



Rialtas na hÉireann
Government of Ireland

Social Impact Assessment Series

Acute Mental Health Services

SEÁN PRIOR

HEALTH VOTE, DPER

AUGUST 2019

This paper has been prepared by IGEES staff in the Department of Public Expenditure and Reform. The views presented in this paper do not represent the official views of the Department or Minister for Public Expenditure and Reform.

IGEES

Irish Government Economic and Evaluation Service

Key Findings

- **In 2017 there were 16,700 admissions into an acute mental healthcare facility in Ireland.** 35% of these were first admissions, with the remaining 65% readmissions.
- The breakdown of people in acute care by sex shows a **roughly even distribution across Male and Female admissions.**
- **Single people were most highly represented in admissions,** followed by married, widowed and divorced. **Proportionally, the most represented category was divorced,** followed by single, widowed and lastly married. Females had higher representations across the categories of divorced, widowed and married. Males were more represented in the category single.
- **Admissions were evenly spread across age categories, with the exception of 20-24 year olds who were more represented.** Females were more represented in all cohorts except for 20-24 and 25-30.
- **The largest socio-economic groups** among admissions were “non-manual”, “lower-professional” and “unskilled”. Relative to group size, “unskilled” was by far the most represented group.
- People with no fixed abode accounted for 243 admission in 2017. **Relative to the homeless population, rates of admission in the homeless population are significantly higher** (4 times) than that in the general population.
- **By far the largest ethnicity in admissions is *White Settled Irish*,** due to the dominance of this profile in the general population. In relative terms there is little variance across ethnic backgrounds.
- There is significant variation in the geographic spread of patients who are admitted. **The North-West, in particular Donegal, Leitrim, Sligo and Mayo have generally higher rates in 2017 admissions.**

1. Introduction

Public mental healthcare in Ireland is made up of a broad range of services which take place in a variety of care-settings. It is estimated that around 90% of *broad mental health care* in Ireland is provided through GPs, who may treat or advise on a variety of conditions. The remaining 10% is provided through specialised secondary care, and is what is referred to as Mental Health care generally; approximately 10% of this subset receive care as in-patients. Current and capital expenditure on secondary mental health care was just over €1bn in 2018, with 83% current. Mental health care services are administered primarily by the HSE, through each of the country's nine Community Health Organisations (CHOs). Care services are provided through three broad categories, relating to patient age: Child and Adolescent Mental Health Services, General Adult Mental Health Services and Psychiatry of Old Age. Within each of these categories patients may be treated in the community, as day cases in care centres, or as in-patients in care centres. The focus of this report is on in-patients in receipt of mental-health care.

Delivering Specialist Mental Health Services 2014-2015, 2016 and 2017 published by the Mental Health Division in the HSE provide an overview of the specialist mental health services in Ireland, and may be consulted for further information.¹

This paper is set out in sections as follows:

- The remainder of section 1 sets out the purpose of the Social Impact Assessment series, and discusses the data which has facilitated the analysis.
- Section 2 forms the bulk of the analysis, analysing the acute mental health in-patient population in terms of sex, marital status, age, socio-economic group, homelessness status, ethnicity, region, and health status.
- The remaining sections conclude.

¹ Delivering Specialist Mental Health Services 2014-2015. Available [here](#).

1.1 Social Impact Assessment Framework

This paper is an instalment in the Social Impact Assessment (SIA) series, as set out in “Social Impact Assessment Framework” (2016).² The goal of an SIA is to provide systematic analysis on the demographic characteristics of people in receipt of public services. This provides important information when making budgetary decisions on which age cohorts, sex, etc. are likely to be effected by such a decision. The SIA itself is a means to ensuring greater clarity and equity in budgetary decision making.

1.2 Data

The original goal of this SIA was to provide a comprehensive analysis of the demographic profiles of all people in receipt of specialised mental health care in Ireland, including community care (people in receipt of broad care such as counselling or psychotherapist services), day patients in care centres, and in-patients in care centres. An analysis of this scale would have provided a good insight into the mental health care services, and mental health care in Ireland generally. Unfortunately due to an unavailability of patient data for community and day-patient service users, the scope of this work has been limited to acute in-patients.

This paper uses three main data sources in the analysis:

1. 2017 output from the National Psychiatric In-patient Reporting System (NPIRS), which is administered by the Health Research Board. This data provides admission, discharge, demographic and health information relating to patients who were in-patient in a mental healthcare facility in 2017. While most of the data relates to publically funded health-care a portion of this is relating to care which was provided independently, either privately or through charitable facilities.
2. The Healthy Ireland Survey (HIS Wave 2), a survey on general health in Ireland, administered by the Department of Health. The data employed relates to the demographic characteristics of respondents, and to the responses to question 45 of the questionnaire, focussing on general wellbeing in the previous four weeks, and linked to mental health. This provided indicative information only, useful for comparative analysis. Wave 4 of the HIS is planned to contain questions relating directly to respondent mental health, which will greatly facilitate future analysis.
3. The 2016 Census, administered by the Central Statistics Office. The data used related to the demographic characteristics of respondents and to positive responses to question 16.

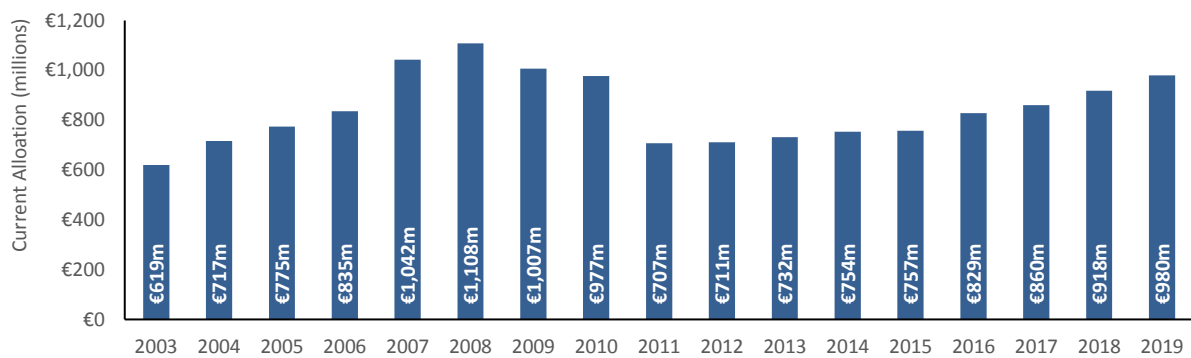
² Lawless, J., Reilly, D. (2016) Social Impact Assessment Framework. IGEEES Staff Paper. Available [here](#).

The figures and analysis presented in the report are solely the responsibility of the author, and are in no ways representations of the views of the Department of Public Expenditure and Reform, the Department of Health, the Health Service Executive or any of the data providers.

1.3 Expenditure

The total level of expenditure allocated to mental health Secondary Care has varied considerably since 2003. Growing from €0.6bn in 2003 it rose to €1.1bn in 2008. In the wake of the financial crisis spending was reduced significantly to a trough of €0.7bn in 2011. Since 2011 current and capital expenditure has gradually increased, to almost precrisis levels, at €1.1bn in 2019; current expenditure was €0.98bn in 2019.

Fig 1. Current Expenditure Mental Health Allocation 2003-19

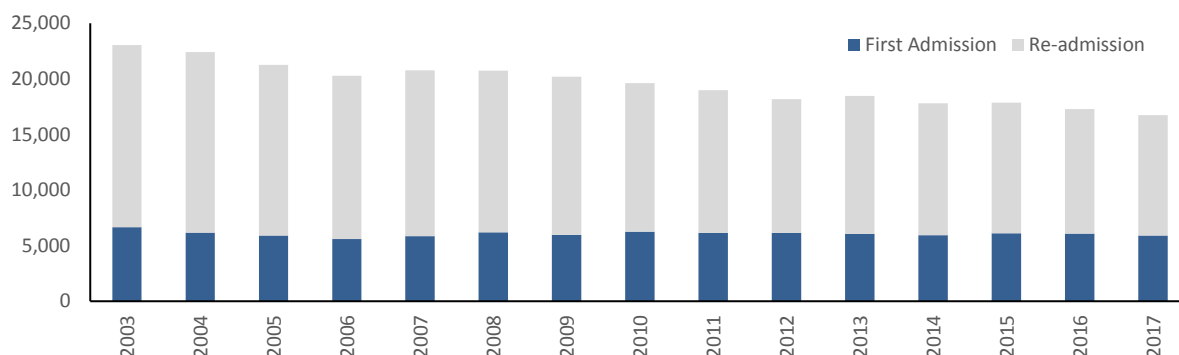


Source: Revised Estimates 2013-19

2. Acute Mental Health Care

People who are suffering from very serious or chronic issues relating to mental health may be admitted into acute services, which are better suited to administering consistent care and, where necessary, supervision. The level of annual admissions has trended downwards in recent years. Between 2003 and 2017 there has been a reduction in admissions of around 27%, and average annual reduction of 2.2%. The change is driven primarily by reductions in readmission, while the portion of first admissions has stayed comparatively static over this period.

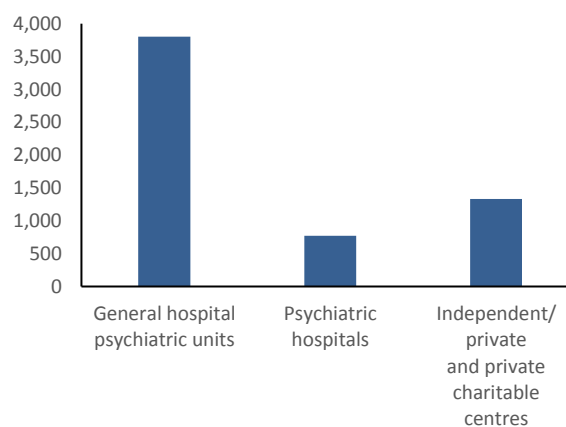
Figure 2: Number of Acute Psychiatric Admissions (2003-2017)



Source: NPRS/HRB

The data used in this analysis relates to 22 acute mental health facilities in Ireland, at which service users may be treated. The majority of these are psychiatric units within general hospitals, with a small portion as dedicated psychiatric hospitals. Additionally there are a number of independent, private or charitable facilities which are included in the analysis. The 2017 admission breakdown between the different types of facilities are given in Fig 3.

Figure 3: 2017 Admissions by Care-Setting Type

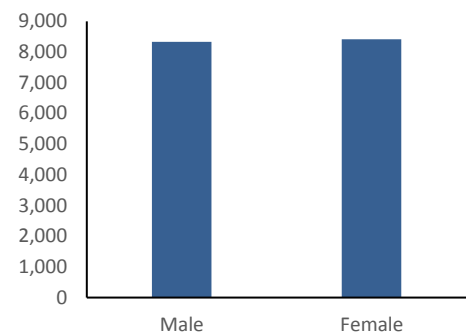


Source: NPRS/HRB

2.1 Sex

Most research indicates an equal degree of prevalence of mental health disorders across males and females.³ This pattern is reflected in 2017 acute in-patient admissions, with around 8,300 admissions of males, and 8,400 admissions of females. While admissions of females are marginally higher in this snapshot, relative to general population females are slightly more represented in admissions, however the result is statistically equivalent.

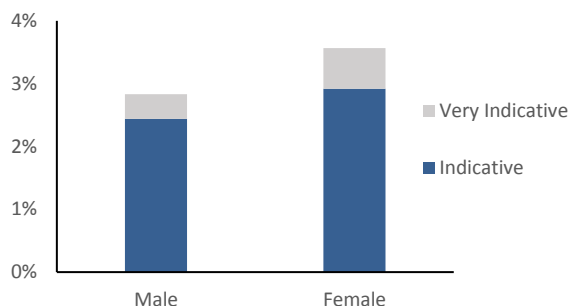
Fig 4. Total Admissions by Sex (2017)



Source: NPRS/HRB

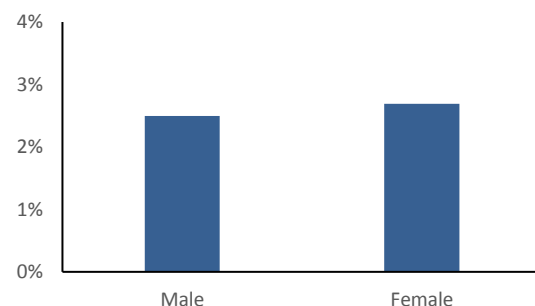
Other sources of data on mental health in Ireland suggest that females may experience higher levels of psychological or emotional distress, relative to males. Results from the second wave of the Healthy Ireland Survey (2017) show that a greater portion of female responses to a series of questions relating to mental health are medium, indicative and strongly indicative of mental health issues.⁴ Similarly a slightly larger portion of females reported having a psychological or emotional condition in the 2016 census.

Fig 5. Indication of Mental Health Issues by Sex, Healthy Ireland Survey (2017)



Source: HIS Wave 2

Fig 6. People Reporting Positively to Having Long-Lasting Psychological or Emotional Condition (2016)



Source: Census 2016

Indications of higher rates of poor mental health in females, while also observing an equivalent rate of acute admissions across males and females is not necessarily contradictory. Firstly, both comparator data sources are survey based opening the possibility that females are simply more likely to respond to related questions in a way which indicates poorer mental health; assuming that is not the case however, comparator data does not provide information relating to the severity of mental health issue. This means while females may have higher rates of mental health issues, the profile of

³ *Gender and Mental Health* (2002) World Health Organisation. Available [here](#).

⁴ See Appendix for details of this calculation.

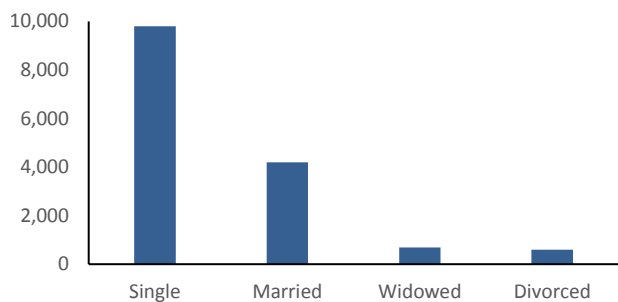
this issues likely varies. In that case it would not necessarily be inconsistent that rates of conditions severe enough to lead to hospitalisation are equivalent across sexes.

As we view rates of admission across sex along with other dimensions, such as age, marital status and socio-economic variables, divergences to emerge.

2.2 Marital Status

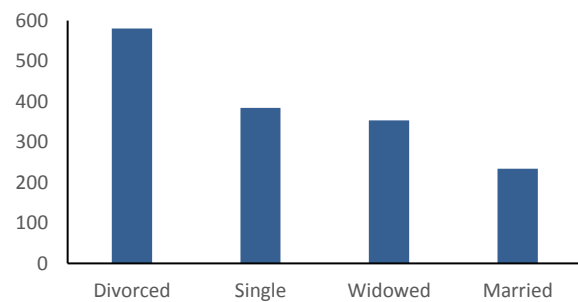
Over 64% of 2017 admissions, where specified, are recorded as single. The remaining 36% is made up of married people at 27%, widowed at 4.5% and divorced at just under 4%.⁵ Relative to the category size, divorced is the most highly represented category, at over 580 admissions per 100,000 divorced people. Single and widowed people are next most represented, with married the least represented group in 2017 admissions.

Fig 7. Total Admissions by Marital Status (2017)



Source: NPRS/HRB

Fig 8. Rate of Admission per 100,000 by Marital Status (2017)



Source: NPRS/HRB

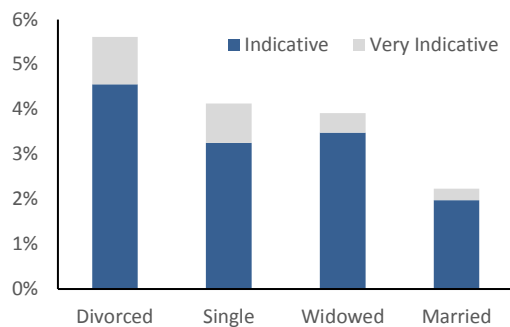
Sources surveying the mental health of the general population in terms of marital status indicate a similar pattern. Divorced respondents to the Healthy Ireland Survey answered relevant questions in a way to suggest greater likelihood of mental health issues than any other category.⁶ While mental health may be a causal factor in marriage breakdown, the mental health effects of experiencing divorce are well studied.⁷ Widowed and single respondents indicate lower frequency of mental health issues, with the lowest indication of mental health issues from people who are married.

⁵ 8% of admissions are unspecified in this category.

⁶ This category includes both divorced and separated people, to allow comparison with NPRIS data.

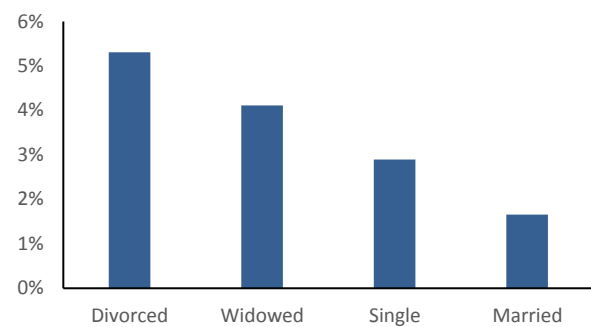
⁷ Paul R. Amato, *The Effects of Divorce for Adults and Children: An Update*. Available [here](#).

Fig 9. Indication of Mental Health Issues by Marital Status, Healthy Ireland Survey (2017)



Source: HIS Wave 2

Fig 10. People Reporting Positively to Having Long-Lasting Psychological or Emotional Condition, by Marital Status (2016)

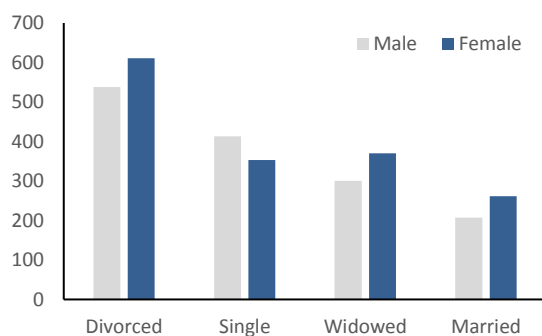


Source: Census 2016

Census 2016 data reflects a similar pattern to the HIS. People who are divorced report the highest rates of having a long-long lasting psychological or emotional conditions, followed by people who are widowed, single and lastly married.

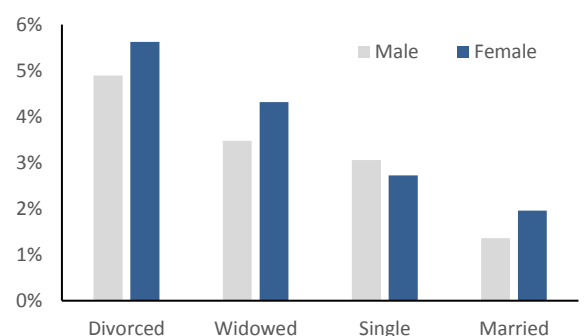
Considering admission rates by sex as well as marital status, some divergences can be discerned. While single males have a higher rate of admission than single females, females have higher admission rates across all other marital categories. The same pattern holds in the self-declaration of an emotional or psychological condition as asked in census 2016, however does not clearly hold in the answers to the indicative questions asked in the Healthy Ireland Survey.

Fig 11. Rate of Admission per 100,000 by Marital Status (2017)



Source: NPRS/HRB

Fig 12. People Reporting Positively to Having Long-Lasting Psychological or Emotional Condition, by Marital Status and Sex (2016)



Source: Census 2016

2.3 Age Group

In 2017 over 70% of admissions in the adult in-patient population were between the ages of 25 and 65 years old. The largest admission cohort was 35-44 year olds (20%), followed by 25-35 (19%) and 45-54 year olds (18%). As shown in Fig. 13, this indicates that in terms of admission numbers there are, greater amounts of people in middle-age groups receiving mental health services in the acute mental health space. Relative demographics in the general population however, a different trend

emerges. With the exception of 20-24 year olds, who have noticeably higher rates of admissions (574 people per 100,000), there is a reasonably even distribution of rates of admission across age groups, at around 450 per 100,000 people, as illustrated by Fig. 14.

Fig 13. Total admissions by Age Group (2017)

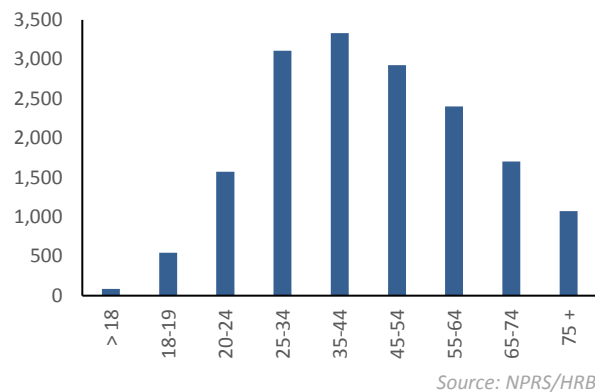
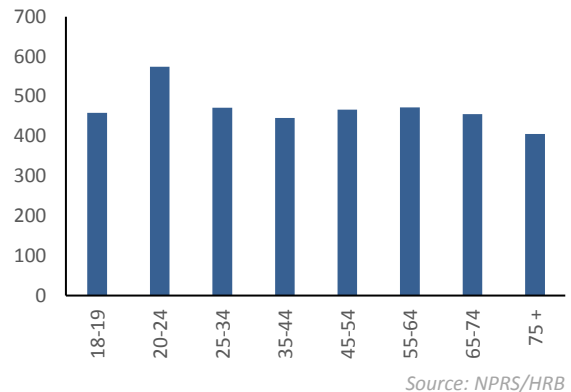


Fig 14. Admissions by Age per 100,000 of population



The relatively even distribution of admissions across age cohorts is roughly in line with comparative data drawn from the HIS and 2016 Census. The Healthy Ireland Survey which makes an estimation of indication of mental health issue is relatively evenly spread across the age groups, with the exception of the 75+ cohort. A similar trend is observable in people reporting a long-lasting psychological or emotional condition in the 2016 census, also with a higher rate for 75 year olds and over. The higher rate for over 75s could potentially be explained by responses referring to age related mental health issues, such as dementia; care for people in this situation is frequently provided in home or nursing home setting, rather than acute setting.

Fig 15. % of People by Age Group with Indication of Mental Health Issues, Healthy Ireland Survey (2017)

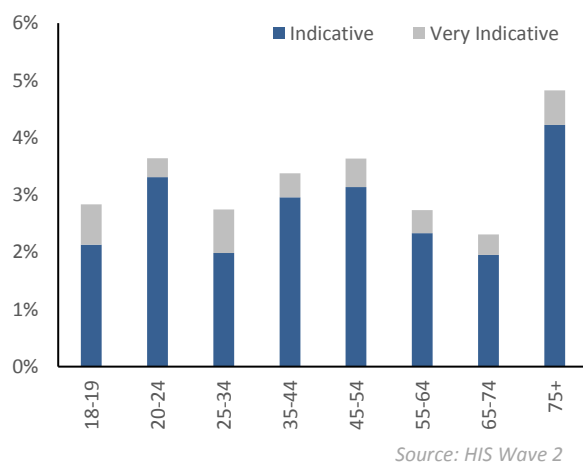
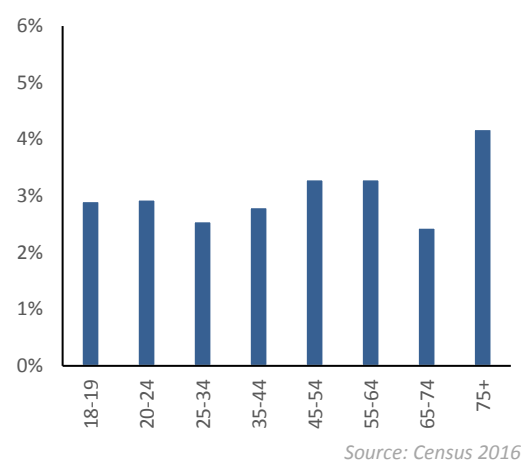
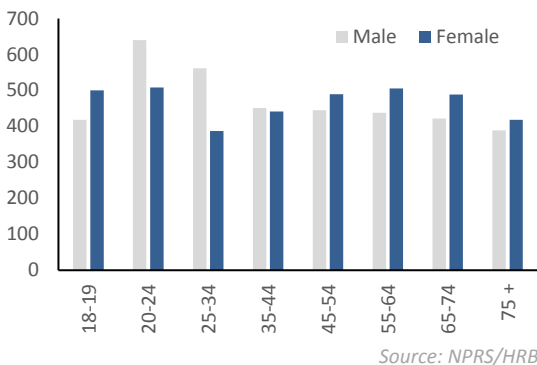


Fig 16. % People by Age group Reporting Positively to Having Long-Lasting Psychological or Emotional Condition (2016)



Considering sex and age together, we see that, with the exception of 18-19 cohort, males are more highly represented among younger categories, whereas females are more represented among older cohorts. Males are significantly higher representation of males in 20-24 and 25-34 categories. The trend reverses in later age with higher rates of females from the age 45 and higher.

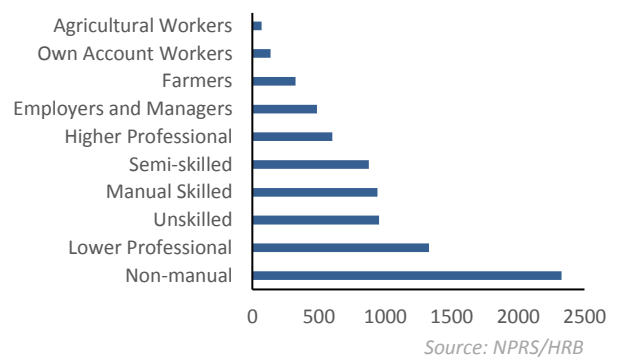
Fig 17. Total admissions per 100,000 by Age Group and Sex (2017)



2.4 Socio-Economic Group

Available profiled in terms of the socio-economic groups which inpatients belong to, the largest cohort is *Non-manual* at 2,327 in 2017. This is followed by *Lower Professional, Unskilled* and *Manual Skilled*. The least represented are *Agricultural Workers*, due to the small portion of this category in the general population. Relative to the category sizes, by far the most represented cohort is *Unskilled*, followed by *Unskilled* and *Manual Skilled*. The least represented categories in relative terms are *Employers and Managers*, *Own Account Workers*, and *Higher Professional*. In general, looked at in relative terms, the picture approximately agrees with studies of similar data internationally, on the positive correlation between higher socio-economic status and mental wellness.⁸

Fig 18. Total Admissions by Socio-Economic Group (2017)



As shown in Fig. 20, of the 10 Socio-Economic groups listed, three show large differences between representation of females and males: *Unskilled*, *Manual Skilled*, and *Farmers*. In each of these categories males are significantly overrepresented, relative to females.

Fig 19. Admissions by Socio-Economic Group per 100,000 Relative to Population (2017)



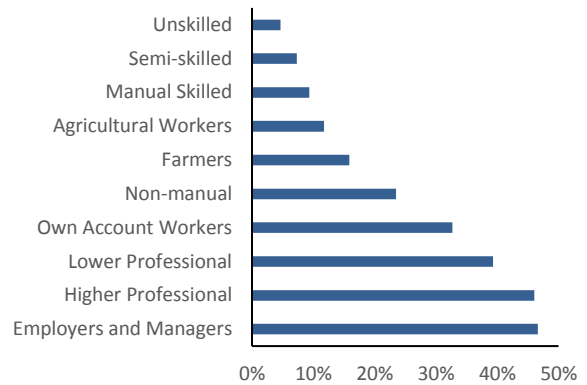
Fig 20. Admissions by Socio-Economic Group and Sex per 100,000 Relative to Population (2017)



⁸ Perry, M. J. (1996).

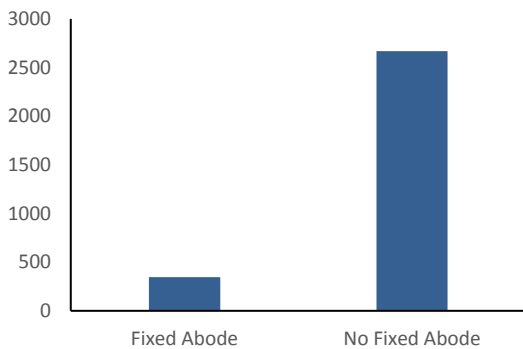
There is notable difference in the types of hospital attended across Socio-Economic Group. Individuals in the *Employers and Managers* category, and *Higher Professional* category have higher rates of attendance in “Independent/Private/Charitable Centres” which fall outside of direct Exchequer funding. *Unskilled*, *Semi-skilled* and *Manual Skilled* on the other hand had the lowest representation.

Fig 21. Percentage In-Patient in Independent/ Private/ Charitable Centre (2017)



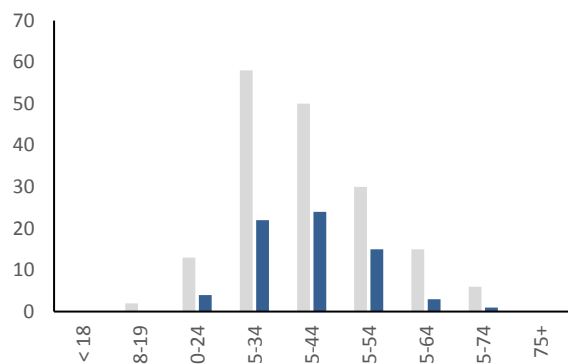
Source: NPRS/HRB

Fig 22. Admissions of Individuals with Fixed Abodes and Without Fixed Abode Relative per 100,000 of Population (2017)



Source: NPRS/HRB (Author Calculation)

Fig 23. Admissions of Individuals with Fixed Abodes and Without Fixed Abode Relative per 100,000 of Population (2017)

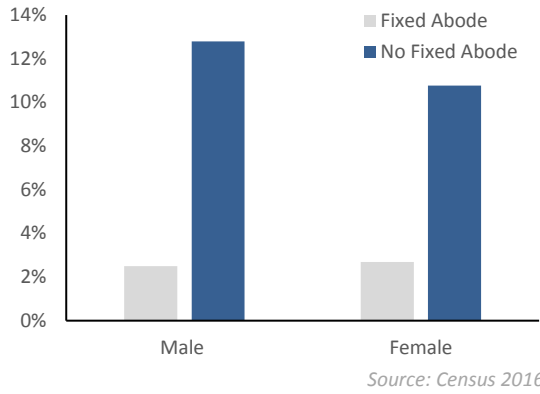


Source: NPRS/HRB

Of 16,573 admissions in 2017, 243 are noted as possessing “no fixed abode”. Comparing *fixed abode* to the general population and *no fixed abode* with the 2017 homeless population in Ireland, we can see that rates of admission among homeless people is significantly higher than rates in the general population.

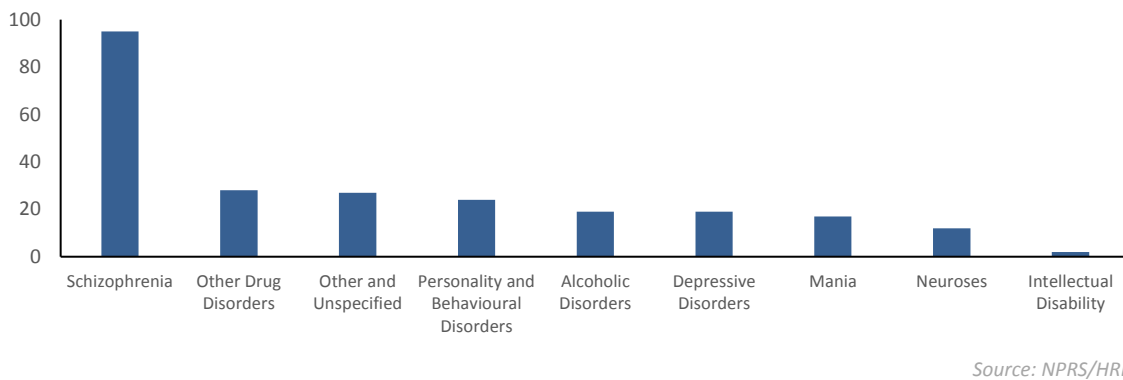
As illustrated in Fig. 23, the numbers of admissions of people with *No fixed abode* is strongly concentrated in people towards the middle of the age spectrum. The pattern holds across sex, however is about two and a half times more pronounced among males, with 174 homeless male admissions versus 69 female in 2017.

Fig 24: % People by Sex Reporting Positively to Having Long-Lasting Psychological or Emotional Condition by Sex and Homelessness Status (2016)



The significantly higher representation of homeless people presenting in acute services is mirrored in the Census self-reporting question on long lasting psychological or emotional conditions. Among people with fixed abode the rate of people reporting having a condition is 2.6%, whereas among those without fixed abode it is just under 12%. There are slight differentials between males and females, with homeless males being about 20% more likely than homeless females to respond positively to the question.

Fig 25: Admissions of Residents with No Fixed Abode by Diagnosis (2017)

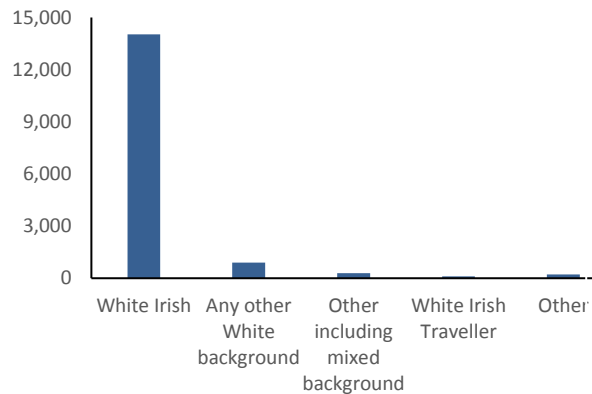


While people without fixed abodes have been admitted into acute care for a variety of disorders in 2017, the main cause, as illustrated in Fig 25 in *Schizophrenia and Related Disorders*. The second highest, which is less than a third is *Other Drug Disorders* (aside from alcohol).

2.5 Ethnicity

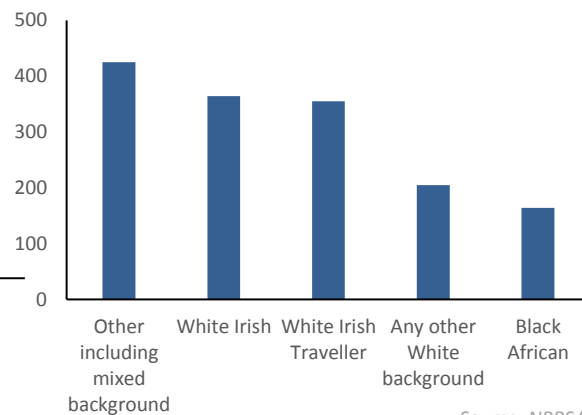
As illustrated in Fig. 26, 84% of admissions fall into the category of *White Irish* ethnicity. The next largest category, at 5% is *Any other White Background*. All other backgrounds make up 4%, with the remainder non-respondents. Among sufficiently large sample sizes, the category *Other Including Mixed Background* had the highest rate of admission, followed by *White Irish* and *White Irish Traveller*.

Fig 26: Total Admissions by Ethnicity (2017)



Source: NPRS/HRB

Fig 27: Admissions by Ethnicity per 100,000 Relative to Population (2017)

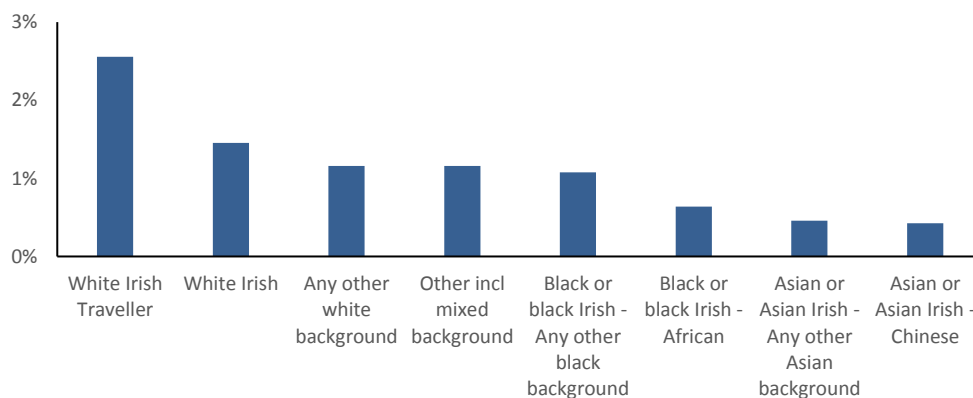


Source: NPRS/HRB

*Note – other ethnicities were omitted due to small sample size

For indicative comparison, the 2016 Census finds that the largest ethnic category reporting to having a long-lasting psychological or to be *White Irish Traveller*, almost a full percent higher than the next highest, *White Irish*. *Other Including Mixed Background*, which had the highest rate of admission in 2017 has the fourth highest response rate in the Census question.

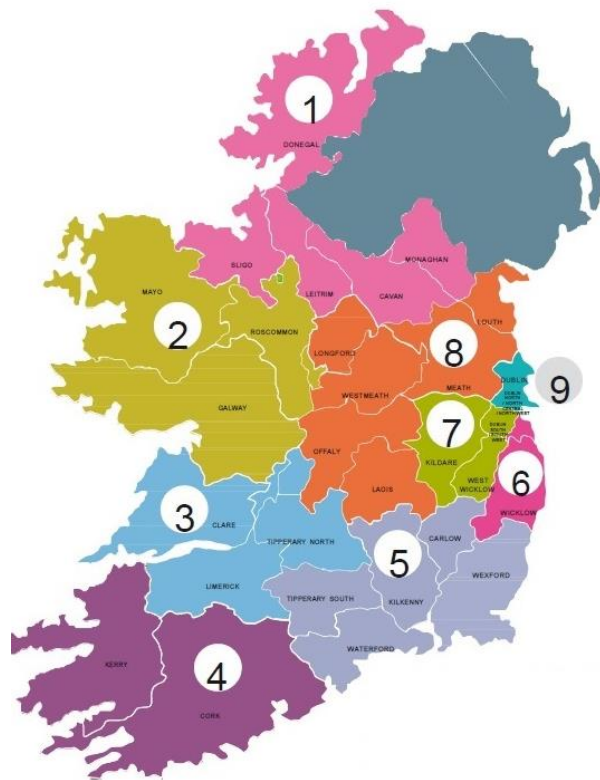
Fig 28: % People by Ethnicity Reporting Positively to Having Long-Lasting Psychological or Emotional Condition by Sex and Homelessness Status (2016)



Source: Census 2016

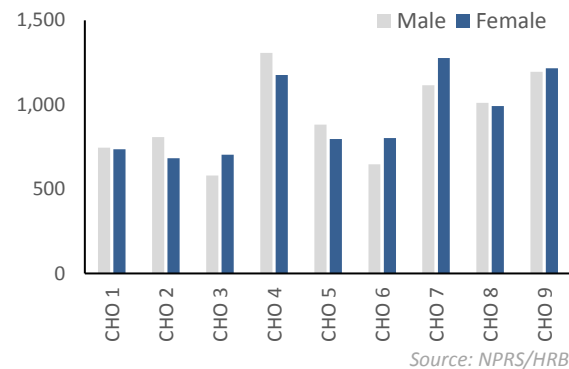
2.6 Region

Mental health services in Ireland are delivered through local Community Health Organisations (CHOs), of which there are nine throughout the country. As illustrated in Fig 29 below in patient populations ranged from around 1,200 to 2,400 per CHO in 2017. There are some divergences in terms of sex across CHO, though these are relatively small.



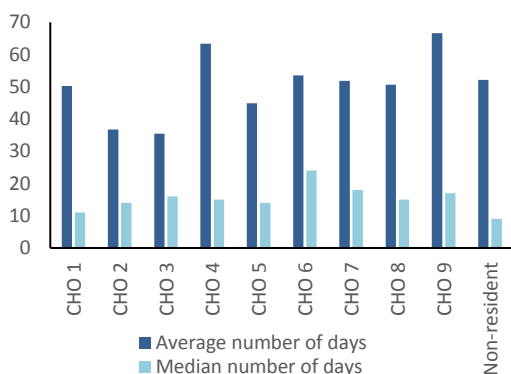
Source: HSE

Fig 29: Total admissions by CHO (2017)



Source: NPRS/HRB

Fig 30: Average and Median Number of In-Patient Days by CHO (2017)



Source: NPRS/HRB

As illustrated above there is some variance in terms of the Average Number of days spent per inpatient, across the CHOs. In 2017 CHOs 4 and 9 have, on average, longer terms of stay than other CHOs; the median stay in these CHOs however is in line with others, indicating that the average is inflated by a small number of long-term residents, rather than a general longer average stay per person.

Rates of admission by county in given below in Figs 28-31. While there are no immediately clear patterns, the North-West of the country: Sligo, Leitrim and Donegal have the highest rate of admission in total and the highest rates in admission for treatment of alcoholic disorders, schizophrenia and delusional disorders and rank highly in depressive disorders.

Fig 31: Rates of admission per 100,000 by County (2017)

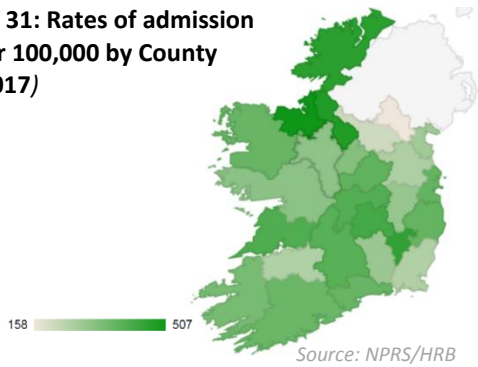


Fig 32: Rates of admission for Schizophrenia and Delusional Disorders per 100,000 by County (2017)

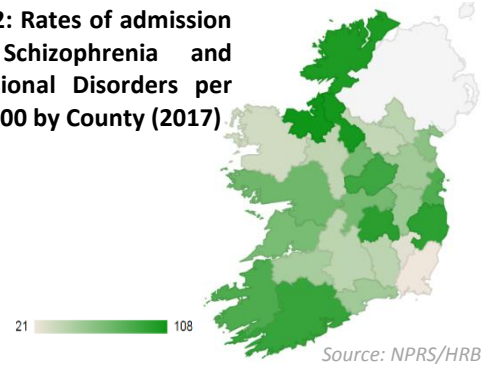


Fig 33: Rates of admission for Depressive Disorders per 100,000 by County (2017)

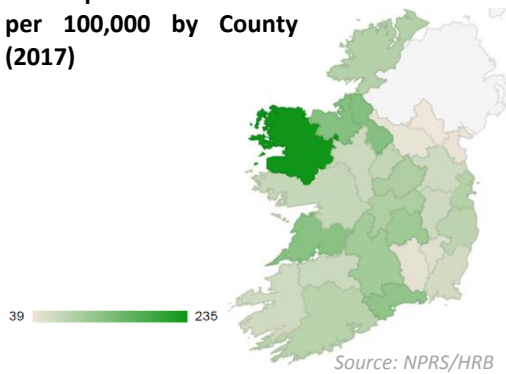
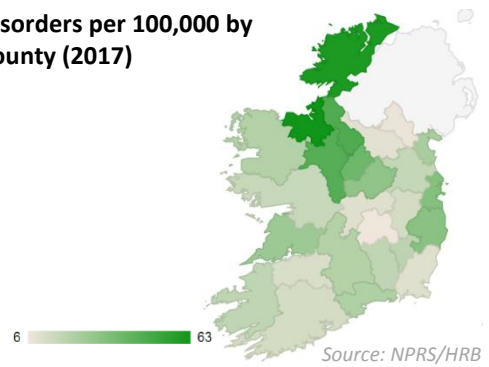
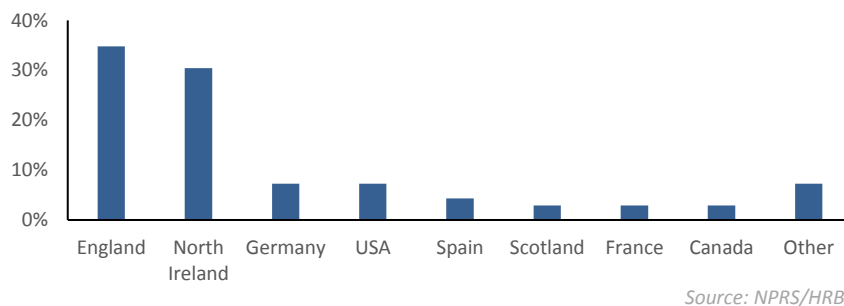


Fig 34: Rates of admission for Alcoholic Disorders per 100,000 by County (2017)



Of the 69 people of non-residence admitted in 2017, 45 (65%) were resident in either England or Northern Ireland. The remainder is made up of several countries, the most represented of which are Germany and the USA. People from *England* and *Northern Ireland* made up over 60%. The countries of origin for remaining non-resident admissions were constituted of *Germany, USA, Spain, Scotland, France, Canada* and *Other*.

Fig 35. Admission of non-residence; country of address given at admission (2017)



2.7 Health Status

The mental health issue responsible for the highest amount of admissions in 2017 was *Depressive Disorders* at one quarter of all admissions. Schizophrenia and associated disorders accounted for 20% of admissions. *Mania*, *Neuroses*, *Alcohol*, and *Drug disorders* each accounted for 7-10% of admissions. Depression and Schizophrenia had the highest rates of readmitted patients at around a quarter.

Fig 36. Average Length of Stay (2017 Discharges)

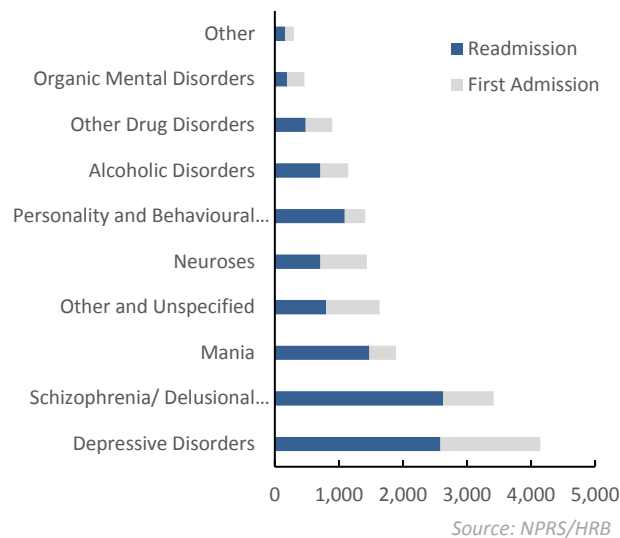
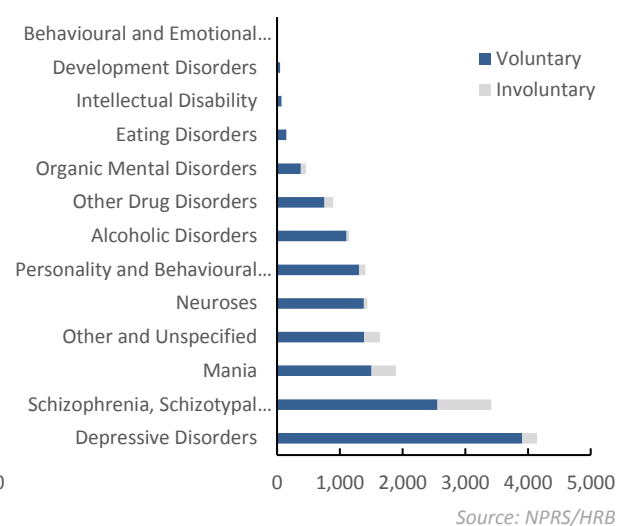


Fig 37. Total admissions by Voluntary Status (2017)



Depressive disorders, *Schizophrenia* and *Mania* also had the highest rates of non-voluntary admission, with *Schizophrenia* being an outlier, with 25% involuntary admission; this is followed by *Mania* at 20%.

A similar pattern holds for the average stay length across disorders, with *Depression*, *Schizophrenia*, and *Mania* resulting in the longest stays in acute care, as per 2017 discharges.

When analysed across Sex there is some variation across admission disorder type. While admissions for treatment of *Schizophrenia* is still the highest across both sexes, the rate is significantly higher among males. Males also have higher rates of admission in this survey for *Organic MH Disorders*, *Intellectual Disability*, *Alcoholic* and *Drug Disorders*. Females surveyed, in contrast, have marginally higher levels *Depressive Disorders*, *Mania*, *Personality Disorders*, *Mania*, and *Eating Disorders*.

Fig 38. Number of Admissions by Disorder & Sex (2017)

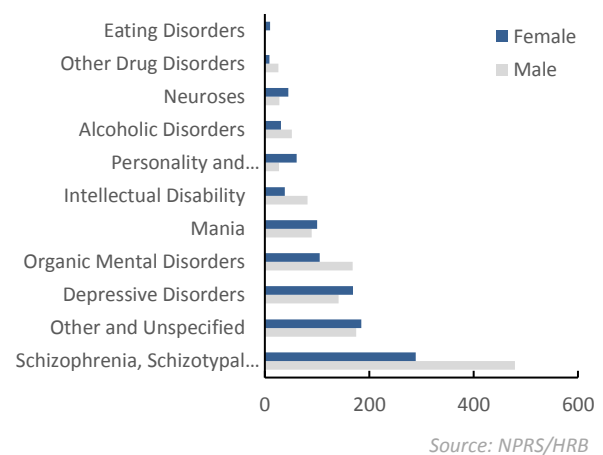
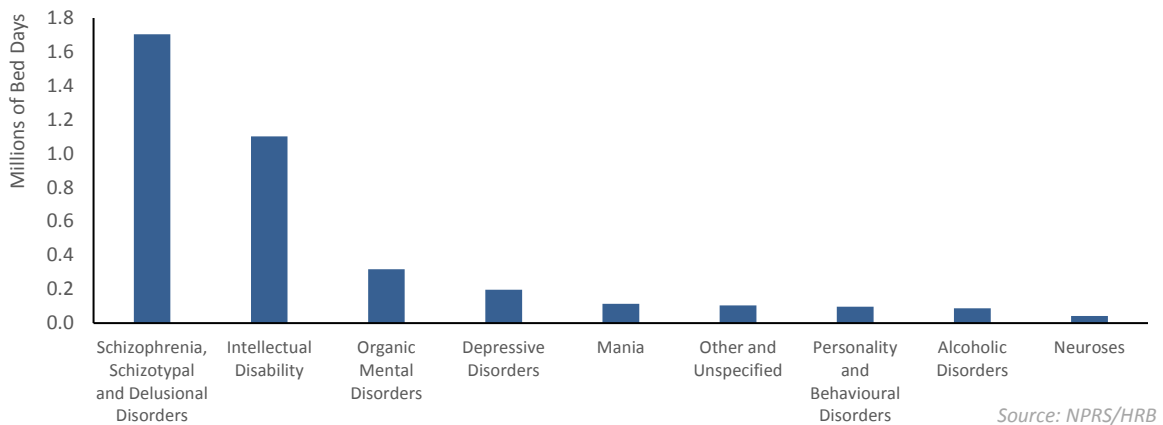


Fig 39. In-patient days in Psychiatric Units and Hospitals on Census Night by Disorder type (2017)

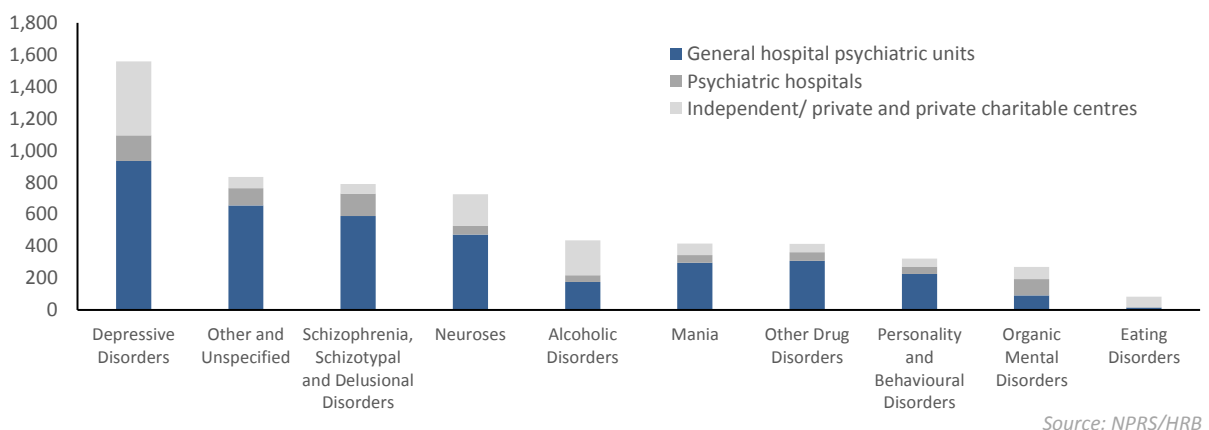


Focusing specifically on psychiatric patients in Hospitals (general and psychiatric), as shown in Fig 39, there is a slightly different pattern in the ordering of conditions. While *Schizophrenia* is associated with the largest amount of in-patient days, as would be expected, given the prevalence of the condition (Fig 38) and its association with longer stays (Fig 39). *Intellectual Disability* however is associated with the second largest amount of in-patient days in Hospital units as of 2017.

2.8 Organisational

The most frequent disorder for people admitted in 2017 was *Depressive Disorders*, followed by *Schizophrenia and Associated Disorders* and *Neuroses*. There was wide variation in the care setting patients were admitted to by type. General hospital psychiatric units accounted for the highest portion of admissions for *Other Drug Disorders*, *Personality and Behavioural Disorders* and *Schizophrenia and Related Disorders*. Psychiatric hospitals accounted for the highest portion admissions with *Organic Mental Disorders*, *Behavioural Disorders*, and *Intellectual Disability*. Independent and private charitable centres had the highest portion of admissions in *Eating Disorders*, *Alcohol Disorders*, and *Depressive Disorders*.

Fig 40. Total Admission by Condition and Hospital Type (2017)



The average length of stay in acute mental health services in 2017 generally varied between 0-3 months, with the largest group patients staying for less than a week, and second largest for between 1 and 3 months. A relatively small cohort of around 1000 patients were in acute care for more than three months, at the time of the 2017 survey.

Fig 41. Length of Stay by Sex (2017)

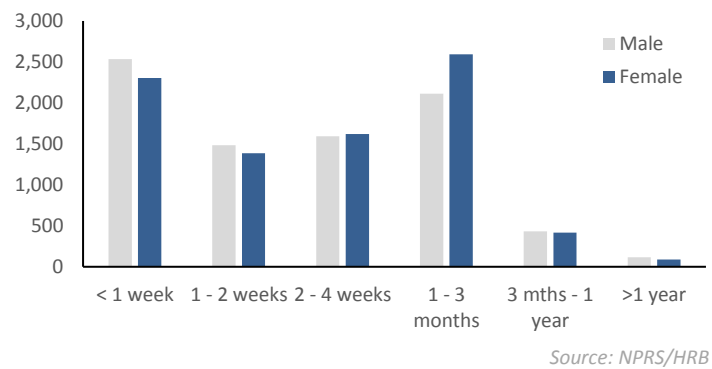
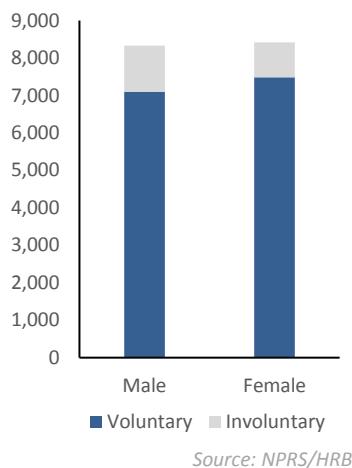


Fig 42. Total admissions by Sex and Legal Status (2017)



The vast majority of patients in acute mental health care at the time of the in-patient survey in 2017 were in care voluntarily. In 2017 15% of males and 11% of females were in care involuntarily. The disorders with the highest portions of patients kept in care involuntarily were *Schizophrenia and Associated Disorders* (25%), *Mania* (20%), and *Organic Mental Disorders* (18%). Considering only first-admissions, the rate of involuntary patients is on the whole higher, with 35% of patients suffering from schizophrenia and associated disorders, and 25% of patients with an intellectual disability kept in care involuntarily.

3. Conclusions

This paper has analysed the social demographics of patients in acute mental health care services along the dimensions of sex, marital status, age, socio-economic group, homelessness status, ethnicity, region, and health status. From a policy perspective this serves to illustrate the types of people in receipt of state services, helping to inform allocation and policy decisions. Secondly it provides a baseline analysis of current demographics which may be revisited in the future to analyse change over time, which may be the result of policy or demographic changes.

The main next step which could be considered, moving on from this work, would be to expand the analysis to community mental health care in Ireland. This should become possible in the future as patient data inputting and storage switches entirely to IT based systems.

4. References

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5. Appendix

Methodology for estimation of indications of mental health issues using Healthy Ireland Survey:

Question 45 of Wave 2 of the Healthy Ireland Survey asks a number of questions loosely relating to Mental Health Status.

	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
Did you feel full of life?	1	2	3	4	5	6
Have you been a very nervous person?	1	2	3	4	5	6
Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
Have you felt calm and peaceful?	1	2	3	4	5	6
Did you have a lot of energy?	1	2	3	4	5	6
Have you felt downhearted and blue?	1	2	3	4	5	6
Did you feel worn out?	1	2	3	4	5	6
Have you been a happy person?	1	2	3	4	5	6
Did you feel tired?	1	2	3	4	5	6

Using the responses, we rescored each question to score low for a response which indicates good mental health, and high for a response. In practice this simply meant subtracting the response from

questions 2, 3, 6, 7 and 9 from the number 7 (thus inverting the score to be consistent with the remaining questions). We grouped responses into five categories.

“Indicative” refers to responses which fell into group 4, while “Very Indicative” refers to responses which fell into group 5.

2.7% of respondents fell into category 4, and 0.53% into category 5. At a high level this places the positive response rate in line with indicative responses in Census 2016.

6. Quality Assurance

Quality Assurance Process

To ensure accuracy and methodological rigour, the author engaged in the following quality assurance process.

- Internal/Departmental
 - Line management
 - Spending Review Sub-group and Steering group
 - Peer review (IGEES network, seminars, conferences etc.)
- External
 - Other Government Department