

Physical health disparities and mortality among people with severe mental illness in Northern Ireland

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Date: July 2024

This Data Insight examines the relationship between severe mental illness (SMI), selected chronic disorders, and mortality in a population attending at hospital settings in Northern Ireland (NI) over a 12-year period.

What we did

We linked several administrative databases stored within the Honest Broker Service. These comprised:

- All persons aged twenty years or more, and registered with a General Practitioner at 01/01/2010
- hospitals admissions data (2010–2021)
- an indicator of small area-level social deprivation in 2010
- Northern Ireland Multiple Deprivation Measure
- All-cause mortality information

After initial examination, we selected seven of the most prevalent chronic physical conditions: chronic kidney disease, malignant neoplasms, diabetes mellitus, chronic obstructive pulmonary disease, chronic heart failure, myocardial infarction, and stroke.

We used a range of statistical techniques: sex-specific age-standardised rates, logistic regression (SMI, number of conditions and socio-demographic indicators), and survival analysis (all-cause mortality and SMI).

Findings are derived from the general hospital population aged 20 years or older, with follow-up over twelve years.

Background

People with severe mental illness (SMI) – classified as those who have schizophrenia or bipolar disorder – die of mostly preventable causes, and at ages younger than in the general population. Approximately 50% of people with SMI record physical chronic conditions.

What we found

This study indicates:

- Being male, living in socially deprived circumstances (Figure 1 in Appendix), and living in a non-rural area are factors associated with a higher likelihood of an SMI diagnosis.
- Physical health multimorbidity – having two or more health conditions – and all-cause mortality were much higher in people with SMI.
- The most prevalent chronic conditions were chronic kidney disease (16.2 and 14.4% for males and females, respectively); malignant neoplasms (15.6 and 11.7%); diabetes mellitus (12.6 and 8.2%); and chronic obstructive pulmonary disease (9.1 and 7.3%), with the remaining circulatory diseases featuring less prominently.
- Age-standardised rates associated with no stated conditions reduce over time, whereas those associated with the accumulating conditions increase (Table 1).
- Those recording SMI had a two-fold excess all-cause mortality risk when compared with those recording no SMI (Table 1).

Why it matters

Perceived inequality in the value placed on mental health services compared to physical health services has become a significant policy issue in the UK. This research highlights links between these two types of health needs.

In the UK, approximately 15 million people experience physical chronic conditions, with close to 7 million experiencing multi-morbidities. Multi-morbidity has more than doubled between 2003/2004 and 2015/2016.

This research will inform policymakers on how to efficiently allocate spending towards services and pathways to care, such as better screening for SMI patients.

What next?

Our study highlights the need for better health surveillance and early intervention for SMI patients. More effective promotion of healthy behaviours and psychoeducational programmes are required.



Appendix

Figure 1: The association between area-level deprivation and likelihood of SMI diagnosis

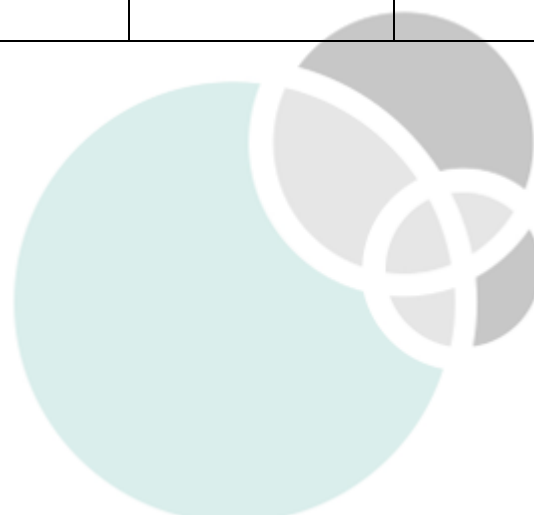


Table 1: Sex-specific age-standardised rates for all chronic conditions recorded at hospital admission, by year (2010, 2015 & 2020)*

* Data represents (a) rates per 1,000 of the annual hospital population & 95% Confidence Intervals; and (b) numbers and proportions of each condition recorded.

	2010	2015	2020	all years
	ASR (95% CI)	ASR (95% CI)	ASR (95% CI)	n (%)
male				
hospital population (proportion of 2010 population)	n=91,176 (100%)	n=97,880 (107%)	n=74,412 (82%)	n=408,080
chronic kidney disease	58 (56.6, 59.6)	93 (91.8, 95.1)	113 (110.8, 114.9)	66,302 (16.2)
malignant neoplasms	74 (72.3, 75.5)	80 (78.6, 81.7)	100 (98.5, 102.3)	63,746 (15.6)
diabetes mellitus	82 (80.1, 83.5)	96 (94.5, 97.9)	123 (121.1, 125.4)	51,504 (12.6)
COPD	48 (47.2, 49.8)	59 (57.4, 59.9)	64 (62.4, 65.4)	37,281 (9.1)
chronic heart failure	35 (33.7, 36.0)	38 (36.6, 38.7)	48 (46.8, 49.4)	29,475 (7.2)
myocardial infarction	20 (19.1, 20.8)	18 (17.4, 19.0)	21 (20.0, 22.0)	22,181 (5.4)
stroke	18 (17.0, 18.6)	17 (16.1, 17.6)	21 (20.1, 22.0)	20,060 (4.9)

number of conditions				
0	758 (755, 760)	727 (724, 729)	668 (665, 671)	na
1	178 (175, 180)	186 (183, 188)	222 (219, 225)	
2	47 (46, 48)	61 (60, 62)	76 (75, 78)	
3	14 (13, 15)	20 (19.5, 21.1)	26 (25, 27)	
4 to 7	4 (3.6, 4.4)	6.3 (5.8, 6.7)	7.4 (6.9, 7.9)	
schizophrenia	7.0 (6.5, 7.6)	8.5 (7.9, 9.1)	12 (11.2, 13.1)	4,133 (1.0)
bipolar disease	1.8 (1.5, 2.1)	2.6 (2.2, 2.9)	3.7 (3.2, 4.2)	1,427 (0.4)
SMI: serious mental illness	8.5 (7.9, 9.2)	10.2 (9.6, 10.9)	14.0 (13.1, 14.9)	5,319 (1.4)
female				
hospital population (proportion of 2010 population)	n=129,614 (100%)	n=132,051 (102%)	n=95,958 (74%)	n=510,367
chronic kidney disease	40 (39, 41)	84 (82.4, 85.1)	108 (106.0, 109.5)	73,483 (14.4)
malignant neoplasms	57 (56, 59)	61 (59.4, 61.9)	80 (78.4, 81.7)	59,554 (11.7)
diabetes mellitus	57 (56, 58)	66 (65, 67)	86 (83.9, 87.2)	41,831 (8.2)
COPD	41 (40, 42)	55 (54, 56)	62 (60.3, 63.1)	37,083 (7.3)
chronic heart failure	27 (26, 28)	31 (30.5, 32.2)	37 (35.6, 37.6)	29,555 (5.8)
myocardial infarction	10.2 (9.6, 10.7)	8.9 (8.5, 9.4)	8.8 (8.3, 9.4)	12,761 (2.5)
stroke	16 (15.5, 16.8)	14 (13.5, 14.7)	17 (16.4, 17.9)	21,038 (4.1)
number of conditions				
0	812 (810, 814)	773 (771, 775)	722 (719, 725)	na
1	144 (142, 145)	160 (158, 162)	191 (188, 193)	
2	34 (33, 35)	48 (47, 50)	63 (62, 65)	
3	9 (8.0, 9.1)	15 (14, 16)	20 (19, 20)	
4 to 7	2.2 (1.9, 2.4)	3.5 (3.2, 3.8)	4.4 (4.0, 4.8)	
schizophrenia	3.6 (3.2, 3.9)	4.4 (4.0, 4.8)	6.1 (5.6, 6.6)	3,333 (0.7)
bipolar disease	2.5 (2.2, 2.8)	3.8 (3.5, 4.1)	5.5 (5.0, 6.0)	2,638 (0.5)
SMI: serious mental illness	5.9 (5.5, 6.3)	8.2 (7.7, 8.7)	11.3 (10.7, 12.0)	5,648 (1.2)



Acknowledgements

The authors acknowledge help provided by the staff of the Honest Broker Service (HBS) within the Business Services Organisation Northern Ireland (BSO). The HBS is funded by both BSO and the Department of Health. The authors alone are responsible for interpretation of the data and opinions presented are solely those of the author and do not necessarily represent those of the BSO.

This work was conducted by researchers at the Administrative Data Research Centre Northern Ireland (ADRC NI), a collaboration between academics from Queen's University Belfast and Ulster University. ADRC NI brings extensive knowledge and experience in developing innovative research for public benefit, analysing complex datasets, and conducting independent public and policy engagement.

This study is linked to the CHOICE Research Project: Challenging Health Outcomes/Integrating Care Environments. We have established a community coalition led by Professor Leavey to combat health and social inequalities. CHOICE was funded by the Arts & Humanities Research Council, part of UK Research and Innovation.

This work was supported by ADR UK (Administrative Data Research UK). ADR UK is a partnership transforming the way researchers access the UK's wealth of public sector data, to enable better informed policy decisions that improve people's lives. ADR UK is an Economic and Social Research Council (ESRC) investment, part of UK Research and Innovation.

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