Long-stay psychiatric hospitalisation: analysis and determinants of territorial variability

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Long-stay psychiatric hospitalisation (lasting a year or over, over a continuous period 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 socioeconomic context in these disparities?

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[1], representing 0.8% of inpatients in hospitals authorised to deliver psychiatric care.

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[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). Maintaing 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 socio-economic 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)
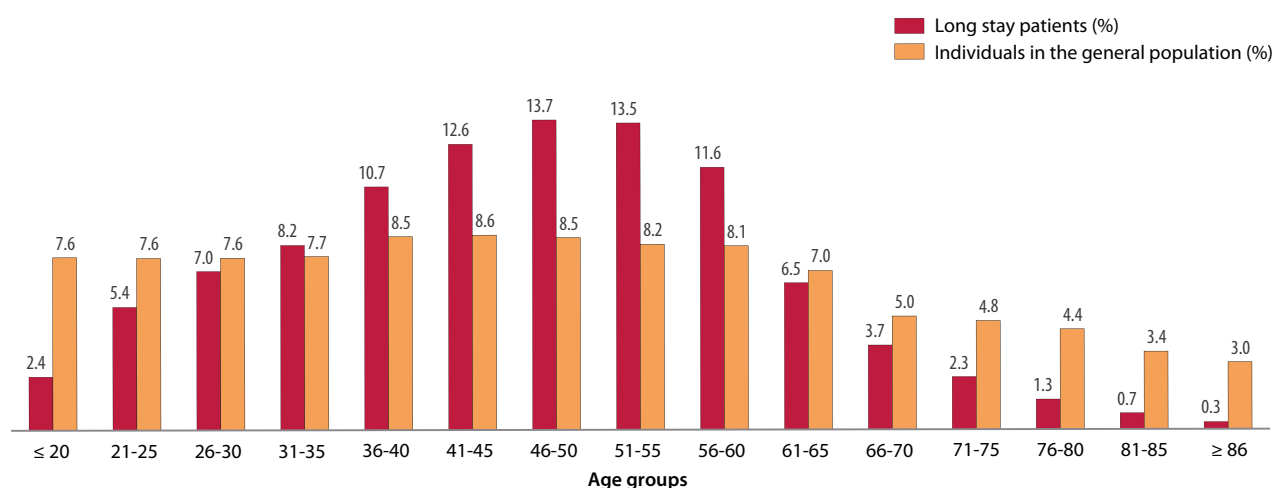
[Brun-Rousseau, 2007]. The average age of these patients is 47 years old and does not differ from the average age observed for all patients hospitalised in psychiatric services.

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,

G1

Distribution of long-stay psychiatric inpatients by age bracket in comparison with the general population

Legend:
- Long stay patients (%)
- Individuals in the general population (%)

Age groups	≤ 20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-80	81-85	≥ 86
Long stay patients (%)	2.4	5.4	7.0	8.2	10.7	12.6	13.7	13.5	11.6	6.5	3.7	2.3	1.3	0.7	0.3
General population (%)	7.6	7.6	7.6	7.7	8.5	8.6	8.5	8.2	8.1	7.0	5.0	4.8	4.4	3.4	3.0

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

Data available for download.

2007). On reaching 60, a significant number of persons are effectively reoriented towards structures for the elderly such as the Residential Homes for Elderly Dependent Persons (EHPAD, *Etablissements d'hébergement pour personnes âgées dépendantes*). Moreover, several studies have shown that life expectancy for individuals suffering from severe mental disorders is reduced by ten to twenty years in relation to the general population and could partially explain their under-representation beyond 60 years old (Chesney *et al.*, 2014; Charrel *et al.*, 2013; Lawrence *et al.*, 2010; Harris and Barraclough, 1998).

Over half the long-stay psychiatric inpatients suffer from schizophrenic disorders

Taking into account patients' "dominant"[2] 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).
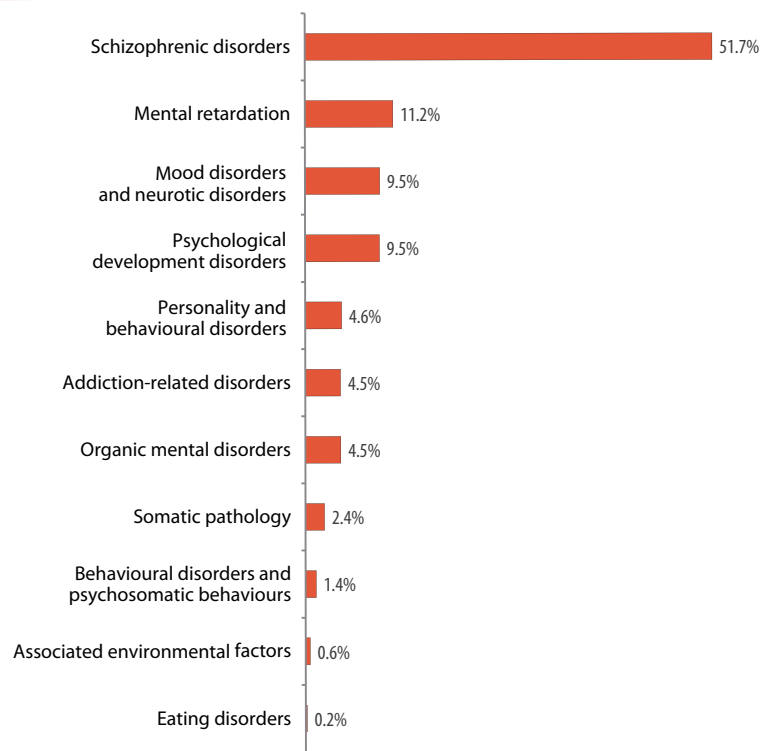
The other most frequent diagnoses in long-stay psychiatric inpatients are mental retardation (11%) and psychological developmental disorders (essentially autism and Pervasive Developmental Disorders) [9%].

The frequence 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

G2 Distribution of "dominant" diagnoses in long-stay psychiatric inpatients in 2011

Diagnosis	%
Schizophrenic disorders	51.7%
Mental retardation	11.2%
Mood disorders and neurotic disorders	9.5%
Psychological development disorders	9.5%
Personality and behavioural disorders	4.6%
Addiction-related disorders	4.5%
Organic mental disorders	4.5%
Somatic pathology	2.4%
Behavioural disorders and psychosomatic behaviours	1.4%
Associated environmental factors	0.6%
Eating disorders	0.2%

Source: Medical Information Database for Psychiatry (Rim-P) 2011; General population census, INSEE 2010.
Scope: Metropolitan France.
Data available for download.

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, continence[3]. Only a quarter of long-stay

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2 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 organics (F0)/Turbid of the mood and neurotic disorders (F3 and F4)/Turbid of the food (F50) /Troubles of the personality and the behavior (F6)/Turbid related to psychosomatic conduit and the addictions (F1)/Behavioral problem (F9 and F5 except F50)/Backwardness (F7)/associated environmental Factor (codes in Z).

3 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.

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 retrun to an autonomous existence.

SOURCES ET METHODS

This study is primarily based on the exploitation of data from the **Medical Information Database for Psychiatry (Rim-P)**, set up in 2007 and exploited for this study for the year 2011. This database provides a description of all care administered by health establishments to psychiatric patients, whether hospitalised full-time, part-time or as outpatients. Collected information also makes it possible to describe patient characteristics and care pathways within these establishments. The existence of a national identifier enables linking patients monitored in several different health establishments.

Long-stay hospitalisations have been defined in the following manner:

- Patients hospitalised for at least 292 days full-time whether for a continuous period or not (including in a crisis centre or after-care centre) in 2011 and a period of full-time hospitalisation the preceding year, whatever the type of establishment.

- Patients hospitalised in units for difficult patients, prisoners and individuals judged not criminally responsible were excluded from the study as their cases belong to another area of research. Similarly, patients hospitalised without their consent were removed from sample for the section of the study based on the analysis of territorial variablity in the rate of long-stay hospitalisation.

Due to the lack of data from health establishments located in the Nièvre, Deux-Sèvres regions and the French overseas territories, these were not included in the analyis.

The typology of long-stay psychiatric patients was carried out by combining an multiple correspondence analysis with a hierarchical ascendant classification. 16 active variables relative to patients' demographic and clinical characteristics were taken into account (gender, age, diagnosis, level of dependency) as well as care delivered (length of stay, legal mode of admission into hospital). Health establishment characteristics (legal status, mono or multi-disciplinary establishment) were included as descriptive variables. The coordinates on the first two factorial axes were used to construct the classification and explains 78% of the information contained in the constituted database. Analysis of the dendogram led us to retain three main classes of patient.

In order to analyse the variability of long-stay hospitalisation rates, other data sources were used. These were used to characterise the supply and organisation of hospital-based care **(Annual Health Establishment Statistics (SAE)** and **Psychiatric Hospital Activity Reports**, surveys conducted by the DREES), the provision of medico- social care for persons with mental handicaps **(Social Service Establishment survey (ES)** conducted by the DREES), and the existence of local mental health advice centres and mutual aid groups **(World Health Organisation Collaboration Centre for Health (WHOCC))**. Data provided by the **National Health Insurance Inter-regime Information System (SNIIRAM)** were used to measure both private practice care supply (general practitioners and private practice psychiatrists) and the prevalence of mental health care (based on health care consumption indicators) so as to approximate population health status. Finally, data from the INSEE population census were used to construct the indicators used (population denominator) and to identify the socioeconomic and geographical context of each health area. The totality of sources used and indicators constucted are detailed in a forthcoming publication on the disparities in psychiatric care supply (Coldefy, Le Neindre, 2014).

The **long-stay hospitalisation rate** reports the number of patients hospitalised in the population aged 16 and over in the patient's home health area or department according to the above definition. This rate has been subject to **standardisation according to gender and age**.

To explain the variability of long-stay hospitalisation rates, a **multivariate ordinary least squares estimation model** was used. The selection of variables to be integrated into the model was first carried out on the basis of intitial assumptions concerning the determinants of variability, and in a second phase using the *stepwise* statistical method . The results of the regression reveal the strong explanatory power of the model with a coefficient of determination allowing to explain 52% of variability in long-term hospitalisation rates at health area level. In order to avoid superflous statistical information in the model and thus negative consequences at statistical as well as coefficient interpretation level, the absence of collinearity between regressors was verified by means of the factor accounting for variance. The usual Durbin Watson and White tests respectively confirm the absence of autocorrelation and heteroscedasity.

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 receptioning structure. Those admitted into private clinics are more often patients in the first groups 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.

Health area variations in the use of long-stay hospitalisation

The average rate of long-stay hospitalisations is 17 per 100,000 inhabitants with a gap of 1 to 30 according to health area

Variations in the rate of use[4] of long-stay hospitalisation is measured at the patient's[5] health area level (or departmental level if a health area groups together several départements). It should be noted that 16% of long-stay patients are hospitalised in health areas or départements outside their area of residence. Certain health areas appear to be particularly attractive for these populations, notably the Loir-et-Cher, the Val de Marne and Hauts-de-Seine areas in which over half the long-stay psychiatric patients come from another area. Other than their pertinence in terms of health care organisation, the 106 health areas constitute a level of analysis that provides a statistically robust sample.

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

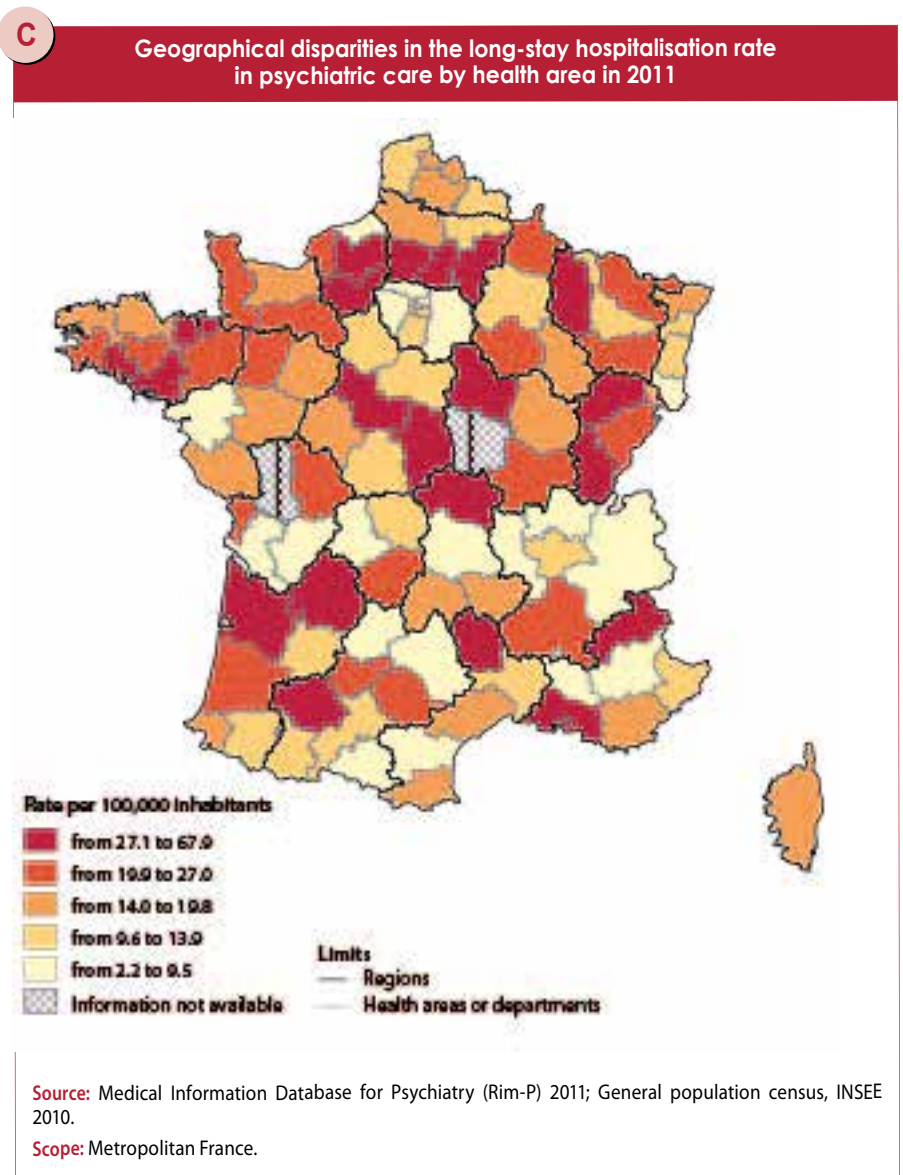The review of the literature and discussions with experts led us to retain three key dimensions that are potentially explanatory in determining variations in the rate of long-stay psychiatric hospitalisation at health area level. The first dimension used in our explanatory model is the supply and organisation of psychiatric care within the health areas. Hospital capacity, human ressources, 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

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[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.

C | **Geographical disparities in the long-stay hospitalisation rate in psychiatric care by health area in 2011**

Rate per 100,000 inhabitants
- from 27.1 to 67.9
- from 19.9 to 27.0
- from 14.0 to 19.8
- from 9.6 to 13.9
- from 2.2 to 9.5
- Information not available

Limits
- Regions
- Health areas or departments

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

second dimension used in our model is the social and medical-social care supply available in each health area, as a proportion of long-stay patients are sometimes hospitalised because of the lack of medical-social care supply adapted to their needs. The third dimension used is that of the health area's socioeconomic context. To overcome the shortage of individual information conerning patients' socioeconomic characteristics that could explain a prolonged hopital stay (social and family isolation, precariousness, homelessness...), we included it in the model at ecological level by characterising health areas in terms of social fragmentation and economic disadvantage. These three key dimensions were expressed by a large number of simple or complex indicators (Coldefy, Leneindre, to be published) that were tested in the model. A multivariate model was used to determine the role of each dimension in determining observed variability (Table).

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 visa 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 pychiatric 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 woud 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 ressources. 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.

T

Estimation of the determinants of long-stay hospitalisation			Coefficient	p value
Care supply				
Density of full-time hospital beds			0.22700	<0.0001 ***
Density of medical personnel			-1.16092	<0.0001 ***
Share of beds	Private for-profit		Ref.	
	General public		0.11947	0.0446 **
	Specialised public		0.17310	0.0017 ***
	Espic[a]		0.20194	0.0012 ***
Health and social care offer				
Density of adults with mental disorders admitted	in health and social structures and services		-0.09726	0.0475 **
Density of psychiatrists/psychologists			2.20818	0.0017 ***
Socioeconomic characteristics				
'Socially advantaged' indicator			0.28061	0.8489 ns
'Social fragmentation' indicator			0.17499	0.8983 ns
Percentage of the population living in 'isolated municipalities'			-0.38560	0.0028 ***
R^2			52%	

*** p<1%; ** p<5%; *p<10%

[a] Private non-profit establishments.

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

Scope: Metropolitan France.

Data available for download.

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 situations of social isolation or exclusion (absence or difficulty keeping acommodation, 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 infra-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 hospitalisations.

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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 psy-

chiatric capacity that constitutes a key factor in the variability between health areas. The greater the inpatient capacity in a health area, the higher the long-stay hospitalisation rate. On the contrary, better ressources 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, maisons-relais....). 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. ◆

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