Does the length of institutionalization matter? Longitudinal follow-up of persons with severe mental illness 65 years and older: shorter-stay versus longer-stay

Deborah Finkel1,2 | Pia H Bülow3,4 | Monika Wilińska3 | Magnus Jegermalm1,3,5 | Cristina Joy Torge1 | Marie Ernsth Bravell1 | Per Bülow3,6,7

1 Institute for Gerontology, School of Health and Welfare, Jönköping University, Sweden
2 Department of Psychology, Indiana University Southeast, USA
3 Department of Social Work, School of Health and Welfare, Jönköping University, Sweden
4 Department of Social Work, University of the Free State, South Africa
5 Department of Social Work, Ersta Sköndal Bräcke University College, Sweden
6 Regional Forensic Psychiatric Hospital, Västena, Sweden
7 Psychiatric Clinic, Ryhov County Hospital, Region Jönköping County, Sweden

Abstract

Objectives: As part of the process of de-institutionalization in the Swedish mental healthcare system, a reform was implemented in 1995, moving the responsibility for services and social support for people with severe mental illness (SMI) from the regional level to the municipalities. In many ways, older people with SMI were neglected in this changing landscape of psychiatric care. The aim of this study is to investigate functional levels, living conditions, need of support in daily life, and how these aspects changed over time for older people with SMI.

Methods: In this study we used data from surveys collected in 1996, 2001, 2006, and 2011 and data from national registers. A group of older adults with severe persistent mental illness (SMI-O:P) was identified and divided into those who experienced shorter stays (less than 3 years) in a mental hospital (N = 118) and longer stays (N = 117).

Results: After correcting for longitudinal changes with age, the longer-stay group was more likely than the shorter-stay group to experience functional difficulties and as a result, were more likely to have experienced 're-institutionalization' to another care setting, as opposed to living independently.

Conclusions: The length of mental illness hospitalization has significant effects on the living conditions of older people with SMI and their ability to participate in social life.

Key Points

- Mixed results from previous studies of the impact of deinstitutionalization may have resulted from limited follow-up period and the lack of adjustment for natural processes of ageing that occur and the era in which the hospitalization primarily occurred

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2021 The Authors. International Journal of Geriatric Psychiatry published by John Wiley & Sons Ltd.
1 | INTRODUCTION

The process of deinstitutionalization initiated in the second half of the 20th century impacted not only the organization and provision of mental health services, but it also affected everyday lives of people living with mental illness. Generally, studies about deinstitutionalization indicate that former mental hospital patients benefit from the transition from mental hospitals to community care.\(^1\) The studies following the process of deinstitutionalization differ, however, in the assessment instruments used, duration of follow-up time, and rehabilitation efforts.\(^2,3\) Differences are also noted in relation to the type of populations followed. For instance, the commonly applied terms of short- and long-stay patients are problematic. Typically, a 6-month or 12-month cut-off is used to differentiate between long- and short-term stay,\(^4,5\) but at least one study used a 3-year cut-off.\(^6\)

In general, long-stay patients refer to a group of people with extensive needs of care and support. They have experienced long periods of inpatient care, typically, due to severe and persistent symptoms,\(^7\) but also due to the lack of appropriate and sufficient alternatives to inpatient care.\(^8\) Further, despite the ambition to reduce inpatient care in favour of community-based care, inpatient care still takes a majority of the budget for psychiatric care\(^9\) and extended periods of hospitalization are not uncommon.

International studies following the effects of deinstitutionalization on long-stay patients, in particular, provide mixed results ranging from reports of improved social and psychiatric functioning (e.g.,\(^10,11,12\)) to no changes (e.g.,\(^13\)) or deterioration.\(^14,15\) These mixed results can be explained by not only different diagnoses but also different ages at baseline and different follow-up periods.\(^3,11\) Across studies, mean baseline age ranged from 41 to 67, but in most studies mean baseline age was less than 65 (mean = 55), meaning that most individuals studied experienced de-institutionalization prior to late adulthood. Length of follow-up in these studies ranged from 6 months to 10 years for prospective studies, with an average of about 4 years of follow-up across studies.

To our knowledge, none of the follow-up studies take into account that the patients age over time and that functional levels, psychiatric symptoms and social contacts change with increasing age. Taking age into account is especially important in studies that cover longer follow-up periods and where the studied population is older at the beginning of the studied period. Based on our review of the literature, there are no studies that have older adults with severe mental illness (SMI) as the target group for the investigation and follow-up. More knowledge is needed about this group because both research and social policy recognize that the number of older people with SMI will increase sharply during the first decades of the 21st century.\(^16–19\)

The aim of this study is to investigate functional levels, living conditions, need of support in daily life, and how these aspects changed over time for older people with SMI. The focus is on the impact of length of time of inpatient care in mental hospitals. We address two important concerns. First, we focus particularly on the de-institutionalization experiences of older adults with SMI. Second, these adults were assessed over a period of 15 years regarding changes in life situation, functional level and needs and support in everyday life.

2 | METHODS

In this study we used data from repeated surveys and national registers.

2.1 | Data

At the outset of the Mental Health Care Reform in 1995, the National Board of Health and Welfare directed all municipalities and county councils in Sweden to identify the number of persons over the age of 18 assessed as having a SMI and what needs this group had regarding care and support. In Jönköping, a medium-sized municipality in southern Sweden, such surveys were conducted every fifth year, starting in 1996. Data for the current analyses was collected from the same survey from the years 1996, 2001, 2006, and 2011. The surveys were conducted by mental health care staff from the county council and social workers from the municipality and they included staff assessments of clients and client ratings of their own needs. The staffs were jointly trained to use the assessment instruments in a similar way. To reach the entire target group, primary care, employment services, voluntary organizations, Swedish Social Insurance Agency and the police were contacted. In combination with information associated with the personal identification number, this
analyses focused on comparing the severe persistent mental illness (SMI-O:P) group to the SMI-O:NP and within SMI-O:P comparing shorter-stay and longer-stay subgroups approach resulted in over 90% of the target group being interviewed at each wave (personal communication U. Rogberg, 29 April 2020). Data from the 1996, 2001, and 2006 surveys have previously been analysed and presented in scientific articles, but the focus of those analyses was the entire population over 18 years. In this project, the interest is to follow older people with SMI so we began with the sample of 653 people who in 2016 were 65 years or older: severely mental ill-older (SMI-O).

In addition, based on the survey participants’ personal identification numbers, data were drawn from National registers: Statistics Sweden, Cause of death register and National Patient Register. The current study was approved by the Regional Ethical Review Board in Linköping.

2.2 Participants

For the current analyses, one group was selected from the full SMI-O sample who participated in both the first inventory in 1996 and the fourth in 2011, or died during the period apparently without recovering from their mental illness, demonstrating severely mental ill-older: persistent mental illness (SMI-O:P; N = 236). In contrast, the remainder of the SMI-O group demonstrated non persistent mental illness (SMI-O:NP; N = 417). Individuals in the SMI-O:NP group either developed a mental illness over the course of the study, or they recovered from a mental illness before the end of the study or before they died. Figure 1 illustrates the division of the SMI-O sample into subgroups. Over the course of the study, 61.9% of the persons in the SMI-O:P group died. Mean age in 1996 was 60.80 (SD = 12.37); age ranged from 45%–86% and 53.0% of the sample was male. For the 90 SMI-O:P persons interviewed in 2011, mean age was 66.32 (SD = 6.20). Only 35.6% of the SMI-O:P group had more than compulsory education (from 6 to 9 years), significantly less than 46.7% with more than compulsory education in the SMI-O:NP group (chi-square [df = 6] = 15.18, p < 0.05). At age 65%, 4.4% of the SMI-O:P group were married, 25.4% were divorced, 5.3% were widowed, 64.9% were unmarried, a significantly higher proportion of ‘never married’ than in the SMI-O:NP (34.3%; chi-square [df = 3] = 36.63, p < 0.01). The largest category of diagnosis in the SMI-O:P group was psychosis (51.5%) followed by depression (20.0%), neurosis (13.0%), personality disorders (9.3%), and addictions (1.4%); 4.7% of the SMI-O:P group had a diagnosis in the category ‘other’. Diagnostic categories for SMI-O:P differed significantly from SMI-O:NP (chi-square [df = 5] = 16.58, p < 0.01); persons in the SMI-O:P group were more likely to have a diagnosis of psychosis and less likely to have a diagnosis of depression or neurosis. In addition, there were significant gender differences in diagnoses for persons in the SMI-O:P group (chi-square [df = 5] = 14.34, p < 0.05); men were more likely to be diagnosed with psychosis and women were more likely to be diagnosed with depression or neurosis.

2.3 Measures

2.3.1 The National Board of Health’s Inventory form

Nine items from the National Board of Health’s Inventory (NBHI) assessing functioning were combined to create a daily functioning measure: hygiene, household, food preparation, finances, telephone, daily activity, travel to another county, travel to another city, and contact with authorities. Each item was rated by the interviewer on a scale from 1 (manage without help) to 3 (cannot manage), so higher scores indicate more functional difficulties. This measure was not included in the 2011 interview.

2.3.2 General assessment of functioning

The Global Assessment of Functioning (GAF) is a measure of symptom and social disability. GAF is a numeric scale to rate subjectively the social, occupational, and psychological functioning of an individual. Scores range from 100 (extremely high functioning) to 1 (severely impaired), so higher scores indicate better functioning.

2.3.3 Camberwell assessment of need

Camberwell assessment of need (CAN) assesses needs in 22 different areas of life and estimates the degree of satisfaction within each area. The estimates are made both from the perspective of the patient and the staff. For each area it is possible to identify personal problems, and if people have help to deal with these problems and if they are satisfied with the help given. The CAN assessments includes both general human needs and needs specific to people with SMI; higher scores indicate more difficulties or needs.
Changes over time in living and work situations in the severe persistent mental ill-older: persistent mental illness (SMI-O:P) group

| Variable                      | 1996 | 2001 | 2006 | 2011 |
|-------------------------------|------|------|------|------|
| National Board of Health’s Inventory | 215  | 17.41 (5.31) | 119 | 17.23 (5.68) | 73 | 17.60 (5.24) |
| Global Assessment of Functioning | 216  | 51.92 (13.97) | 119 | 45.57 (12.76) | 72 | 42.79 (10.14) | 41 | 34.83 (12.23) |

CAN:

| Client-rated number of needs | 138  | 6.73 (3.06) | 99 | 7.17 (2.87) | 53 | 8.43 (3.17) | 31 | 9.90 (3.31) |
| Client-rated number of points | 138  | 8.35 (4.49) | 99 | 8.12 (3.32) | 53 | 9.79 (4.10) | 31 | 11.42 (4.72) |
| Client-rated ‘1’ ratings | 138  | 5.18 (2.54) | 99 | 6.22 (2.85) | 53 | 7.08 (2.81) | 31 | 8.39 (3.70) |
| Client-rated ‘2’ ratings | 138  | 1.56 (1.96) | 99 | 0.95 (1.17) | 53 | 1.36 (1.52) | 31 | 1.52 (2.65) |
| Staff-rated number of needs | 207  | 8.58 (3.15) | 118 | 7.78 (2.91) | 72 | 9.85 (3.10) | 40 | 11.00 (2.89) |
| Staff-rated number of points | 207  | 10.57 (4.54) | 118 | 8.86 (3.56) | 72 | 11.46 (3.94) | 40 | 12.45 (3.55) |
| Staff-rated ‘1’ ratings | 207  | 6.58 (3.13) | 118 | 6.70 (2.91) | 72 | 8.24 (3.00) | 40 | 9.55 (3.40) |
| Staff-rated ‘2’ ratings | 207  | 2.00 (2.29) | 118 | 1.08 (1.46) | 72 | 1.61 (1.63) | 40 | 1.45 (1.93) |

Changes over time in functioning in the severely mental ill-older: persistent mental illness (SMI-O:P) group

| Variable | 1996 | 2001 | 2006 | 2011 |
|----------|------|------|------|------|
| Mean (SD) | N    | Mean (SD) | N    | Mean (SD) | N    | Mean (SD) | N    | Mean (SD) |
| National Board of Health’s Inventory | 215  | 17.41 (5.31) | 119 | 17.23 (5.68) | 73 | 17.60 (5.24) |
| Global Assessment of Functioning | 216  | 51.92 (13.97) | 119 | 45.57 (12.76) | 72 | 42.79 (10.14) | 41 | 34.83 (12.23) |

Results for the CAN in the SMI-O:P group indicate a general increase in mean functioning over time; the decrease in functioning was significant in the sample with data at all three waves (NBHI was not collected in 2011), mean difficulties measured by NBHI increased significantly over time, even after regression-correction for age (F(2,106) = 15.64, p < 0.01). Means on the GAF in the SMI-O:P group in the three measures of functioning are presented in Table 1. Means for NBHI presented in Table 1 did not vary significantly over time; however, in the reduced sample with data at all three waves (NBHI was not collected in 2011), mean difficulties measured by NBHI increased significantly over time, even after regression-correction for age (F(2,106) = 15.64, p < 0.01). Means on the GAF in the SMI-O:P group presented in Table 1 indicate a decrease in mean functioning over time; the decrease in functioning was significant in the sample with data at all four waves (F(3,75) = 28.66, p < 0.01) and remained significant even after regression-correction for age. In addition, results for the CAN in the SMI-O:P group indicate a general increase in need or difficulties over time; the exception is the number of ‘2’ (serious problem) ratings by staff or client. However, when the data are regression-corrected for age, the trend is reversed: means tend to be stable or even decline somewhat over time. Thus, removing the

### Statistical analysis

Chi-square tests and independent samples t-tests were used to compare the SMI-O:P group to the SMI-O:NP group and to identify differences between shorter-stay and longer-stay persons in the SMI-O:P group. Where the SMI-O:P sample size permitted, repeated measures analysis of variance was used to investigate changes in mean levels over time within persons. In longitudinal studies, age and time are confounded. Regression-correction for age allowed for the examination of changes over time independent of concurrent changes associated with chronological age.

Access to national registries provided information on lifetime accumulation of time in a mental hospital for each individual. In the SMI-O:P sample, the number of days spent in a mental hospital ranged from 1 day to 21,015 days (57.5 years) and showed significant positive skew. Therefore, as shown in Figure 1, the SMI-O:P group was divided into two groups at the median stay of 1054 days (about 3 years): shorter-stay group (N = 118) and longer-stay group (N = 117).

### Results

#### 3.1 SMI-O:P versus SMI-O:NP

SMI-O:P implies severe and persistent mental illness, meaning that individuals suffer from a prolonged or recurrent mental illness that impacts their daily living situation. To demonstrate that the SMI-O:P group as defined here met that definition, we compared the SMI-O:P group to the SMI-O:NP. Changes over time in the SMI-O:P group in the three measures of functioning are presented in Table 1. Means for NBHI presented in Table 1 did not vary significantly over time; however, in the reduced sample with data at all three waves (NBHI was not collected in 2011), mean difficulties measured by NBHI increased significantly over time, even after regression-correction for age (F(2,106) = 15.64, p < 0.01). Means on the GAF in the SMI-O:P group presented in Table 1 indicate a decrease in mean functioning over time; the decrease in functioning was significant in the sample with data at all four waves (F(3,75) = 28.66, p < 0.01) and remained significant even after regression-correction for age. In addition, results for the CAN in the SMI-O:P group indicate a general increase in need or difficulties over time; the exception is the number of ‘2’ (serious problem) ratings by staff or client. However, when the data are regression-corrected for age, the trend is reversed: means tend to be stable or even decline somewhat over time. Thus, removing the
effect of increasing age over time removes the trend for increasing difficulties over time. Note that clients consistently and significantly rated their functioning better than did the staff. There were no significant gender differences in measures of functioning at any wave.

Social participation measures were available from the survey data, including living situation, work situation, and primary income source (see Table 2). Although the percent of the SMI-O:P group living in their own dwelling with support was relatively stable over time at about 25%, the percent living in their own dwelling without support decreased from 25% to 7.9% and the percent living in a special accommodation increased from 21.3% to 47.4%. Over time there was a slight decrease in the percent living in an institution (i.e., psychiatric clinic, private treatment facility, or private nursing home), from 23.6% to 18.4%. Work situation was classified in six categories, but no one in the SMI-O:P group indicated that they worked full time. In the remaining categories, there was an increase in the ‘unable to work’ category from 42.1% to 92.6% and a decrease in the ‘other’ category from 48.1% to 0%. Regardless of these changes in work categories, the primary source of income was relatively stable over time, with the most commonly reported source of income being ‘only welfare benefits.’ There were no significant gender differences in living situation, work situation, or primary income source at any wave.

3.2 | Shorter-stay versus longer-stay

Persons in the SMI-O:P group spent an average of 2185.2 days (6 years) in a mental hospital, significantly higher than the average of 537.6 days (1.5 years) for the SMI-O:NP group (t(647) = 9.72, p < 0.01). Year of first intake ranged from 1935 to 1987 for the longer-stay group and 1967 to 2015 for the shorter-stay group. Mean year of first intake for the shorter-stay group was 1981 and the mean for the longer-stay group (1974) was significantly earlier (t[233] = 7.24, p < 0.01). As a result, 86.3% of the longer-stay group experienced time in a mental hospital before 1980 (when significant changes in standards of care were implemented), whereas, only 50.0% of the shorter-stay group had the same experience.

There was no mean age difference in the shorter-stay and longer-stay groups in 1996 (t[234] = 1.08, p = 0.67) and no significant difference in the number of men and women in each group (chi-square [df = 1] = 1.72, p = 0.19). There were no significant differences in education categories between the two groups (chi-square [df = 6] = 7.74, p = 0.25). Persons in the longer-stay group were significantly more likely to be ‘never married’ at age 65: 68.8% versus 60.4% (chi-square [df = 3] = 7.89, p < 0.05). There were significant differences in diagnostic categories between the two groups (chi-square [df = 5] = 18.39, p < 0.01): 60.8% of the longer-stay group were diagnosed as psychotic, compared with 43.9% of the shorter-stay group; the second group was more likely to be diagnosed as neurotic (19.6% vs. 6.1%). Living situations for the two groups over time are presented in Figure 2. Differences between groups were significant at each wave: the shorter-stay group was more likely to live in their own dwelling, with or without support, and the longer-stay group was more likely to be living in an institution or special accommodation.

There were no significant differences between groups in work situation or primary source of income. NBHI was significantly different between the two groups at all three waves, and differences remained significant after regression-correction for age. Moreover, the differences between the groups increased somewhat over time, so that difficulties as measured by the NBHI of the longer-stay group increased more over time (see Figure 3a). The shorter-stay group actually improved on the NBHI from 1996 to 2001. Both groups declined in functioning as measured by the GAF, but the longer-stay group declined faster over time (see Figure 3b). Again, differences between the groups remained significant after regression-correction for age. The difference between the two groups was most evident on the CAN. Group means in client ratings after regression-correction for age are presented in Figure 4. As expected from the analyses in the full SMI-O:P group, persons in the shorter-stay group showed fairly stable functioning on the CAN over time. In contrast, persons in the longer-stay group showed a significant increase in needs, points, and moderate problems (‘1’ ratings) over time, even after the effect of age was removed. There were no differences between the groups in serious problems (‘2’ ratings). Decreases in sample sizes over time resulted in increased standard errors, as indicated in the figure, and increased instability in the group means. Examination of staff ratings showed the same pattern of results.

4 | DISCUSSION

This article provides an important insight into the changes in functional level and needs and support in everyday life over the period of 15 years for people with SMI who were 65 years or older in 2016. The main results indicate that the level of functioning in the SMI-O:P group decreases over time while the need for help and support increases. This study therefore highlights the importance of considering the ageing process during follow-up periods. More specifically, the study draws attention to the confounding relation between age and time. The observed changes in functioning, care needs and everyday life conditions are not only the result of mental illness symptoms, but rather highlight the process of ageing and age-related changes taking place in personal life situation and society at large over time. This conclusion is in line with theories of ageing emphasizing the co-occurrence of functional, mental and social changes accompanying the process of growing older.

In addition, the study points to the differences resulting from the length of stay in a mental hospital. Despite the intention of the Mental Health Care Reform in Sweden for integration of individuals with SMI into society, the longer-stay group often seems to continue to live in an institutional environment. Instead of the intended deinstitutionalization this can be regarded as a reinstitutionalization, that is, they ended up in other institutions rather than in their own homes. Prolonged stays in mental hospitals affected family formation and the maintenance of social networks and social skills,
which resulted in the longer-stay group being more likely to have never married. That particularly applies to people with psychosis. Psychosis was the dominant diagnosis in the longer-stay group and was previously considered an incurable chronic disease.

The fact that there were no differences between the longer-stay group and the shorter-stay groups in being under-employed and thus supported by welfare benefits speaks to the continued stigma attached to mental illness and the vulnerability of people with SMI when trying to establish themselves on the open labour market. Even today, supported employment is the most common measure to support labour market participation among people with SMI. Similarly, there were no differences between longer-stay and shorter-stay...
groups in educational achievement because the early onset of the illness likely prevented both groups from participating further in the educational system. Limited education probably contributed to their difficulties in entering or re-entering the workforce.

4.1 | Strengths and limitations

One of the main strengths of this study is not only a follow-up period of 15 years, but also a negligible drop-out level: over 90% of targeted population was interviewed at each wave. Still, the drop-out due to mortality was marked and resulted in reduced power at later waves. The composite nature of the data set (both interview and register data) could be a limitation. However, the national register data was used only to identify the length of time individuals had spent in a mental hospital, data that could not reliably be collected via self-report. Thus, use of national register data added to the validity of the method for grouping SMI-O:P individuals into shorter-stay and longer-stay groups. Another limitation was that length of stay was confounded with diagnosis (longer-stay and psychosis); however, the relatively small sample size prevented further investigation of that confound. Finally, in the current study longer-stay was defined as more than 3 years of accumulated hospitalization, as opposed to the more typical 6-month cut-off seen in the literature. To test the impact of this decision, analyses were repeated using a 6-month limit and results were similar, although reduced sample size in the shorter-stay group resulted in reduced power.

5 | CONCLUSION

In conclusion, it is possible that some of the mixed results from previous studies of the impact of deinstitutionalization resulted from limited follow-up period and the lack of adjustment for natural processes of ageing that occur and the era in which the hospitalization primarily occurred. In other words, after correction for the effects of ageing, the longer-stay group demonstrated decreased functioning and increased need for support over time, compared with the shorter-stay group. This distinction may result from the differences in experience of inpatient care: the longer-stay group was much more likely to have been hospitalized prior to the 1980s, when significant changes in care began to be implemented. Thus, it is important for clinical practice to be aware of the impact of ageing on functioning and need for support, as well as the lingering effects of long-term stay in mental hospitals under potentially out-dated treatment methods and expectations. Moreover, in the future SMI individuals may have completely different needs as compared with the current SMI-O:P sample, as a result of different experiences of care and expectations of functioning.

ACKNOWLEDGEMENTS

This research was support by the Swedish Research Council for Health, Working Life and Welfare (2015-00223). Project title in English: Older persons with severe mental illness—a twice marginalised group and a challenge for future welfare organisations

CONFLICT OF INTERESTS

The authors state that they have no financial and personal relationships between themselves and others that might bias their work.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ORCID

Deborah Finkel https://orcid.org/0000-0003-2346-2470

REFERENCES

1. Leff J, Trieman N, Knapp M, Hallam A. The TAPS project: a report on 13 years of research, 1985-1998. Psychiatr Bull. 2000;24(5):165-168.
2. Hobbs C, Newton L, Tennant C, Rosen A, Tribe K. Deinstitutionalization for long-term mental illness: a 6-year evaluation. Aust N Z J Psychiatry. 2002;36(1):60-66.
3. Kunitoh N. From hospital to the community: the influence of deinstitutionalization on discharged long-stay psychiatric patients. Psychiatr Clin Neurosci. 2013;67(6):384-396.
4. Tulloch AD, Fearon P, David AS. The determinants and outcomes of long-stay psychiatric admissions. Soc Psychiatry Psychiatric Epidemiol. 2008;43(7):569-574.
5. Rabinowitz J, Mark M. Risk factors for violence among long-stay psychiatric patients: national study. Acta Psychiatr Scand. 1999;99(5):341-347.
6. Råsänen P, Hakko H, Viilo K, Meyer-Rochow VB, Moring J. Excess mortality among long-stay psychiatric patients in Northern Finland. Soc Psychiatry Psychiatric Epidemiol. 2003;38(6):297-304.
7. Fisher WH, Barreira PJ, Geller JL, White AW, Lincoln AK, Suiders M. Long-stay patients in state psychiatric hospitals at the end of the 20th century. Psychiatr Serv. 2001;52(8):1051-1056.
8. Kotov R, Fochtmann L, Li K, et al. Declining clinical course of psychotic disorders over the two decades following first hospitalization: evidence from the Suffolk County Mental Health Project. Am J Psychiatry. 2017;174(11):1064-1074.
9. WHO. Innovation in Deinstitutionalization: A WHO Expert Survey; 2014.
10. Mastroeni A, Bellotti C, Pellegrini E, Galletti F, Lai E, Falloon IR. Clinical and social outcomes five years after closing a mental hospital: a trial of cognitive behavioural interventions. Clin Pract Epidemiol Ment Health. 2005;1(1):25.
11. Mcinerney S, Finnterry S, Walsh E, et al. Quality of life and social functioning of former long-stay psychiatric patients transferred into the community: a 10 year follow up study. Soc Psychiatry Psychiatric Epidemiol. 2018;53(8):795-801.
12. Trieman N, Leff J. Long-term outcome of long-stay psychiatric inpatients considered unsuitable to live in the community: TAPS Project 44. Br J Psychiatry. 2002;181(5):428-432.
13. Thornicroft G, Bebbington P, Leff J. Outcomes for long-term patients one year after discharge from a psychiatric hospital. Psychiatr Serv. 2005;56(11):1416-1422.
14. Brédewold F, Herms M, Trappenburg M. ’Living in the community’: the pros and cons: a systematic literature review of the impact of deinstitutionalisation on people with intellectual and psychiatric disabilities. J Soc Work. 2020;20(1):83-116.
15. McInerney SJ, Finnerty S, Avalos G, Walsh E. Better off in the community? A 5-year follow up study of long-term psychiatric patients discharged into the community. *Soc Psychiatry Psychiatric Epidemiol*. 2010;45(4):469-473.

16. Bartels SJ. Commentary: the forgotten older adult with serious mental illness: the final challenge in achieving the promise of Olmstead? *J aging & Soc policy*. 2011;23(3):244-257.

17. Clifton A, Marples G, Clarke A. Ageing with a serious mental illness: a literature and policy review. *Ment Health Rev J*. 2013;18(2):65-72.

18. Cummings SM, Kropf NP. Formal and informal support for older adults with severe mental illness. *Aging Ment Health*. 2009;13(4):619-627.

19. SOU. Ambition Och Ansvar. Slutbetänkande Av Nationell Psykiatriskamordning [Ambition and Responsibility. Final report of National Psychiatric Coordination]; 2006.

20. Arvidsson H. The development of needs in a group of severely mentally ill. *Soc Psychiatry Psychiatric Epidemiol*. 2008;43:705-713.

21. Arvidsson H. Severely and persistently mentally ill: a changing group. Ten years after the 1995 Swedish mental health care reform. *Nordic J Psychiatry*. 2009;63:355-360.

22. Arvidsson H. After the 1995 Swedish Mental Health Care Reform: A Follow-Up Study of a Group of Severely Mentally Ill; 2004.

23. Frances A, Pincus H, First M. The global assessment of functioning scale (GAF). *Diagnostic Stat Man Ment Disord*. 1994;4.

24. Phelan M, Slade M, Thornicroft G, et al. The Camberwell Assessment of Need: the validity and reliability of an instrument to assess the needs of people with severe mental illness. *Br J Psychiatry*. 1995;167(5):589-595.

25. Woods A, Willison K, Kington C, Gavin A. Palliative care for people with severe persistent mental illness: a review of the literature. *Can J Psychiatry*. 2008;53(11):725-736.

26. Bengtson VL, Settersten R, Jr. *Handbook of Theories of Aging*. Springer Publishing Company; 2016.

27. Priebe S, Frottier P, Gaddini A, et al. Mental health care institutions in nine European countries, 2002 to 2006. *Psychiatric services*. 2008;59(5):570-573.

**How to cite this article:** Finkel D, Bülow PH, Wilińska M, et al. Does the length of institutionalization matter? Longitudinal follow-up of persons with severe mental illness 65 years and older: Shorter-stay versus longer-stay. *Int J Geriatr Psychiatry*. 2021;36:1223–1230. [https://doi.org/10.1002/gps.5515](https://doi.org/10.1002/gps.5515)