillance 24/24h. It is reserved for acute situations and patients most seriously affected and requiring intensive care. The other modalities of full-time care take place either in the hospital or outside, essentially in the following types of structure: postcure centres, hospital at home, therapeutic apartment, therapeutic family.

Part-time care is provided by hospital structures, more or less medicalised, that do not provide full-time lodging with the exception of night hospitals. Among these, day hospitals provide polyvalent and intensive care during the day; night hospitals provide therapeutic care at the end of the day and medical surveillance during the night; part-time therapeutic reception centres (CATTP, *Centre d'accueil thérapeutique à temps partiel*) and therapeutic workshops provide therapeutic and occupational activities in the aim of reconstructing patient autonomy and social rehabilitation, or a professional or social activity. From 2003, CATTP activities are recorded as out-patient care provision in the Rim-P database.

An essentially male population that more often resorts to hospitalisation

Fifth motive for using psychiatric care, schizophrenia is, however, the primary disorder in terms of activity in health care facilities

In 2011, 9% of patients monitored in hospitals with inpatient psychiatric care accreditation were treated for schizophrenic disorders (codes CIM10 F20, outside F20.8); in other words more over 130,000[1] patients aged 16 or over. In numbers, it comes behind depressive disorders*, neurotic disorders*, factors influencing state of health and addiction-related disorders (Graph 1) that concerned a greater number of patients in 2011.

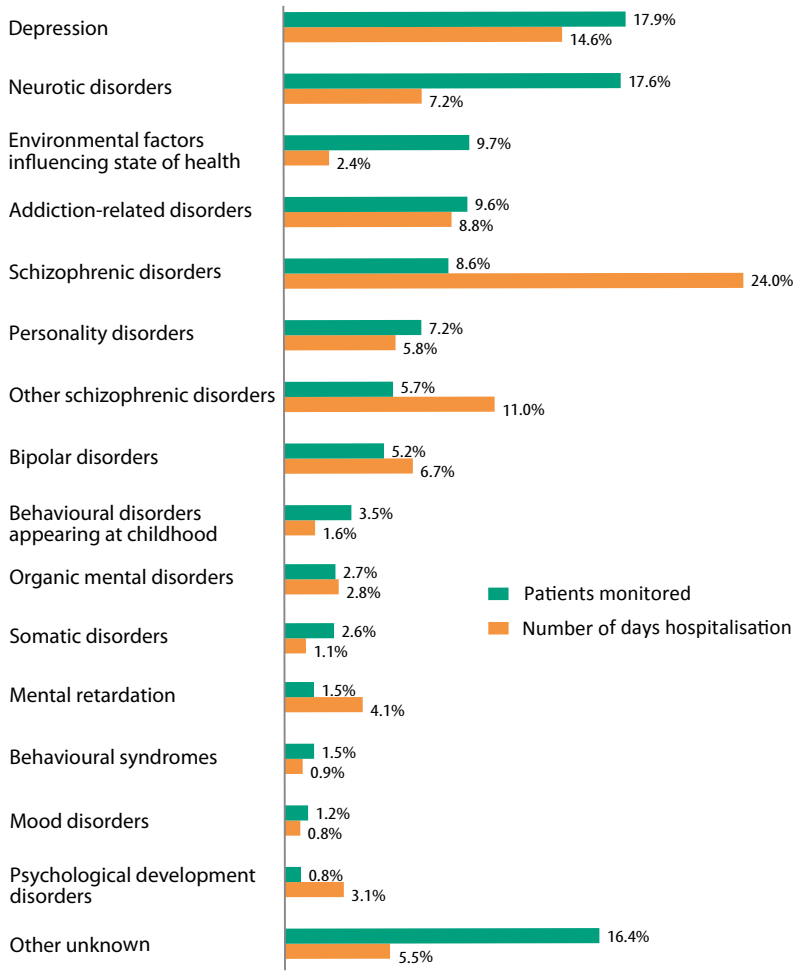
Schizophrenia is thus the fifth most frequent reason for using hospital-based psychiatric care facilities, but the first in terms of hospital activity with a quarter of

[1] Depending on whether we use the anonymous national identifier generated for persons having been hospitalised full-time or part-time, or the permanent patient identifier specific to each hospital, the figure varies from 132,500 to 136,700 patients that may be duplicated because they used several different health care facilitites.

the total number of hospital days allocated to these patients. Patient monitoring is for the most part provided by out-patient services, notably in the form of consultations at the medical-psychological centre (CMP, *Centre médico-psychologique*). The severity of certain episodes of this disorder makes it incompatible with home-based care; a high risk of suicide or hetero-aggressive behaviour, the need to place patients under observation or the complex treatment regimens required and frequent relapses often require full-time hospitalisation during the course of the year for half the patients. According to the High Authority for Health (*Haute autorité de santé*, HAS), the hospitalisation of patients suffering from schizophrenia is based on several aims: to protect the patient and others, to improve the patient's state of health, to re-evaluate the required treatment if necessary, and to initiate or reinforce the therapeutic relationship.

G1

Primary diagnoses treated in psychiatric care facilities in 2011 (by patients and number of days)



Source: Rim-P 2011.

Scope: Metropolitan France.

Data available for download.

The onset of the disorder is earlier among men than women, an early onset also observed in the rate of use of hospital psychiatry services

Schizophrenia is known to affect men more than women, both in terms of incidence (gender ratio of 1.4 males for one female), prevalence (gender ratio of 3 to 2) and level of severity. The first symptoms of schizophrenia frequently appear between the ages of 23 and 26 and the age of onset also differs between men and women with an earlier onset of between three to five years among men (Abel *et al.*, 2010, Rossler, 2011).

These factors, observed in the general population are confirmed by the Rim-P data on patients monitored in hospitals. The earlier and more serious symptoms observed among men results in a greater majority of men in hospital care; 66% of patients monitored for this disorder in 2011. Furthermore, if the average age at

Sources

The Medical Information Database for Psychiatry (Rim-P)

The Medical Information Database for Psychiatry (Rim-P) was set up in 2006 in all health establishments authorised to provide psychiatric care facilities. It completes the Medical Information System Programmes (PMSI, *Programmes de médicalisation des systèmes d'information*) developed in the fields of medicine, surgery and obstetrics, follow-up and rehabilitation care and home-based hospitalisation to describe the hospital activity of health establishments from a medical-economic point of view. The expansion of this scheme over the last few years, and in the absence of associated activity tariffs, makes it possible to provide a first overview of the provision of care for schizophrenic disorders in France, and its variability between establishments and regions. An analysis of data quality and exploitability was carried out in 2012 in the aim of studying the disparities in psychiatric care provision (Coldefy *et al.*, 2012) and concludes the possible (and necessary) use of the data on the condition that certain precautions are taken.

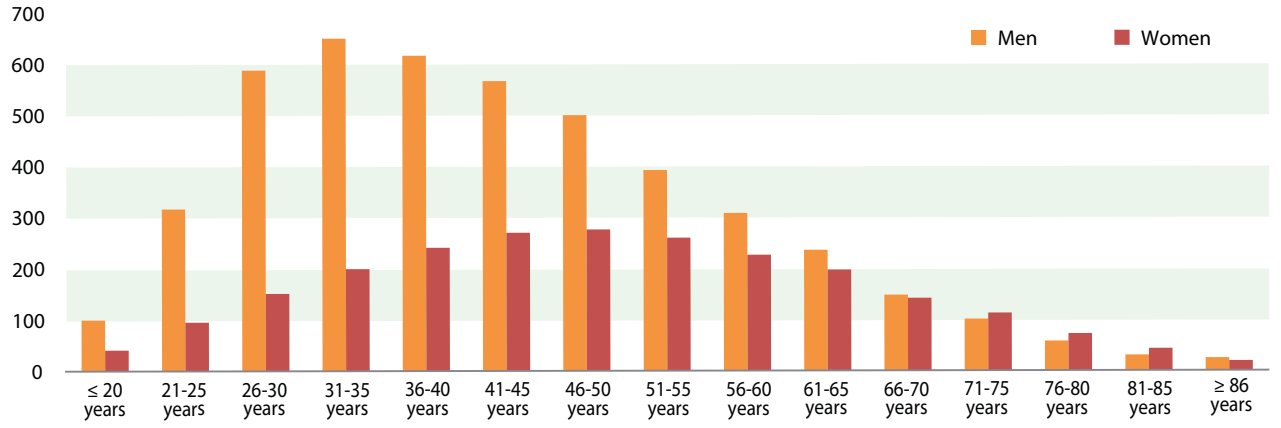
In 2011, 95% of health establishments (552) transferred their data to the Technical Information Agency on Hospitalisation (ATIH, *Agence technique de l'information sur l'hospitalisation*). In terms of hospital days, visits or interventions, database comprehensiveness is at 98% for full-time hospitalisation days and part-time visits, and at 80% for out-patients activities at the Medical-psychological Centre (CMP, *Centre médico-psychologique*), when Rim-P data is compared with the Annual Hospital Statistics (SAE, *Statistique annuelle des établissements de santé*) data.

The data used in this study have not been statistically adjusted. The numbers are thus slightly under-estimated. All patients aged 16 and over or patients treated in 2011 in a metropolitan French health establishment authorised to provide psychiatric care were included in the study sample.

Patients monitored for schizophrenic disorder were identified by the existence of at least one primary diagnosis reported by the care teams (codes Cim-10: F20, excluding F208).

G2

Rate of use for schizophrenic disorders in health establishments by age and gender in 2011



Sources: Rim-P 2011, Insee RP 2011.

Scope: Metropolitan France.

Data available for download.

which hospital facilities are used for schizophrenic disorders is 44 years old (429 per 100,000 inhabitants) with a peak among the 36-40 age group, the analysis of use rate per age bracket according to gender reveals considerable disparities (Graph 2). Consistent with data available in the literature concerning the earlier onset of the disease among men, the rate of use of hospital facilities reaches its maximum among the 31-35 age group (for an average age of 42 years old), whereas for women it reaches its maximum among the 46-50 age bracket (for an average age of 48).

More frequent use of hospitalisation compared to other mental disorders despite the predominance of outpatient care

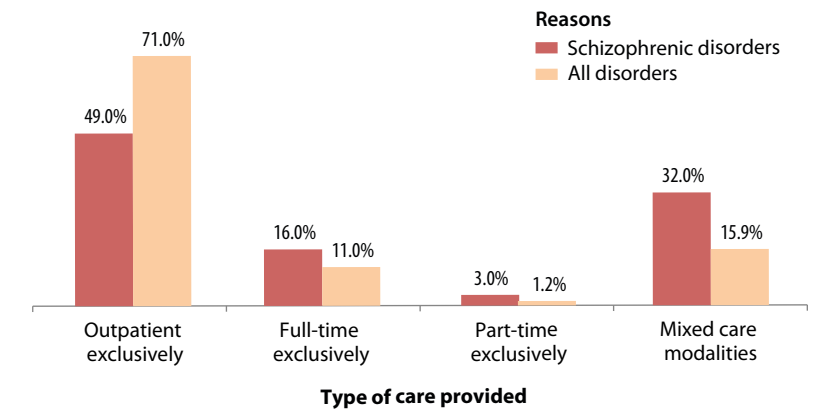
Schizophrenia is a complex disorder requiring a wide range of care modalities in response to the different phases of the illness. In 2011, almost half the patients suffering from schizophrenia were monitored exclusively by means of outpatient consultations. This is lower if compared with the total number of patients under psychiatric care monitored exclusively as outpatients in hospital psychiatric facilities in 2011; almost 71% (Graph 3). However, with 84% of patients suffering from schizophrenic disorders having benefitted from out-patient care, whether in exclusivity or not, it remains the predominant care modality for this disorder thus confirming the deinstitutionalisation of psychiatric care (Verdoux, 2007; Roelandt, 2010; Kunitoh, 2013; Becker, Kilian, 2006).

The relative under-use of exclusive outpatient care is to the advantage of full-time hospitalisation and combined care combining full-time and part-time outpatient care. A third of patients monitored in hospital for schizophrenic disorders benefitted from both part-time and full-time out-patient care, which is twice more than the total patient file, and 16% received full-time care exclusively (against 11% of the total patient file). These results show that if outpatient care remains the predominant form of care for patients suffering from schizophrenic disorders, hospitalisation is more often required than for the other forms of mental disorder.

Hospital admissions are for the most part voluntary. Only 13% of patients needed to be hospitalised without their consent during the course of the year as this mental disorder can alter a patient's perception of reality and as a result, awareness of the need for care which can lead to non-compliance with prescribed treatments (Graph 4). 70% of these involuntary hospitalisations were made on the request of a third party, and 29% on the request of a representative of the State[2].

G3

Types of care provided in health establishments for schizophrenic disorders in 2011



Source: Rim-P 2011.

Scope: Metropolitan France.

Data available for download.

Due to the often chronic and long-term characteristics of psychiatric care, the Annual Average Number of Days Hospitalisation (DMAH, *Durée moyenne annuelle d'hospitalisation*) is used in psychiatry rather than the Average Length of Stay (DMS, *Durée moyenne de séjour*). The recurrence of episodes of hospitalisation, whether part of a therapeutic sequential care strategy or not, is frequent for psychiatric disorders, and even more so in the care of schizophrenic disorders.

The acute and progressive nature of this disorder and the frequent relapses result in a high average annual number of days hospitalisation at 83 days per year (against 49 for the total active patient file), and more frequent readmissions during the course of the year. The DMAH is thus almost double the DMS (45 days on average). Furthermore, 10% of patients having being diagnosed as suffering from schizophrenia are subject to over 292 days long-term hospitalisation during the year (Coldefy, Nestrigue, 2014).

Almost two thirds of patients monitored for schizophrenic disorders receive outpatient care in the form of medical consultations and almost a third social situation monitoring

Outpatient care provided by hospital psychiatric facilities can take different forms: medical consultations, therapeutic interviews with a psychologist or nurse, social support, group therapy (notably in a part-time Therapeutic Activity Centres (CATTP, *Centre d'activité thérapeutique à temps partiel*), care provided in the home or institutions, interventions somatic wards etc.

Patients suffering from schizophrenic disorders often use these different modalities of care. Medical consultations remain the most common form of care provision since almost two thirds of patients are users (proportionally over twice as many than in active patient file as a whole), but with a lower average number of annual consultations than that observed for the total patient file in psychiatric care (6 consultations on average against 8 among the total patient file).

Therapeutic interviews, conducted by nurses and psychologists, concerned 36% of patients (against 41% for the total active patient file) [Graph 4]. Contrary to medical consultations, the frequency of these consultations is very high and twice higher than within the total active patient file in psychiatric care, with an annual average of 14 interviews per year with a psychologist or nurse.

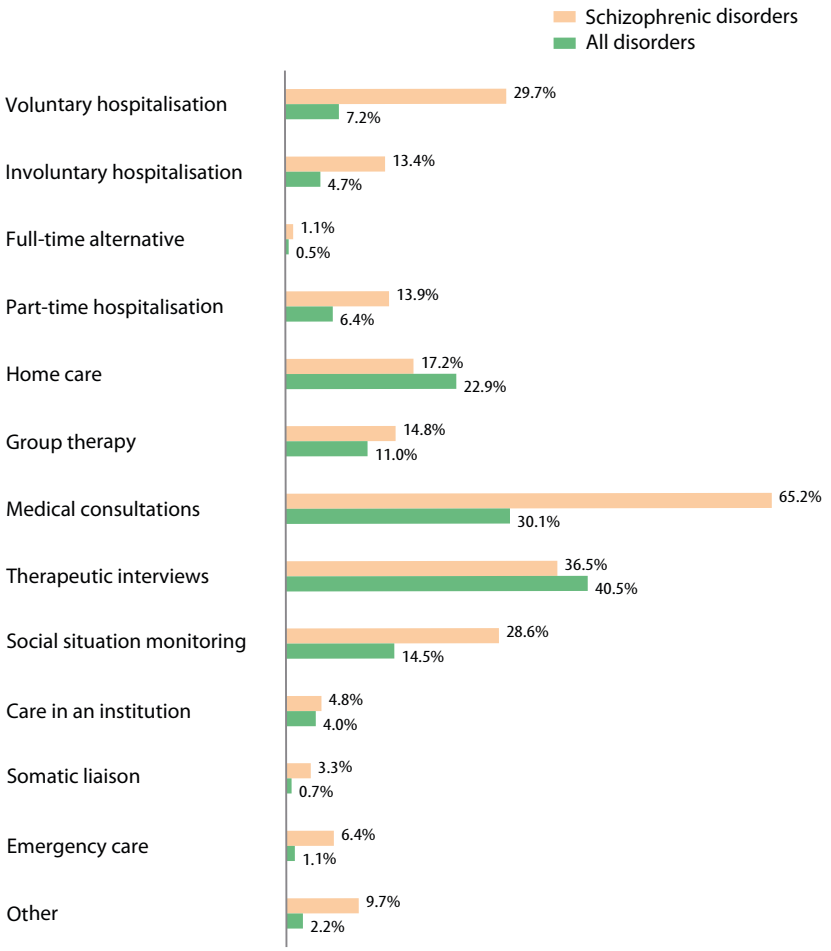
Social support is also more frequently observed among patients treated for schizophrenic disorders. Almost a third of patients had access to social support in 2011 (against only 15% for the total patient file) [Graph 4], with an average of 7 interventions or interviews per year (against 5 for the total patient file). The potentially desocialising effects of this disorder partially explain this. Several studies have revealed the extent of its negative social and professional repercussions on the patients concerned, with a higher number of isolated households and more precarious living conditions (unemployment, low incomes) [Thornicroft *et al.*, 2004].

Home-based care and group therapy are care modalities also used by patients suffering from schizophrenic disorders; respectively 17% (against 23% for the total patient file) and 15% (against 11% for the total patient file) (Graph 4).

All these actions respond to the complexity of the disorder and its progression that

G4

Modalities of care among patients treated for schizophrenic disorders in health establishments in 2011



Source: Rim-P 2011.
Scope: Metropolitan France.

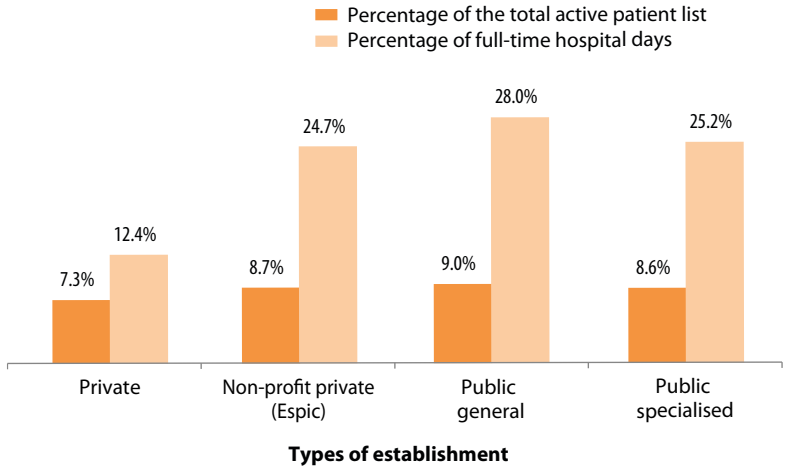
Data available for download.

[2] For further information on populations treated without their consent in psychiatric care facilitites, *cf.* Coldefy, Nestrigue, 2013a; Coldefy, Tartour, 2015.

demands frequent, multiple, and varied modalities of care in order to meet the needs of patients according to their trajectories. This partially explains the aims behind psychiatric sectorisation policy in France, and more globally at international level, confirms the aims of community care to reduce hospitalisation and maintain patients in their home environments (Petitjean, 2010a, 2010, Verdoux, 2007; Roelandt, 2010; Becker, Kilian, 2006; Manderscheid *et al.*, 2009; WHO, 1998).

G5

Percentage of patients suffering from schizophrenic disorders treated in public and private establishments and full-time hospitalisation days in 2011



Source: Rim-P 2011.
Scope: Metropolitan France.
Data available for download.

Variable care modalities according to health care facility

The proportion of patients suffering from schizophrenic disorders is similar in public, private, multidisciplinary or monodisciplinary facilities, but the modalities of care provided vary from one facility to another

Patients suffering from schizophrenic disorders are in the vast majority (83%) treated in public hospitals (specialised and multi-disciplinary), with non-profit private facilities (Espic, *Etablissements privés d'intérêt collectif*) and for-profit private facilities admitting respectively 12 and 5% of patients diagnosed. These proportions are similar to those observed within the total active patient file in psychiatric care. Whatever the establishment's status or category, the proportion of adults admitted for schizophrenic disorders is relatively homogeneous. It is slightly lower in for-profit private hospitals where it reaches 7% against 9% in public hospitals or private non-profit establishments whether they are specialised or not in the treatment of mental disorders (Graph 5). This relative homogeneity nevertheless masks considerable differences, notably related to the different activity structures according to mission and status as well as the types of population admitted. Public and private non-profit establishments provide integrated care modalities combining outpatient care (in CMP, at home, in somatic wards...), part-time care (day or night hospitals, therapeutic workshops) and full-time care (full-time hospitalisation, therapeutic flats, crisis centres, post-cure centres, etc.) within the framework of the psychiatric sectorisation policy. Integrated care is managed by the same care team thus ensuring the continuity of care. The total active patient file monitored in these facilities is more heterogeneous mixing patients exclusively treated in outpatient care (71%) with those receiving hospital care exclusively or a combination of inpatient and outpatient care. The for-profit private establishments offer more immediate hospital care only, and follow-up out-patient care is provided by private practitioners or public sector providers that are not integrated within the establishment. As a result, the total active patient file treated in private health care facilities is exclusively made up of patients receiving full-time or part-time hospital care. The comparison of population profiles between the different types of establishment is thus limited and complex.

Whereas the proportion of admissions for schizophrenic disorders is relatively similar between health care facilities, the volume of activity allocated to the treatment of schizophrenia varies considerably. In public and non-profit private establishments, 28 and 25% of hospital days are allocated to the treatment of schizophrenia. In the private for-profit sector, it only represents 12% of hospital days. This is partially explained by the different missions associated with these establishments and also the characteristics of the populations monitored for the same disorder (environment and social characteristics, level of severity, number of years since the onset of the illness). Individual clinical and social data available in the Rim-P database is insufficient to pursue this part of the analysis here.

Variable lengths of hospital stay between types of healthcare facility

In 2011, patients suffering from schizophrenic disorders were hospitalised for a total of 83 days during the year, on average. This DMAH varies considerably according to type of health care facility and reception. It is lower in multidisciplinary public facilities (general hospitals and university hospitals) and in for-profit private hospitals with 75 and 78 days respectively. It reaches 85 days in specialised public hospitals and 97 days in non-profit private facilities.

These average values nevertheless mask variations in the length of hospital stay according to type of health care facility. Those fulfilling a public service mission (emergency admissions, precarious populations, etc.) present a greater heterogeneity in the length of hospital stays as part of them correspond to emergencies and crisis management whereas others correspond to care provision throughout the year. In the private sector, activities are programmed in advance, the shorter lengths of stay (less than 10 days) are less frequent (10%) than in the public sector (25%) due to the planned and non-emergency nature

of care provision. Inversely, very long-term stays of over 300 days are more frequent in non-profit private facilities (12%) and specialised public hospitals (11%) than private facilities (7%).

Readmission rates in psychiatric care services are lower in those providing a high level of outpatient care

These differences in DMAH can be correlated to the rate of readmissions observed by type of health care facility. The rate is much lower in specialised public hospitals with an average DMAH (Graph 6). As already indicated with regard to the care of depressive disorders (Coldefy, Nestrigue, 2013b), health facility status and whether or not it is specialised in psychiatric care has a greater impact on hospitalisation practices (in terms of duration and readmissions) than the severity or type of disorder. Specialised public facilities more frequently record shorter or average DMAH and a lower readmission rate. Psychiatric care units integrated in general hospitals more frequently combine a low DMAH with a high rate of readmission, and non-profit private facilities, long hospital stays and high readmission rates.

These results call into question the efficiency and quality of care provided by the different types of establishment. The disparities in terms of resources and the uneven development of alternatives to hospitalisation, such as outpatient care to ensure the continuity of care and thus limit hospitalisations, will have an impact on the care modalities proposed to patients. The observation of the different modalities of care provision according to type of health care facility shows that the use of outpatient care (medical consultations, therapeutic interviews, social monitoring and support, group therapy and home-based care) is systematically higher among patients using specialised public facilities than in the others. This observation not only confirms the fact that outpatient follow-up care reduces the duration and frequency of hospital stays but also the interest of psychiatric sectorisation policies. The private for-profit facilities do not supply integrated care which makes comparisons difficult as care provided by private practitioners is not observable on the basis of data exploited in this study.

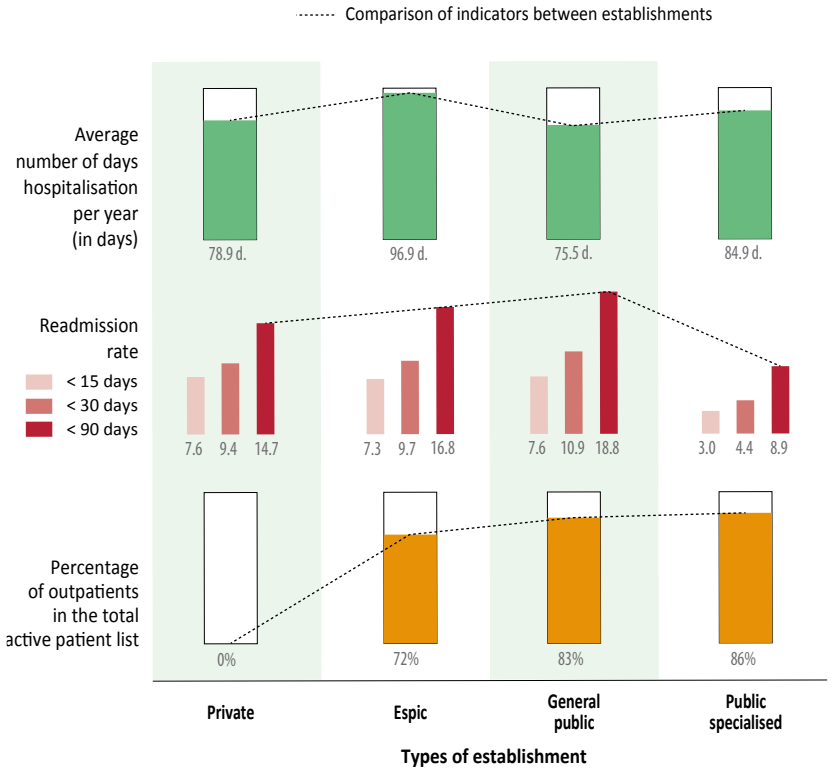
* * *

A complex disorder, schizophrenia more than any other psychiatric disorder, requires frequent follow-up care that is often intense and long-term. Treatments can vary in terms of intensity and diversity following the phases of the disorder, the length of time since its onset, its severity and also according to the patient's social and environmental characteristics. Even if for half the patients treated, follow-up care is essentially provided by outpatient services, the use of hospitalisation is considerably higher for this disorder than for other psychiatric disorders. Furthermore, this study reveals that, as for depressive disorders, there are notable differences in care provision according to type of health care facility. These differences call into question the equity of care for the patients concerned.

If this first study provides new knowledge regarding the reality of care for schizophrenic disorders within the different types of health care facility, it raises new questions, notably in terms of longer-term care provision and care pathways combining private practice, hospital and medical-social sectors. The data used here make it impossible to analyse care pathways in their totality, it is just a first phase. A longitudinal approach to individual care pathways will first require matching this data with office-based care consumption data, and before that, to define the roles played by the medical-social and social sectors in the patient's care pathway. ♦

The authors make a point of thanking Nadia Younès for her attentive, constructive and stimulative second reading.

G6 **Length of hospital stay, readmission rate and percentage of outpatients treated for schizophrenic disorders according to type of establishment in 2011**



Reading: We use the annual length of stay and the readmission rate as indicators to characterise the quality of health provision of care. In the field of psychiatry, the proportion of patients treated in ambulatory care must be taken into account to explain these indicators and their relations.

Source: Rim-P 2011.

Scope: Metropolitan France.

Data available for download.

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