



Social integration of people with non-psychotic mental illness over the last 2 decades: the widening gap in the adult population in Belgium

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Abstract

Purpose Social integration is poor among people with mental illness (MI). In recent decades, many countries have developed policies to address this issue. It remains unclear, however, whether their social integration has improved over time. This study aimed to assess the evolution of the social integration of adults with moderate and severe non-psychotic MI compared to the general population without MI between 1997 and 2018 in Belgium.

Methods Data on the general adult population were retrieved from the Belgian Health Interview Survey in six cross-sectional waves from 1997 to 2018. Three degrees of non-psychotic MI severity were compared using the 12-items General Health Questionnaire: no MI, moderate MI, and severe MI (score < 4, 4–7, and > 7). Social integration was measured using indicators relating to employment, income, social contacts, and partnership.

Results Since 1997, the probability of being unemployed, having limited social contacts, and living on less than 60% of the median national income has been increasing among people with severe non-psychotic MI. Between 1997 and 2018, social integration increased among the general population without MI and among people with moderate non-psychotic MI, but decreased among people with severe non-psychotic MI.

Conclusion The gap between the social integration of people with severe non-psychotic MI and people with moderate or no MI has widened over time, despite major reforms of mental health care and policies. Policymakers and clinical practitioners should pay more attention to supporting the social integration of people with more severe MI, particularly in relation to employability and social support.

Keywords Mental illness · Social integration · Employment · Social support

Introduction

People with mental illness (MI) struggle with their social integration such as finding a job and maintaining social or intimate relationships. Social integration is a multidimensional concept that can be defined as the participation of an individual in the key dimensions of the society in which he or she lives [1, 2]. The Centre for the Analysis of Social Exclusion (London School of Economics) has identified four main dimensions based on the different existing definitions of social integration [1]: (1) consumption, i.e. the capacity to purchase goods and services, (2) production, i.e. participation in economically or socially valuable activities, (3) social interaction with family, friends, and community, and (4) social and political engagement, i.e. how people engage with and influence their environment. Although between 70 and 90% of people with MI want to work [3–6], employment

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rates among people with MI are lower than those in the general population without MI and those among people with other chronic diseases. Compared to the general population, the risk of being unemployed is two to three times higher for people with moderate MI and six to seven times higher for people with severe MI [7]. People with MI are also more likely than the general population to interact infrequently with others and to be socially isolated, and therefore to be socially excluded, they have less access to opportunities and facilities in the community [8, 9].

Global mental health movements and international bodies (e.g. the World Health Organization—WHO [10, 11], the World Psychiatric Association—WPA [12]) have increasingly supported the goal of improving the social integration of people with MI and many countries have developed interventions and policies intended to achieve that goal, such as specific vocational programmes and services for people with MI [13, 14]. However, there is limited comprehensive epidemiological data and figures on the extent of the social integration of people with MI and its evolution over recent decades. Social integration interventions and policies are, therefore, not often based on empirical evidence relating to the needs of people with MI and the extent of their social integration. It is, moreover, unclear whether the social integration of people with MI over time has improved since the implementation of these interventions and policies. Although social integration is a multidimensional concept, most epidemiological studies have focused on indicators of the economic integration of people with MI, such as employment rates [15–17] and income [18–20]. It is difficult, therefore, to obtain a comprehensive picture of the social integration of people with MI and its evolution over time. Furthermore, most studies (1) have focused on people with schizophrenia or first-episode psychosis and (2) have not made systematic comparisons between those groups and the general population without MI. Psychotic disorders are low-prevalence disorders (present in about 1% of the general population) characterised by high levels of impairment and disability [21–23]. It is necessary, therefore, to consider a wider spectrum of people with MI. It is unclear whether the lack of improvement in social integration over time is specific to people with psychotic disorders and whether it has evolved differently for people with other forms of severe or moderate MI. In addition, the social integration of an individual is directly related to the average level of social integration in the society in which he or she lives [8]. The social integration of a group such as mentally ill people should, therefore, be analysed in comparison with the general population.

The goal of this study was to assess the evolution of the social integration of adults with moderate and severe MI in comparison with the general population between 1997 and 2018 in Belgium. This study also aimed to obtain a more

comprehensive view of the social integration of mentally ill people. Since 2010, Belgium has undergone an important reform of its mental health care system with the aim of improving patient social integration. Our analysis will provide a valuable insight into how successful the reform has been in achieving its aims.

Methods

Setting

A reform of the mental health care system has been implemented in Belgium since 2010. The policy underpinning the reform had various objectives, such as the personal recovery and social integration of people with mental health needs, the improvement of continuity of care, shorter and less frequent hospital stays, and the strengthening of the community-based care system. The reform mainly focuses on the establishment of networks of services to cover all mental health care needs in a defined area and provide five care functions: (1) prevention and early detection, (2) outreach, (3) personal recovery and social integration, (4) intensive inpatient treatment, and (5) specific housing and long-term facilities. The reform was implemented from the bottom up, leaving extensive autonomy to local care stakeholders in the development of their own networks of services, and resulted in a variety of projects [24]. The Belgian health care system is a market-regulated, social insurance-based system characterised by a substantial level of corporatism in policy decision-making [25]. The programme theory of the Belgian mental health care reform has been analysed in detail elsewhere [26].

Study population

Data were extracted from six successive cross-sectional waves of the Health Interview Survey (HIS) carried out in Belgium in 1997, 2001, 2004, 2008, 2013, and 2018. Using a representative sample, the Belgian HIS collects information on the health and well-being, health behaviour and lifestyle, health care use, and physical and social environment of the Belgian population over the age of 15. Participants were selected from the national register using a multistage stratified sample. It was not possible to link the participants between the waves. Weighting factors were also calculated and used to reflect the differential selection probability, correct for differential response rates, and adjust the sample distribution, using known population distributions. The participation rate in the different waves of the survey is about 60% with an average of 10,000 respondents per wave. The detailed methodology has been published elsewhere [27]. Based on the OECD definition [28], we

included working-age participants aged between 15 and 64. We only included people with no missing data for the variables assessing the mental health status. The proportion of data on participants' mental health status that was missing in the different survey waves was less than 5%. The sample ranged from 4846 participants (in 2013) to 7370 (in 2001).

The mental health status of the participants was assessed in the different waves using the 12-item General Health Questionnaire (GHQ-12). The GHQ-12 is a validated tool used to measure psychological distress at a specific point in time in the general population [29]. GHQ-12 scores range from 0 (no psychological distress) to 12 (severe psychological distress). A GHQ-12 score ≥ 4 was used as the cut-off point to identify the presence of a probable non-psychotic mental illness, as in other studies [30]. The upper scores were then categorised into two severity groups: moderate mental illness (score 4–7) and severe mental illness (score 8–12) [31]. A high GHQ-12 score is associated with a chronic course of severe mental illness [32]. Finally, we identified three groups: the general population without MI (GHQ score < 4), the population with moderate MI (GHQ score 4–7), and the population with severe MI (GHQ score 8–12).

Indicators of social integration

As previously explained, social integration can be defined as participation in key dimensions of society such as (1) consumption, i.e. the capacity to purchase goods and services, (2) production, i.e. participation in economically or socially valuable activities, (3) social interaction with family, friends, and community, and (4) social and political engagement, i.e. how people engage with and influence their environment [1]. In this study, four dichotomous indicators were chosen to capture the first three main dimensions of social integration. No indicator was available to assess the fourth dimension (see the “Strengths and limitations” section). For the first dimension, the economic integration and purchasing capacity of people with MI (e.g. the capacity to live in independent housing) are directly related to income. The indicator used, therefore, was having an income of at least 60% of the median national income. For the production dimension, employment status is an indicator that is used widely to measure participation in economically or socially useful activities [8]. In this study, employment status was determined by whether the person had a paid job at the time of the interview. Having a paid job, regardless of the salary, is a key dimension of social integration; a paid job enables a person with MI to feel integrated, because they have a meaningful social role [8]. For the third dimension

of social interaction, two indicators were used. The first indicator was frequency of social contact [2]. The indicator used in this study was whether the person had at least one social contact per week: “Usually, how often are you in contact with parents, children, friends, acquaintances, etc.: less than once a week/more than once a week?”. The second indicator was partnership status and the indicator that was used was whether the person was married or lived with his or her partner [8]. Having a partner is an important and stable source of support as it provides continuous interpersonal closeness, emotional gratification, and support in coping with socio-environmental stressors.

Data analysis

Descriptive statistics were computed for socio-demographic characteristics, mental health status, and social integration indicators of the study population in each survey year. ANOVA and Chi-square tests were performed to assess the significance of the differences in the socio-demographic characteristics of the population between the six cohorts.

All the following statistical analyses have been adjusted for the age, gender, and educational status of individuals. Adjusted prevalence rates of social integration indicators were computed by year for the three groups (people with severe MI, people with moderate MI, and the general population without MI) using direct standardisation, with the 1997 Belgian population as the reference. Absolute changes in prevalence rates between 1997 and 2018 were calculated. Trends in social integration indicators between 1997 and 2018 were also assessed in terms of Average Annual Percent Change (AAPC). AAPC is a single measure that describes the average change in prevalence rates over a period of several years [33]. The final stage was quantifying and testing for the change over time in the four indicators of social integration for people with moderate MI and people with severe MI compared to the general population without MI. Multivariate logistic regression models were used to test the association between each of the four social integration indicators and mental health status (with the general population without MI as the reference group), year as a dummy variable (with 1997 as the reference year), and an interaction between mental health status and year. The interaction enabled us to account for the differences in the distribution of mental health status between the six waves. Then, the coefficients of the regressions were then used to compute the odds ratio of each social integration indicator in each year, compared to 1997, and for people with moderate and severe MI compared to the general population without MI. Previous

studies have highlighted that having a severe MI is a greater obstacle to the social integration of men than to that of women [34, 35]. Additional analyses were therefore carried out by gender to assess the differences between the social integration indicators for men with MI and those for women with MI in 1997 and 2018 (see Additional Fig. 1).

Average annual percent change measurements were computed using the Joinpoint Regression Program. Other statistical analyses were performed using SAS 9.3.

Results

Study population characteristics

The six cohorts are presented in Table 1. The distribution of the population between cohorts was comparable in terms of age, gender, education, and mental health, despite some sampling differences. For example, in terms of mental health status, the crude prevalence of moderate MI slightly

Table 1 Characteristics of samples in the six cross-sectional waves

Variables	1997 (<i>n</i> = 6571)	2001 (<i>n</i> = 7370)	2004 (<i>n</i> = 6692)	2008 (<i>n</i> = 5567)	2013 (<i>n</i> = 4846)	2018 (<i>n</i> = 5926)	ANOVA/Khi2 (<i>p</i> value)
Age (y.), mean (SD)	38.8 (13.38)	39.7 (13.4)	40.3 (13.8)	40.6 (13.8)	41.9 (13.5)	42.7 (13.5)	17.2 (<0.01)
Gender, male, <i>n</i> (%)	3262 (49.6)	3622 (49.1)	3200 (47.9)	2676 (48.1)	2295 (47.4)	2824 (47.6)	10.2 (0.06)
Educational status, <i>n</i> (%)							
No/Primary	821 (12.5)	825 (11.2)	675 (10.1)	435 (7.8)	354 (7.3)	504 (8.5)	97.5 (<0.01)
Secondary lower	1137 (17.3)	1261 (17.1)	1118 (16.7)	769 (13.8)	587 (12.1)	836 (14.1)	
Secondary higher	2162 (32.9)	2366 (32.1)	2129 (31.8)	1881 (33.8)	1638 (33.8)	1932 (32.6)	
Higher	2451 (37.3)	2918 (39.6)	2770 (41.4)	2482 (44.6)	2267 (46.8)	2654 (44.8)	
Mental health status, <i>n</i> (%)							
General pop. (GHQ < 4)	5382 (81.9)	6329 (85.9)	5751 (86.0)	4704 (84.5)	3898 (80.4)	4745 (80.1)	169.7 (<0.001)
Moderate MI (GHQ 4–7)	803 (12.2)	701 (9.5)	623 (9.3)	577 (10.4)	595 (12.3)	741 (12.5)	
Severe MI (GHQ > 7)	386 (5.9)	340 (4.6)	318 (4.7)	286 (5.1)	353 (7.3)	440 (7.4)	
Unemployment, <i>n</i> (%)							
Yes	2055 (31.3)	1998 (27.1)	1834 (27.4)	1436 (25.8)	1265 (26.1)	1292 (21.8)	399.8 (<0.001)
No	3792 (57.7)	4474 (60.7)	4069 (60.8)	3369 (60.5)	3063 (63.2)	3935 (66.4)	
Not applicable	709 (10.8)	832 (11.3)	695 (10.4)	662 (11.9)	518 (10.7)	699 (11.8)	
Missing	13 (0.2)	66 (0.9)	93 (1.4)	100 (1.8)	0 (0.0)	0 (0.0)	
Living on less than 60% of the median national income, <i>n</i> (%)							
Yes	1130 (17.2)	1673 (22.7)	1586 (23.7)	1526 (27.4)	862 (17.8)	1511 (25.5)	280.7 (<0.001)
No	5159 (78.5)	4688 (63.6)	4163 (62.2)	3591 (64.5)	3553 (73.3)	3947 (66.6)	
Missing	282 (4.3)	1009 (13.7)	943 (14.1)	450 (8.1)	431 (8.9)	468 (7.9)	
Less than one social contact a week, <i>n</i> (%)							
Yes	565 (8.6)	553 (7.5)	462 (6.9)	201 (3.6)	179 (3.7)	225 (3.8)	175.8 (<0.001)
No	5586 (85.0)	6648 (90.2)	5876 (87.8)	5156 (92.6)	4599 (94.9)	5624 (94.9)	
Not applicable	407 (6.2)	140 (1.9)	301 (4.5)	183 (3.3)	0 (0.0)	0 (0.0)	
Missing	13 (0.2)	29 (0.4)	53 (0.8)	27 (0.5)	68 (1.4)	77 (1.3)	
Partnership status, not being married or not living with a partner, <i>n</i> (%)							
Yes	959 (14.6)	1098 (14.9)	1011 (15.1)	1052 (18.9)	819 (16.9)	1073 (18.1)	89.6 (<0.01)
No	5113 (77.8)	5653 (76.7)	4939 (73.8)	3920 (70.4)	3640 (75.1)	4338 (73.2)	
Not applicable	499 (7.6)	619 (8.4)	742 (11.1)	595 (10.7)	387 (8.0)	515 (8.7)	

decreased from 12.2% in 1997 to 9.3% in 2004, then gradually increased to 12.5% in 2018. Similarly, the crude prevalence of severe MI decreased from 5.9% in 1997 to 4.7% in 2004, then gradually increased to 7.4% in 2018.

Regarding the evolution of the social integration of the general Belgian adult population between 1997 and 2018, there was a significant decrease in the unemployment rate and in the proportion of individuals with less than one social contact per week. The proportion of individuals living on less than 60% of the median national income, however, increased significantly over time as did the proportion of people who were neither married nor living with a partner.

Trends in social integration indicators, 1997–2018

Table 2 presents summary measures from 1997 to 2018 of adjusted prevalence and odds ratios of social integration indicators of people with moderate and severe MI compared to the general population without MI. The evolution over time of the adjusted prevalence of the four social integration indicators is illustrated in Fig. 1.

In each wave, for all four indicators, social integration decreased in accordance with the severity of the mental illness (the general population without MI is more socially integrated than people with moderate MI, who are more integrated than people with severe MI). Overall, between 1997 and 2018, the gap between the social integration of people with severe MI and people with moderate or no MI widened. The results for the adjusted prevalence of the four social integration indicators revealed two different trends: (a) the social integration indicators relating to employment status and social contact improved over time for the general population without MI and for people with moderate MI but not for people with severe MI; (b) the social integration indicators relating to income and partnership status, however, remained relatively stable over time for the general population and for people with moderate MI but worsened for people with severe MI.

Between 1997 and 2018, the unemployment rate decreased among the general population without MI (− 12.7%) and among people with moderate MI (− 3.9%) but increased among people with severe MI (+ 5.3%). In the general population, the average annual percent change (AAPC) of the unemployment rate showed a significant annual decrease of 0.90%. The AAPC of the unemployment rates among people with moderate MI and among people with severe MI were not significantly different from 0.

Regarding social contact, the proportion of individuals with less than one social contact per week decreased between 1997 and 2018 in all three groups (− 4.9% in the general population, − 7.1% among people with moderate MI, and − 4.3% among people with severe MI). The

decrease over time was more pronounced in the general population without MI, with a significant AAPC of − 6.2%.

Conversely, the proportion of individuals living on less than 60% of the median national income increased between 1997 and 2018 in all three groups (+ 3.9% in the general population, + 5.4% among people with moderate MI, and + 11.6% among people with severe MI). For people with severe MI, poverty increased significantly: by 1.5% per year (AAPC).

In relation to partnership status, the proportion of people who were neither married nor living with a partner was stable over time in the general population without MI, decreased by 0.9% among people with moderate MI, and increased by 9.0% among people with severe MI. Over time, there was a significant increase in the proportion of people who were neither married nor living with a partner among people with severe MI, with an AAPC of 1.7%.

Logistic regression analyses revealed that the probability of being unemployed, of having less than 60% of the median national income, and of having less than one social contact per week increased for people with moderate MI and severe MI over time compared to the general population without MI (reference year: 1997). The probability of being unemployed in 2001 was 1.31 ($p < 0.05$) for people with moderate MI and 1.63 ($p < 0.01$) for people with severe MI compared to the general population without MI. Those probabilities increased, respectively, to 2.33 ($p < 0.001$) and 5.41 ($p < 0.001$) in 2018. Compared to the general population, the probability of living with less than 60% of the median national income remained stable over time for people with moderate MI (from 1.39 in 2001 to 1.59 in 2018) and increased for people with severe MI (from 1.28 in 2001 to 2.73 in 2018).

In 2001, the probability of having less than one social contact per week was 1.41 ($p < 0.001$) for people with moderate MI and 2.31 ($p < 0.001$) for people with severe MI. Those probabilities increased to 2.73 ($p < 0.001$) and 4.36 ($p < 0.001$), respectively, in 2018. Finally, the probability of neither being married nor living with a partner remained relatively stable over time for people with moderate and severe MI, although it remained significantly higher than for the general population without MI.

Discussion

Main findings

This study is consistent with the results of previous studies that found a gradient of social integration according to the severity of mental illness (MI) [36]; people with severe MI are less socially integrated than people with moderate MI, who are less so than the general population without MI.

Table 2 Social integration indicators by mental health status and year, summary measures, Belgian adult population in 1997, 2001, 2004, 2008, 2013, and 2018

Summary measures		Years						Indicators	
		1997	2001	2004	2008	2013	2018	Absolute change ^c 1997/2018	AAPC ^d
Unemployment	Adjusted ^a prevalence (%), Fig. 1								
	General population without MI	34.4	31.0	30.2	28.7	24.6	21.7	- 12.7	- 0.9*
	Moderate mental illness	40.5	36.2	37.9	38.9	40.3	36.6	- 3.9	- 0.05
	Severe mental illness	50.1	38.8	42.5	51.2	55.8	55.4	5.3	0.6
	Adjusted ^b odds ratio (OR)								
	General population without MI	REF	REF	REF	REF	REF	REF	-	-
Moderate mental illness	REF	1.31*	1.55**	1.78***	1.81***	2.33***	-	-	
Severe mental illness	REF	1.63**	1.54**	2.95***	3.83***	5.41***	-	-	
Less than 60% of the median income	Adjusted ^a prevalence (%), Fig. 1								
	General population without MI	16.5	22.3	23.6	26.4	22.6	20.4	3.9	- 0.1
	Moderate mental illness	18.9	20.6	22.4	28.9	26.4	25.3	5.4	1.1
	Severe mental illness	19.2	24.7	25.8	32.2	28.3	30.8	11.6	1.5*
	Adjusted ^b odds ratio (OR)								
	General population without MI	REF	REF	REF	REF	REF	REF	-	-
Moderate mental illness	REF	1.39*	1.31*	1.26*	1.52**	1.59**	-	-	
Severe mental illness	REF	1.28**	1.25*	1.31*	2.19***	2.73***	-	-	
Low social contact	Adjusted ^a prevalence (%), Fig. 1								
	General population without MI	7.3	6.5	5.9	2.7	2.4	2.4	- 4.9	- 6.2*
	Moderate mental illness	12.8	10.4	10.4	5.5	5.6	5.7	- 7.1	- 5.1
	Severe mental illness	14.6	14.3	15.9	7.1	9.3	10.3	- 4.3	- 2.4
	Adjusted ^b odds ratio (OR)								
	General population without MI	REF	REF	REF	REF	REF	REF	-	-
Moderate mental illness	REF	1.41***	1.92***	1.95**	2.02**	2.73***	-	-	
Severe mental illness	REF	2.31***	2.89***	2.83***	3.62***	4.36***	-	-	
Not being married or not living with a partner	Adjusted ^a prevalence (%), Fig. 1								
	General population without MI	13.3	13.7	14.7	14.7	14.7	13.8	0.5	1.1
	Moderate mental illness	19.4	19.2	21.0	25.6	17.7	18.5	- 0.9	0.7
	Severe mental illness	19.9	24.6	26.9	31.4	29.6	28.9	9.0	1.7*
	Adjusted ^b odds ratio (OR)								
	General population without MI	REF	REF	REF	REF	REF	REF	-	-
Moderate mental illness	REF	1.34**	1.51**	1.63**	1.45*	1.71***	-	-	
Severe mental illness	REF	1.81***	1.89***	1.96***	1.94***	1.86***	-	-	

p* value < 0.05, *p* value < 0.01, ****p* value < 0.001

^aPrevalence adjusted for age, gender, and educational status

^bOdds ratio from multivariate logistic regression models adjusted for age, gender, and educational status with an interaction between mental health status and years (dummy)

^cAbsolute change = value in 2018 - value in 1997

^dAverage Annual Percent Change = $\left\{ \exp\left(\frac{\sum w_i b_i}{\sum w_i}\right) - 1 \right\} \times 100$

This study shows that, in Belgium, this pattern has been worsening over time, despite recent reforms of mental health care and policies. Between 1997 and 2018, the gap between the social integration of people with severe MI and people with moderate or no MI widened, with two different trends emerging. First, regarding indicators of employment status and social contact, this study indicated an improvement in

the general population without MI and among people with moderate MI but not among people with severe MI. Second, regarding income and partnership status, this study indicated that they were relatively stable over time (or did not change significantly) in the general population and among people with moderate MI, but worsened among people with severe MI.

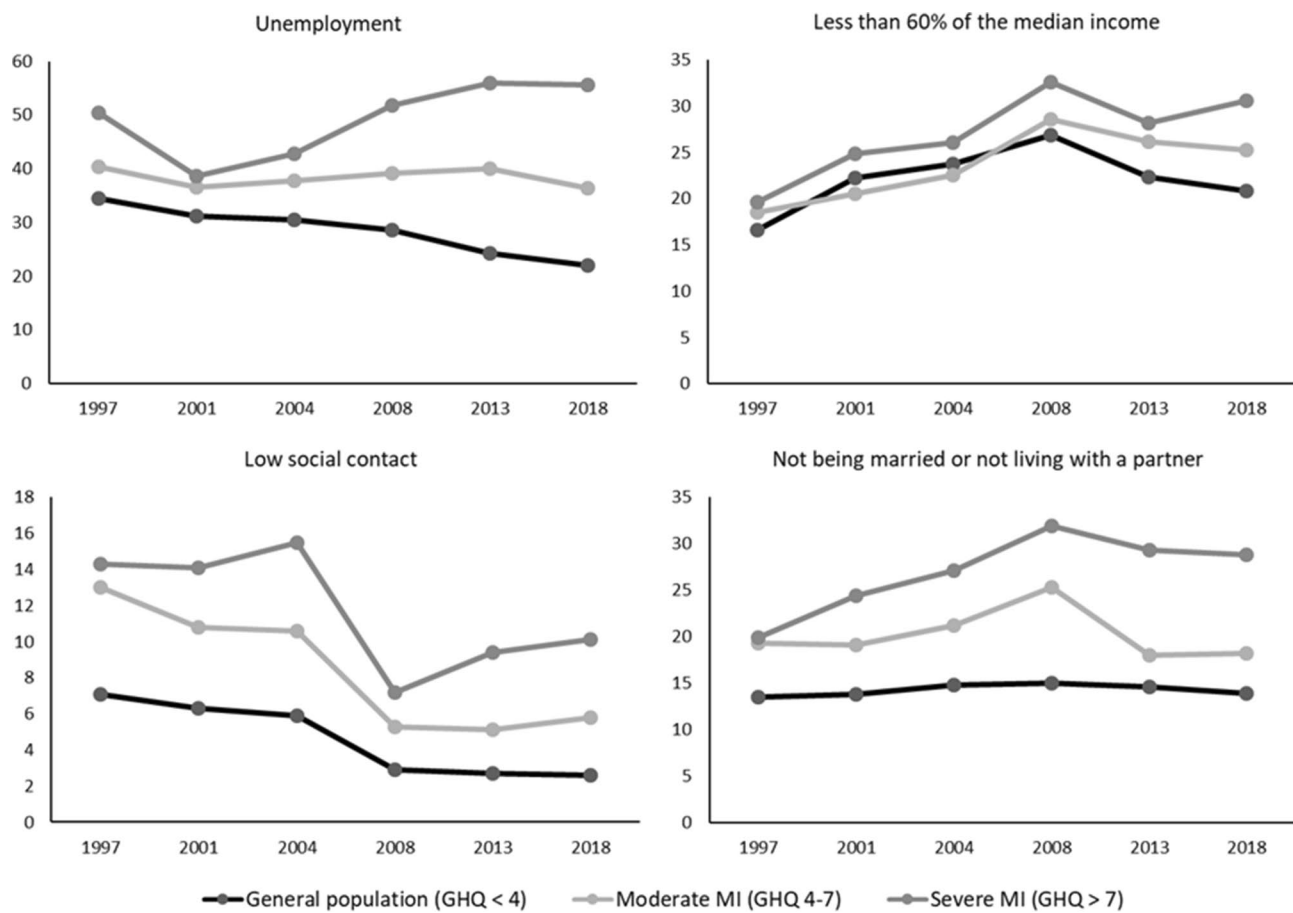


Fig. 1 Adjusted prevalence of social integration indicators by mental health status and year

Strengths and limitations

The main strength of this study is the use of nationally representative samples from six cross-sectional data-collection waves. These data allowed us both to compare people with moderate and severe MI with the general population without MI and to assess the evolution of their social integration over time. Another strength of this study is its multidimensional approach to social integration: it combines indicators relating to the dimensions of employment, income, social contact, and partnership status. One limitation of this study relates to the GHQ-12, which is a validated tool used to identify non-psychotic mental illness in the general population. Although a high GHQ-12 score is associated with chronic course of severe mental illness [32], we cannot know if we have identified people with psychotic disorders in the samples from the six cross-sectional waves. Our additional analyses (see additional Table 1) of the socio-demographic characteristics of the 2018 sample put this limit into perspective by showing that, in our sample of people with a GHQ score greater than 7, characteristics of people with severe MI are present (the majority are men and there is a lower

level of education and a higher proportion of psychotropic drug use than in the other two groups). Another limitation of this study is that, while some people with severe MI are institutionalised, the Belgian Health Interview Survey does not cover the institutionalised population. These limitations could have two effects on our estimates. First, the social integration of people with severe MI in the different time periods of this study may be overestimated, because people with psychotic disorders and institutionalised people often have a lower degree of social integration. Second, the policies implemented in Belgium between 1997 and 2018 aimed, among other things, to discharge people with severe MI into the community. Thus, the bias due to institutionalised populations being missing from the samples may be greater in 1997 than in 2018, which could affect our estimates of social integration trends. Another limitation of this study is the presence of missing data for some indicators, which is a frequent problem with databases from national surveys because of incomplete cases. The lack of information on psychiatric diagnoses is another limitation of this study. Several studies have established an association between psychiatric diagnosis and level of social integration [37, 38]. For example,

an employment rate of between 10 and 20% has been found among people with schizophrenia [39], between 40 and 60% among people with anxiety disorders [40], and up to 60% among people with mood disorders [41]. Finally, this study covers only four dimensions of social integration, mainly because indicators of other dimensions were not available in the six cross-sectional waves of the Belgian Health Interview Survey. Future studies should also explore the social and political engagement dimension (e.g. patient participation in health care decision-making, voting in general elections, being a member of an association, and engaging in cultural activities).

Interpretation of findings

Previous systematic reviews have shown that social integration outcomes for people with severe MI, such as having a job, have not improved in recent decades [42–45]. The studies included in those systematic reviews did not, however, systematically compare the social integration of those groups with that of the general population without MI. Our study in Belgium shows that, if the evolution of the social integration of people with severe MI is compared with that of the general population without MI over time, and thereby taking into account the average level of social integration in the society in which they live, their social integration has not only failed to increase, but has actually decreased.

This study was carried out in Belgium and the results are, therefore, influenced by national social integration policies, the mental health care system, the social welfare system, and the labour market, among other factors. Within the Belgian mental health care system, a reform of the organisation of care has been underway since 2010 with the objective of strengthening community mental health care to improve users' personal recovery and social integration [46]. A recent case–control study we conducted assessed the effectiveness of this reform in relation to continuity of care, quality of life, re-hospitalisation, and the social integration of people with severe MI [47]. That study highlighted that greater exposure to the reform was associated with a slight improvement in perceived continuity of care for people with severe MI but not with better social integration. We hypothesised that the reform had a low impact on outcomes for people with severe MI, because the target groups were not adequately defined within the framework of the reform, which gave extensive autonomy to the different health services in selecting their patients, at the risk of excluding the most vulnerable patients, such as people with complex and severe MI. Although the Belgian mental health care reform originally targeted people with severe MI [26], in practice, it mainly targets the population with mental health needs as a whole and does not propose different organisational mechanisms or services for different target groups, except for age

groups (child and adolescent psychiatry, adult psychiatry, and elderly psychiatry) and for some specific groups, such as mentally ill offenders [46]. During the initiation of the reform, a common argument put forward by local mental health stakeholders for not defining people with severe MI as a specific target group requiring both general and specific services was the fear of reinforcing their stigmatisation and social exclusion. Some studies, however, have suggested that the absence of a target group can actually reinforce the social exclusion of that group. One such example is the mobile outreach teams introduced since 2010 as part of the Belgian reform, which were inspired by the Assertive Community Treatment (ACT) model. Whereas the ACT model is a specific intervention for people with severe MI [48], the Belgian mobile teams are a generic service developed as part of a reform programme aimed at the whole adult population with mental health needs [46]. A previous study, however, which we conducted using data from the first evaluation of the reform in 2010, showed that patients with the lowest levels of social integration were not the priority target of the services involved in the reform, including the mobile teams [49]. Another example of the lack of targeting reinforcing the social exclusion of a group is the use of psychiatric hospitalisation. Although one objective of the reform is to limit psychiatric hospitalisations to acute care (i.e. as a last care resort) [46], a study that we conducted as part of a European project showed that people hospitalised in psychiatric wards in Belgium had fewer psychotic disorders and lower severity of psychiatric symptoms than those in other countries (i.e. UK, Poland, Germany, and Italy) [50]. Finally, a study we conducted in 2019 as part of an evaluation of the organisation of mental health care for adults in Belgium showed that individuals with complex mental health and social issues were more likely to be “forgotten” and had less access to some services, such as employment support, low-threshold services, affordable long-term housing facilities, and psychotherapy services than those without such issues [51]. Taken together, these results may explain the first trend we observed: the widening gap between the social integration of people with moderate MI, which has improved over time, and that of people with severe MI. The former may benefit from the reform and from services, while the latter may benefit less from them. The gap in social integration between these two groups has, thus, widened over time. These results also highlight a potential new dimension of the social exclusion of people with severe MI: exclusion from services (i.e. not all people with severe MI may have access to adequate health and social services). Therefore, even if policies and interventions are implemented, they may not be accessible for all people with severe MI and the expected outcomes may not be achieved. In addition, access to care is also related to people's ability to pay the costs associated with care and services. The increase in the economic exclusion

of people with severe MI could, therefore, also explain their differential access to specialised care [52].

Regarding the Belgian labour market, in 2013, the OECD highlighted a lack of specific vocational programmes for people with MI in Belgium [53]. The lack of specific vocational programs for people with MI could explain the high unemployment rates among people with MI in Belgium. It does not, however, explain the increase over time in the unemployment rate among people with severe MI. A study conducted in 27 European countries found that the period of macro-economic recession between 2006 and 2010 intensified economic exclusion and unemployment among people with MI compared to the general population [16]. A period of economic recession is often followed by an increase in competitiveness in the labour market, which may make it more difficult for people with MI to find and keep a job. Belgium, like other countries in Europe, was affected by the European economic crisis of 2008. The results of this study may indicate that the economic crisis further reinforced the economic exclusion of people with severe MI compared to people with moderate MI. That may explain the second trend observed in relation to the widening social integration gap: stability or no significant change in the social integration of people with moderate MI but a decrease over time in the social integration of people with severe MI.

Implications and future directions

Since the early 2000s, the social integration of people with MI has become a major official objective of mental health and social welfare systems. Many countries have developed specific social integration policies and interventions to achieve this objective. This study draws attention to the fact that, in Belgium, since 1997, the social integration of people with severe MI has been decreasing both compared to the general population and compared to people with moderate MI, despite the implementation of mental health care reforms and interventions intended to improve the social integration of people with MI. The results of this study also show that this widening social integration gap can be explained by two trends. First, policies and reforms implemented between 1997 and 2018 in Belgium may have improved the social integration of people with moderate MI but they have not improved the social integration of people with severe MI. Second, certain contexts and events, such as periods of economic recession, may have a greater negative impact on the social integration of people with severe MI than on the social integration of people with moderate MI.

The social integration of people with severe MI must, therefore, become a social, political, and economic priority for various reasons. The widespread social exclusion of people with severe MI is in conflict with international human rights conventions, especially the United Nations

Convention on the Rights of People with Disabilities [54]. Furthermore, it is evident that social determinants play a major role in mental illnesses and in the personal recovery of those suffering from them. Mental illnesses can be both a cause and a consequence of social exclusion [2]. It seems misguided, therefore, to seek to improve the personal recovery of people with severe MI without at the same time attempting to improve their social integration. The social exclusion of people with severe MI is also costly for society. In 2015, the indirect costs of mental illnesses to the labour market represented 2.30% of Belgium's gross domestic product, the highest percentage in OECD countries [55].

The results of this study confirm the importance of interventions and policies aimed at bridging this widening gap in social inclusion. The gap could be bridged by avoiding the exclusion of people with severe MI from general mental health and generic social services and implementing specific interventions for people with severe MI, such as the Individual Placement and Support model of supported employment.

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Declarations

Conflict of interest The authors declare they have no conflict of interests.

Ethical approval Written informed consent was obtained from all subjects involved in the study. Data from the six successive cross-sectional waves of the Belgian Health Interview Survey were gathered by the Unit of Epidemiology, “Sciensano” Scientific Institute of Public Health, in collaboration with Statbel (Directorate General Statistics—Statistics Belgium). The sampling and survey methods were carried out according to the Belgian privacy legislation and approved by the Human Ethics Committee of Ghent University Hospital (EC UZG).

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