France, like the majority of Western countries, has committed itself to applying a psychiatric deinstitutionalisation policy since the 1970s aimed at reducing long-stay hospitalisation and developing alternative ambulatory, part-time or full-time community care services closer to patients’ home environment. The average length of hospital stay has been divided by more than two since the 1980s to reach 53 days in 2012 (Source: Annual Hospital Statistics – SAE, Statistique annuelle des établissements de santé, DREES). Despite this considerable reduction associated with an equivalent reduction in hospital bed capacity, a significant number of patients are retained in psychiatric hospitals for periods of a year or over, not only because of the severity of their mental disorder, but also because of a lack of alternative care structures. Long-stay psychiatric hospitalisations, defined as periods of hospitalisation equal to or superior to 292 days within a same year, whether continuous or not and associated with a period of hospitalisation the preceding year, concerned almost 12,700 patients in 2011. Although it only represents 0.8% of hospitalisations in the active patient file, it nevertheless represents a quarter of the total number of hospital days and a quarter of hospital beds. When there are no therapeutic indications to warrant hospitalisation and in the context of reduced hospital capacity and average hospital stays, and the development of ambulatory psychiatric care, prolonged hospitalisation raises a number of questions.

Using the Medical Information Database for Psychiatry (Rim-P, Recueil d’informations médicalisées en psychiatrie) and numerous medical-administrative databases, this study aims to answer several questions: what are the characteristics of long-stay psychiatric inpatients? How to explain territorial variations in the use of long-stay hospitalisation? What role is played by the organisation of care supply, medical-social care supply and the socio-economic context in these disparities?

1 According to the Medical Information database for Psychiatry (Rim-P), 12,700 were hospitalised full-time for over 292 days (as a continuous period or not, and whatever the type of establishment) in 2011 and present in 2010. Are excluded: patients on transitional discharge during the year, patients treated in difficult patient units, prisoners and individuals judged criminally not responsible as they constitute a separate area of research; that is to say approximately 600 individuals.
Although it represents a low percentage of the active patient file, these hospitalisations constitute a quarter of the total days hospitalisation and thus a quarter of hospital beds. It represents a major drain on resources, and has an impact on hospital activity and the organisation of care. Furthermore, a considerable number of these long-stay hospitalisations are considered inappropriate by health professionals as they are not always imposed by therapeutic indications but rather symptomatic of the partitioning between the health and medical-social sectors and the absence or lack of adapted social or medical-social responses (Berichel et al., 2006, Duhamel, 2007, Mission Nationale d’Appui en Santé Mentale, 2011). Maintaining patients in hospital for long periods is all the more inappropriate in the context of reduced hospital bed capacity and the average length of hospital stays and the considerable development of ambulatory psychiatric care services (op. cit.). In 2011, 77% of psychiatric patients were monitored in hospital outpatient services (DREES, 2013). These long-stay hospitalisations which have a significant economic impact, represent a major challenge in the organisation of care supply and its coordination with the social and medical-social sector, but also in terms of quality of life and quality care for these patients.

This study describes the population in long-term psychiatric care hospitalised in metropolitan French hospitals and aims to explain the variations in the use of long-term psychiatric hospitalisation between health areas. These health planning areas are used by the Regional Health Agencies (Agence régionale de santé, ARS) in the elaboration of Regional Strategic Health Plans (Schémas régionaux d’organisation des soins, SROS). Using the Medical Information Database for Psychiatry (Rim-P) and numerous medical-administrative databases, this study attempts to answer the following questions: what are the characteristics of patients hospitalised for long periods in psychiatry? How to explain the territorial variations in the use of this type of hospitalisation? What role is played by the organisation of care supply, medical-social care supply and the socioeconomic context in these disparities?

**Description of the population concerned**

### An over-representation of men and patients aged between 30 and 60 years old

The vast majority (64%) of patients hospitalised in long-term psychiatric facilities are men. This masculine predominance is observed in several regional studies and in a more or less marked manner according to health area (68% in Aquitaine, 73% in Gironde, 60% in Ile-de-France) [Brun-Rousseau, 2007]. The average age of these patients is 47 years old and does not differ from the average age observed for all patients hospitalised in psychiatric services.

An over-representation of patients aged from 30 to 60 years old in relation to the general population is observed (Graph 1). On the contrary, there is an under-representation of long-stay inpatients among the over 60 year olds (15% versus 27% in the general population). Here again, this under-representation has been observed in several regional studies (Brun-Rousseau,
Over half the long-stay psychiatric inpatients suffer from schizophrenic disorders

Taking into account patients’ “dominant” diagnosis (based on the hierarchy of diagnoses used and validated within the framework of the Observatory of long-stay hospitalisations in Aquitaine, providing a unique diagnosis for each patient), over half the long-stay psychiatric inpatients suffer from schizophrenic disorders (Graph 2). If this is the most common diagnosis among long-stay psychiatric inpatients, it is largely over-represented (52% versus 22%) in relation to the prevalence of this diagnosis among all full-time psychiatric inpatients. Among the latter, mood disorders and neurotic disorders are the primary diagnoses (44% of patients hospitalised in psychiatric care units in 2011).

The other most frequent diagnoses in long-stay psychiatric inpatients are mental retardation (11%) and psychological developmental disorders (essentially autism and Pervasive Developmental Disorders) [9%].

The frequency of diagnoses observed in long-stay inpatients varies according to region and health area

In Alsace, Lorraine and Picardy, for example, patients suffering from schizophrenia represent less than 40% of long-stay psychiatric inpatients whereas in Auvergne, Corsica and Midi-Pyrénées, they represent over 60% of this population. In the first three regions, over 28% of long-stay inpatients were diagnosed with mental retardation or pervasive developmental disorder. In the 1999 study conducted in Aquitaine (Benetier, Brun-Rousseau, 2003), only 40% of long-stay psychiatric inpatients suffered from schizophrenic disorders, and infantile psychoses (pervasive developmental disorders) represented 22% of diagnoses in the region (reaching 38% in Gironde). According to the same authors, “male psychosis is in effect a source of prolonged hospitalisation, in all likelihood because of the behavioural disorders often associated with it and that are always difficult to accept in establishments other than psychiatric units, whether health or medical-social establishments (…)”.

At health area level (in total 106 that in numerous regions correspond to departmental boundaries [Coldefy et Lucas, 2012], the percentage of long-stay inpatients hospitalised for schizophrenic disorders vary by less than 40% in a fifth of the health areas, to over 65% in the last quintile. Similarly, the percentage of long-stay inpatients suffering from mental retardation or pervasive developmental disorders is less than 10% in a quarter of the health areas but over 25% in health areas such as Dordogne, Meurthe et Moselle, Aisne and Yonne, indicating different types of long-stay hospital populations associated with different care and support needs.

Long-stay psychiatric inpatients: a heterogeneous population with varying autonomy

Patient dependence can be identified in the Rim-P from the Activities of Daily Living scale (ADL) [Sources and Methods insert] that measures the ability to carry out one or several activities of daily living: dressing or personal hygiene, functional mobility and locomotion, meals, continence3. Only a quarter of long-stay

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1 When a patient presents different principal diagnoses during the year, only one diagnosis “dominating” is selected by applying the following hierarchy: Schizophrenic disorders (codes CIM10 F2)/Turbid of the psychological development (F8)/Turbid mental organs (F0)/Turbid of the mood and neurotic disorders (F3 and F4)/Turbid of the food (F5)/Troubles of the personality and the behavioral problem (F9 and F5 except F50)/Backwardness (F7)/associated environmental factor (codes in Z).

2 The level of dependence is also evaluated in this grid through the variables of behavior and communication, but according to the experts met, the quotation of these items is very variable according to the medical teams and is not used here.

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Distribution of “dominant” diagnoses in long-stay psychiatric inpatients in 2011

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenic disorders</td>
<td>51.7%</td>
</tr>
<tr>
<td>Mental retardation</td>
<td>11.2%</td>
</tr>
<tr>
<td>Mood disorders and neurotic disorders</td>
<td>9.5%</td>
</tr>
<tr>
<td>Psychological developmental disorders</td>
<td>9.5%</td>
</tr>
<tr>
<td>Personality and behavioural disorders</td>
<td>4.6%</td>
</tr>
<tr>
<td>Addiction-related disorders</td>
<td>4.5%</td>
</tr>
<tr>
<td>Organic mental disorders</td>
<td>4.5%</td>
</tr>
<tr>
<td>Somatic pathology</td>
<td>2.4%</td>
</tr>
<tr>
<td>Behavioural disorders and psychosomatic behaviours</td>
<td>1.4%</td>
</tr>
<tr>
<td>Associated environmental factors</td>
<td>0.6%</td>
</tr>
<tr>
<td>Eating disorders</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

Source: Medical Information Database for Psychiatry (Rim-P) 2011; General population census, INSEE 2010.
Scope: Metropolitan France.
patients are completely autonomous at physical level, a result similar to that observed in Aquitaine in 1999 (Brun-Rousseau, 2007). However, 12% of patients are heavily dependent requiring major physical assistance from another person to carry out basic acts of daily living and 15% require partial physical assistance to carry out activities of daily living.

Long-stay psychiatric inpatients are not a homogeneous population in terms of diagnoses, level of dependence and thus health care needs and social or medical-social support. Based on a multiple correspondence analysis combined with ascending hierarchical classification (sources and methods insert), we were able to distinguish three main groups of long-stay psychiatric patients in 2011:

- The first group represents over half the long-stay psychiatric patients in 2011. It is made up of patients that are in the majority male of average age (77% are aged between 30 and 60 years old), suffering from schizophrenic disorders, that are slightly dependent and that, at some point in their treatment, may have been subject to a spell of involuntary hospitalisation.

- The second group consists of 23% of long-stay patients in 2011. Some are “new long-stay patients” in the sense that the length of their hospital stay is often less than a year. Patients in this group are older, in the majority women, suffering from mood disorders, addictive disorders, organic mental disorders (notably dementia) or personality and behavioural disorders and are moderately dependent.

- The third group includes 25% of long-stay psychiatric patients during the course of a given year. These patients are relatively young, more heavily dependent according to the ADL scale, in the majority suffering from mental retardation or psychological developmental disorders. For 32% of them, the hospital stay began over five years ago (14% over ten years ago).

These different types of long-stay inpatients require different responses in terms of care and varying degrees of implication from the health and social or social-medical professionals caring for these patients over the course of time.

Care essentially administered in specialised mental health care facilities

80% of long-stay psychiatric inpatients are cared for in a monodisciplinary health care structure specialised in mental health care whereas these facilities receive 69% of all psychiatric patients. This is the case for both public and private facilities. Private clinics thus admit 12% of long-stay psychiatric patients whereas they only provide care for 6% of the total active patient file monitored in hospitals for psychiatric disorders. This can be explained by the fact that some clinics have specialised in after care and follow-up services and social rehabilitation. Stays in after care services provide a transitional phase between hospitalisation during the acute phase of the illness and the return to home with medical, psychological, educational and social follow-up care offering progressive assistance in a return to autonomy. They aim at individuals’ social rehabilitation and the return to an autonomous existence.
For 10% of patients, long-stay hospitalisation was effectuated in several types of health care establishment. Some appear to be specialised in long-stay hospitalisation: 20% of hospitals concentrate 60% of these patients. This is the case of certain private clinics or private non-profit after care facilities (Espic, Etablissements de santé privés d’intérêt collectif) in which over 30% of the active patient file is hospitalised for over 80% of the year. One single public hospital specialised in the admission of long-stay chronic patients whose severe illness prevents any hope of discharge is in this case.

Long-stay psychiatric inpatients differ according to the status of the reception structure. Those admitted into private clinics are more often patients in the first group identified in the previously presented typology, that of slightly dependent persons suffering from schizophrenic disorders, whereas the third group of heavily dependent persons suffering from mental retardation or pervasive developmental disorders is virtually absent in clinics and is essentially cared for in specialised public or ESPIC establishments.

Taking each health area’s demographic characteristics into account (age and gender), the average rate of use of long-stay hospitalisation is 17.1 per 100,000 inhabitants aged 16 or over. The standard deviation is 10.6 per 100,000, in other words a 62% coefficient of variation. The rate of use thus varies from 2.2 (Alpes-de-Haute-Provence) to 68 per 100,000 inhabitants (Haute-Saône), or a 1 to 30 ratio (Map). Even in eliminating the first and last rate distribution quintiles, the variation remains considerable at 1:9.

Determinants of the variations in the use of long-stay hospitalisation

The review of the literature and discussions with experts led us to retain three key dimensions that are potentially explanatory in determining variations in the rate of long-stay psychiatric hospitalisation at health area level. The first dimension used in our explanatory model is the supply and organisation of psychiatric care within the health areas. Hospital capacity, human resources, the diversity of modes of care, the development of alternatives to hospitalisation and the interactions between the different players in this field will combine to have an impact on the rate of long-stay hospitalisation. The

4 Many patients hospitalized with the long course in the year brought back the 16 year old to elderly population and more.

5 The territory of health of residence of the patient was preferred with the territory of hospitalization in order to privilege the populationnelle approach related to the planning of the care.

Source: Medical Information Database for Psychiatry (Rim-P) 2011; General population census, INSEE 2010.

Scope: Metropolitan France.
The density of full-time hospital beds is the most significant explanatory factor in the variability of long-stay hospitalisation rates

Among the variables introduced to measure the supply and organisation of care in health areas, the density of full-time hospital beds in mental health care facilities plays a major role in explaining variability in long-stay hospitalisation rates (32% of variability is explained by this variable). All other things being equal, the higher the supply of full-time hospital beds in a health area, the higher the rate of long-stay hospitalisations and vice versa. The slightest constraints regarding hospital bed management policy can thus create disincentive conditions regarding the discharge of patients (Vigneron and Haas, 2013). On the contrary, in a health area where psychiatric hospital capacity is more reduced, the health care teams will be required to favour care pathway fluidity and avoid prolonged hospital stays by organising earlier patient discharge.

Specialised public hospital or Espic supply produces longer hospital stays

Health establishment status also appears to contribute in explaining variability in long-stay hospitalisation rates. When the psychiatric hospital care supply is in the majority provided by private non-profit hospitals (ESPIC) and public hospitals specialised in the fight against mental illness, the rate of long-stay hospitalisations is higher. This is partially related to the history of these hospitals and their initial geographical location in more rural areas (Coldefy, 2010). Public and non-profit private health establishments specialised in the care of mental disorders often stem from the Law of 1838 recommending the creation of an "asylum" per region. These sole establishments often had the monopoly of psychiatric care on their territory and were relatively isolated due to a less developed pre or post care supply. This is consistent with the findings of Vigneron and Haas in their study on long-stay short hospital stays (2013).

In contrast, the model then reveals that, all other things being equal, health areas with a high density of hospital medical personnel are associated with lower long-stay hospitalisation rates. A greater supply of medical personnel within these hospitals would thus help reduce the rate of long-stay hospitalisations and inversely, a lower density of personnel would increase long-stay hospitalisations as this type of care mobilises fewer medical resources. This has an impact on the quality of care through the lack of resources as patients’ care and life projects are reviewed far less often.

The higher the medical-social care supply in a health area, the lower the rate of long-stay hospitalisations

The second dimension introduced into the model concerns the provision of medical-social care addressing individuals in the health area suffering from mental handicaps. One of the hypotheses frequently advanced by field workers to explain the high rate of long-stay hospitalisations in certain health areas is the lack of medical-social alternatives for patients no longer requiring medical care.

In our model, the density of adults suffering from mental disorders admitted in medical-social structures, estimated from the DREES Social Establishments survey data (Enquête Etablissements sociaux de la Drees), appear significant in explaining the variability of long-stay hospitalisation rates at the 5% threshold. Therefore, all other things being equal, the higher the density of medical-social structures, the lower the rate of long-stay hospitalisations.

**Table:**

<table>
<thead>
<tr>
<th>Estimation of the determinants of long-stay hospitalisation</th>
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<tbody>
<tr>
<td>Coefficient</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>Density of full-time hospital beds</td>
</tr>
<tr>
<td>Density of medical personnel</td>
</tr>
<tr>
<td>Private for-profit</td>
</tr>
<tr>
<td>General public</td>
</tr>
<tr>
<td>Specialised public</td>
</tr>
<tr>
<td>Espic*</td>
</tr>
<tr>
<td>Share of beds</td>
</tr>
<tr>
<td>0.20194 0.0012 ***</td>
</tr>
<tr>
<td>Health and social care offer</td>
</tr>
<tr>
<td>Density of adults with mental disorders admitted in health and social structures and services</td>
</tr>
<tr>
<td>Density of psychiatrists/psychologists</td>
</tr>
<tr>
<td>Socioeconomic characteristics</td>
</tr>
<tr>
<td>‘Socially advantaged’ indicator</td>
</tr>
<tr>
<td>‘Social fragmentation’ indicator</td>
</tr>
<tr>
<td>Percentage of the population living in ‘isolated municipalities’ R²</td>
</tr>
<tr>
<td>52%</td>
</tr>
</tbody>
</table>

*** p<1%; ** p<5%; *p<10%  
* Private non-profit establishments.

**Source:** Medical Information Database for Psychiatry (Rim-P), General population census, INSEE 2010.  
**Scope:** Metropolitan France.
This result is in line with the speech of field workers: in areas with higher density of people suffering from mental disorders in the medico-social sector, the rate of long-stay hospitalization is lower. However, the medical-social sector’s contribution remains relatively weak in relation to the variability explained by inpatient psychiatric capacity.

In addition, a higher density of psychiatrists and psychologists working in health area medical-social services receiving adults suffering from mental disorders contributes to the increase in long-stay hospitalisations. At first glance, this appears to be a counter-intuitive result as the initial hypothesis suggested that when the medical-social sector employs specialised personnel for the treatment of mental disorders, the patient admissions in these structures would be facilitated by bridging the gap between the health and medical-social sectors. The result of the model, however, tends to indicate the existence of a competitive and frictional effect between the two sectors due to the establishment of health professionals in the medical social sector developing a parallel but non-complementary care offer to that of the health sector. This could also mean that the existence of this type of care does not ensure its optimal use, the latter necessitating close coordination (Vigneron and Haas, 2013).

At health area level, socioeconomic context has no impact on long-stay hospitalisation rates

The third dimension introduced into the model concerns the socioeconomic and geographical context in which long-stay hospitalisation practices occur, one of the hypotheses being that long-stay hospitalisations can sometimes be the answer to situational social isolation or exclusion (absence or difficulty keeping accommodation, poor or lack of support from the family).

From this point, the model tests two socioeconomic indicators at health area level: the social deprivation indicator that takes income level, education, socio-professional categories and unemployment rates into account (adapted de Rey et al., 2011); and the social fragmentation indicator which takes into account the marital status, the social isolation of households, residential stability, migrations and type of housing among other things, and aims to identify the weakness of social links in a given health area (adapted from Ivory et al., 2012).

The results do not reveal a socioeconomic context effect in the explanation of variability in long-stay hospitalisation rates at health area level. The introduction of simple indicators (such as the proportion of isolated households, unemployment, among others) in the place of synthetic indicators do not modify the results. This lack of effect can be surprising given that precariousness or social isolation are frequently evoked in the literature as factors contributing to the prolongation of a hospital stay. This result can be explained by the scale on which this information is measured: socio-economic characteristics are in effect extremely disparate within a same health area. Over 80% of health areas have a coefficient of variation of over 30% for the social fragmentation indicator which means that, for these areas, the indicator is broadly dispersed around the mean. Concerning the social deprivation indicator, it varies from a ratio of 1:2 in almost 80% of the health areas. Characterising the socio-economic context at health area level thus hides significant intra-territorial disparities which could partially explain the absence of this determinant in the explanatory model.

The only variable that appears to play a role is geographical context. The greater the population living in isolated towns, away from the influence of urban centres, the lower the rate of long-stay hospitalisations. Here again, the results need to be examined further as the geographical dimension of socioeconomic context could mask social or cultural specificities poorly taken into account in the socioeconomic variables, such as better family or social support and the greater distance from health services that would help reduce hospitalisation rates.

** ***

In this study, variability in long-stay hospitalisation rates in psychiatric services at health area level appears greatly influenced by specialised hospital care supply and notably, the density of inpatient psychiatric capacity that constitutes a key factor in the variability between health areas. As the greater the inpatient capacity in a health area, the higher the long-stay hospitalisation rate. On the contrary, better resources in terms of medical personnel will reduce the rate of long-stay hospitalisations. This result raises the question of equity and quality of care for the populations concerned. The existence of medical-social care structures tends to reduce hospitalisation rates but the effect is more limited or even contrasted. More than the quantity of medical-social services, it is the coordination health and medical-social players that plays a major role in reducing long-stay hospitalisations. These interactions are, however, difficult to measure within the framework of a quantitative analysis of this type. Furthermore, the information system in the medical-social sector is clearly less well-developed than in the health sector which limits the use that can be made of it. A large number of supportive services, such as associative residential structures, are not identified by the national information system (municipal flats, associative flats, maison-locs...). Unevenly distributed across the territory, in certain areas they offer an solution adapted to the long-term care needs of chronic patients.

The fact that health area socioeconomic characteristics do not contribute to the reduction of long-stay hospitalisations needs to be examined more closely. At health area level, the characterisation of socioeconomic context is more difficult and less precise as variability can be important even within each area. The unemployment rate in a given health area (or department) does not reflect disparities in unemployment rate at commune or neighbourhood level. Even if the socioeconomic context is not necessarily an explanatory factor in the rate of long-stay hospitalisation, it is more difficult to determine in a model at health area level and would require individual data. Several ongoing local studies are attempting to broach these individual dimensions as well as patient trajectories over several years at a finer level. The results of these studies will usefully complete this national quantitative approach of populations hospitalised for long periods in psychiatric services.
FURTHER INFORMATION

- Mission nationale d’appui en santé mentale (2011). « Guide pour une démarche plurielle de conduite de changement, comment mobiliser le projet de vie et de soins des personnes longuement hospitalisés en psychiatrie ».