Changes in Inpatient and Postdischarge Suicide Rates in a Nationwide Cohort of Danish Psychiatric Inpatients, 1998–2005

Trine Madsen, PhD, and Merete Nordentoft, MD

ABSTRACT

Background: A reduction in the number of inpatient beds as well as shorter admissions have aroused concern that tendencies to deinstitutionalize may increase the suicide rate for psychiatric patients who have been hospitalized. One study indicates that a decreasing inpatient suicide rate may actually reflect a transfer to an increasing postdischarge suicide rate; however, uncertainties exist about this transfer, since it is not well studied. The objectives of this study were to estimate adjusted changes over time in suicide rates among psychiatric inpatients and recently discharged psychiatric patients and to estimate changes in these rates by gender and diagnosis.

Method: Data on all psychiatric patients admitted from 1998 through 2005 in Denmark were extracted from the Danish Psychiatric Central Register and merged with information from the Danish Cause of Death Register. Calendar year was applied as an independent continuous variable in Cox survival analyses modeling the hazard of suicide during inpatient treatment and during the 3-month postdischarge period. Analyses were adjusted for sex, age, educational status, primary diagnosis, and previous suicide attempt.

Results: The overall inpatient suicide rate declined in psychiatric patients admitted from 1998 through 2005 (hazard ratio [HR] = 0.93 [95% CI, 0.88–0.99]), particularly among women (HR = 0.87 [95% CI, 0.79–0.96]). The overall rate of suicide in the 3-month postdischarge period also declined significantly (HR = 0.94 [95% CI, 0.91–0.98]), which was explained mostly by a falling rate among men (HR = 0.94 [95% CI, 0.90–0.98]) as well as among patients who were discharged with a diagnosis of schizophrenia (HR = 0.90 [95% CI, 0.83–0.99]).

Conclusions: Although our results show a decreasing trend in suicide rates, the sizes of the rates emphasize that focus on suicide in mental health care settings must continue and be improved, as the rates are still very high.

J Clin Psychiatry 2013;74(12):e1190–e1194

Submitted: *June 27, 2013; accepted September 18, 2013 (doi:10.4088/JCP.13m08656).*
Corresponding author: *Trine Madsen, PhD, Psychiatric Center Copenhagen, Copenhagen University Hospital, Bispebjerg Bakke 23, Bldg 13A, 2400 Copenhagen, Denmark (trine.madsen@regionh.dk).*

People with mental illness carry an elevated risk of premature death from both natural and unnatural causes.[1] Excess mortality in psychiatric patients is partly explained by an increased risk of suicide,[2–5] which is higher during specific periods, particularly during hospital admission and shortly after discharge.[6–8] In recent decades, many changes took place in Denmark in the organization of psychiatric treatment (ie, deinstitutionalization); for instance, a substantial reduction of approximately 20% in the number of adult inpatient beds occurred between 1998 and 2006.[9] The number of admissions has not changed since 2000; however, the length of stay has decreased by 35% in this period.[10] These changes have aroused concern that they may have increased the suicide rate among hospitalized psychiatric patients. It is imperative to examine whether organizational changes have had a significant influence on the suicide risk among patients, since prevention of suicidal behavior (fatal or nonfatal) is a priority for the mental health services in Denmark: first, to help the suicidal patient who is under emotional stress, and second, because suicidal behavior is a burden to the relatives of the suicide victim as well as the clinical staff responsible for care.

Few studies have examined changes over time in inpatient suicide rates, but evidence has been found of a decreasing or unchanging suicide rate among psychiatric inpatients.[7,11–16] One study[12] examined changes in the inpatient suicide rate compared to changes in the postdischarge suicide rate over a 12-year period. It was found that the inpatient suicide rate fell from 1997 to 2008, while the postdischarge suicide rate simultaneously increased, indicating that a transfer of the suicide risk from the admission period to after discharge may have occurred. The estimated rates were not adjusted for the possible effect of the reduction in number of beds and shorter length of admission, which may have resulted in patients exhibiting differing risk factor profiles during the duration of the study period.

Via access to the Danish national registers with individual-level data, it is possible to estimate changes over time in inpatient suicide rates by taking individual time at risk (ie, admission length) into account, as well as to adjust for changes in the inpatient case mix (eg, adjust for diagnosis). By using these unique register data, we wanted to examine changes over time in the Danish psychiatric inpatient suicide rate and to determine whether this change might be correlated with changes over time in the suicide risk in the period shortly after hospital discharge, that is, whether epidemiologic data suggest a "transfer" of suicide risk from the inpatient period to the discharge period. More specifically, the aims of this study were (1) to estimate adjusted changes over time in suicide rates among psychiatric inpatients and among recently discharged psychiatric patients and (2) to estimate changes over time in these suicide rates by gender and diagnosis.

METHOD

Data Sources

Individual-level data from the Danish Psychiatric Central Research Register[17] and the Danish Cause of Death Register[18] were merged by means

Clinical Points

- In Denmark, the inpatient suicide rate declined in psychiatric patients admitted from 1998 through 2005, and this decline occurred particularly among women.
- The overall suicide rate in the 3-month postdischarge period also declined significantly. This decline seemed to be explained mostly by a falling rate among men as well as among patients discharged with a diagnosis of schizophrenia.

of the unique 10-digit identifier number[19] assigned to all persons living in Denmark and used across all registration systems. The first register covers all psychiatric inpatient facilities in Denmark and contains longitudinal information on all admissions and discharges since 1969. No private psychiatric hospitals exist in Denmark, and psychiatric treatment is free of charge for all Danish citizens and persons with residence permits. All death certificates issued in Denmark are registered in the Danish Cause of Death Register, and data on date and cause of death are recorded. Death by suicide is defined according to *International Classification of Diseases*, *10th Revision*[20] codes X60–X84.

Determination of Cases

Inpatient suicide cases were determined by identifying those patients registered in the Danish Psychiatric Central Research Register as dead at discharge and classified as a suicide in the Danish Cause of Death Register. Suicides among recently discharged patients were determined by identifying all psychiatric patients who were alive at discharge and who were registered to have died by suicide in the Danish Cause of Death Register within 3 months after discharge.

Information on Variables

Data from the Integrated Database for Labor Market Research[21] were applied to adjust for sociodemographic variables such as educational level, labor market status, and gross income. Statistical analyses were also adjusted for marital status/cohabitation status as well as earlier suicide attempt.

We included all psychiatric admissions from 1998 through 2005 in the analyses of changes over time among psychiatric inpatients. These comprised 287,955 admissions distributed among 107,301 patients. The analyses found 219 suicides during admission. In the analyses of changes over time among recently discharged patients, we included all of those who survived their admission from 1998 through 2005. This comprised 287,032 discharges, excluding the 219 patients who died by suicide and 704 patients who died by another cause during admission. The discharges were distributed among 106,378 patients, and the analyses included 585 suicides during the 3 months following discharge.

All patients who had an admission during this period were included, regardless of whether they had previous admission(s) before 1998. Consequently, patients who had admissions dating back to 1969, when these data originally started being recorded, were included in this cohort study if they were admitted during the period 1998–2005.

In the analyses, patients were divided into 5 age groups: 14–30, 31–40, 41–50, 51–60, and over 60 years.

Statistical Analyses

First, crude analyses of changes over time in the inpatient and postdischarge suicide rates were estimated by number of suicides per 100,000 discharges. Cochran-Armitage trend tests were applied to examine whether the changes over time in the crude inpatient and postdischarge suicide rates were significant.

To estimate adjusted suicide rates, Cox survival analysis techniques were carried out, in which calendar year (ie, at time of discharge) was applied in the model as a continuous independent variable to examine changes over time in the suicide rate among inpatients and among those recently discharged. Follow-up time in the analyses of the suicide rate among inpatients was measured as the number of days admitted, whereas follow-up times among those who were discharged alive from the psychiatric ward were up to 3 months after discharge or until death or readmission that occurred within 3 months after discharge.

Univariable analyses were used to examine the crude changes over time in the suicide rate. In addition, we carried out multivariable analyses of changes over time in the suicide rate that were adjusted for sex, age, educational status, primary diagnosis, and previous suicide attempt because (1) these factors have previously been found to predict both inpatient suicide and suicide after discharge[13,22] and (2) the proportions of patients characterized by the various factors might also have changed from 1998 to 2005, due to the organizational changes that occurred. The Cox analyses were stratified according to the number of earlier admissions, since it has been found that the risk of suicide is higher within the first year after the first psychiatric admission.[23]

RESULTS

A total of 219 individuals died of suicide while inpatients, and 585 died of suicide in the 3-month postdischarge period. Table 1 displays the inpatient and postdischarge suicide rates per 100,000 discharges and person-years.

Change in Suicide Rate by Discharges

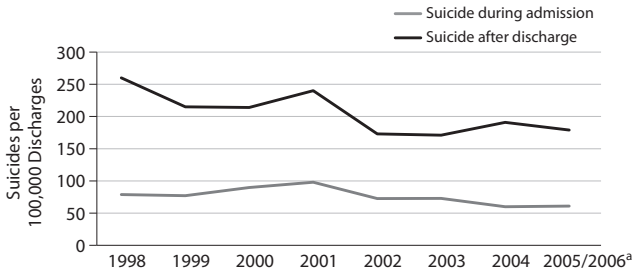
Figure 1 shows the crude changes over time in the inpatient and postdischarge suicide rates by the annual number of discharges in psychiatric patients admitted in the period 1998–2005. The graph shows that the number of suicides per 100,000 was generally lower during admission than after discharge and that both the inpatient and postdischarge suicide rates appear lower at the end of the period studied compared to the beginning. The test for trend showed that the decreasing suicide rates by number of discharges were significant in the outpatient setting ($Z = 2.79$; 2-sided $P = .005$) but not in the inpatient setting ($Z = 1.56$; 2-sided $P = .118$).

Table 1. Annual Suicides, Discharges, and Person-Years as Well as Suicide Rates Estimated by Discharges and by Person-Years for Inpatients and Postdischarge Patients, Respectively[a]

	Inpatients					Postdischarge				
Discharge Year	Inpatient Suicides (n)	Discharges (n)	Person-Years	Suicide Rate per 100,000 Discharges	Suicide Rate per 100,000 Person-Years	Postdischarge Suicides (n)	Discharges (n)	Person-Years	Suicide Rate per 100,000 Discharges	Suicide Rate per 100,000 Person-Years
1998	24	30,424	2,073	79	1,158	79	30,331	5,557	260	1,422
1999	27	35,010	2,664	77	1,014	75	34,886	6,352	215	1,181
2000	32	35,623	2,733	90	1,171	76	35,483	6,518	214	1,166
2001	36	36,727	2,710	98	1,328	88	36,600	6,622	240	1,329
2002	27	37,175	2,635	73	1,025	64	37,056	6,712	173	954
2003	27	37,019	2,552	73	1,058	63	36,898	6,784	171	929
2004	22	36,757	2,411	60	912	70	36,656	6,750	191	1,037
2005	22	36,578	2,322	60	947	67	36,489	6,675	184	1,004
2006	2	2,553	428	78	467	3	2,544	470	118	638
Overall	219	287,866	20,528	76	1,067	585	28,6943	52,440	204	1,116

[a]Eighty-nine patients were still admitted after 2006.

Figure 1. Inpatient and Postdischarge Suicide Rates per 100,000 Discharges in Patients Admitted to Danish Psychiatric Hospitals, 1998–2005



[a]Numbers for 2005 and 2006 were collapsed.

Adjusted Changes Over Time in Suicide Rates

The results of the Cox survival analyses, in which calendar year was fitted as a continuous variable, show an overall borderline significant crude inpatient suicide rate of HR = 0.95 (95% CI, 0.89–1.00) and a significant decreasing adjusted inpatient suicide rate of 0.93 (95% CI, 0.88–0.99) (Table 2). During the same period, the overall postdischarge suicide rate also decreased, showing an adjusted rate of 0.94 (95% CI, 0.91–0.98) (Table 3).

Suicide Rates by Gender and Diagnosis

Tables 2 and 3 also show the estimated suicide rates by gender and diagnosis for inpatients and for recently discharged patients.

The results indicate that the adjusted inpatient suicide rate decreased significantly for women (HR = 0.87 [95% CI, 0.79–0.96]) but not for men (HR = 0.96 [95% CI, 0.90–1.03]), whereas the postdischarge suicide rate showed a significant decrease over the period for men (HR = 0.94 [95% CI, 0.90–0.98] but not for women (HR = 0.95 [95% CI, 0.89–1.01]).

Over the time period studied, the inpatient suicide rate does not reveal a significant decrease by diagnosis of either schizophrenia or affective disorders; however, the postdischarge suicide rate did fall significantly over time for those who were discharged with a diagnosis of schizophrenia (HR = 0.90 [95% CI, 0.83–0.99]).

DISCUSSION

Overall, the results show that the inpatient suicide rate has declined in psychiatric patients admitted from 1998 through 2005 and that this fall occurred among women in particular. The overall rate of suicide in the 3-month postdischarge period also declined significantly over the study period. This decline seemed to be explained mostly by a falling rate among men as well as among patients who were discharged with a diagnosis of schizophrenia.

Relating our results to the findings from the study by Kapur et al,[12] who were studying inpatient and outpatient suicide rates during an overlapping period of time (1997–2008) in England, we found similar trends, such as an overall, significant, decreasing inpatient suicide rate and a significant decreasing trend among women in both countries; although this trend did not reach significance for men in Denmark, the estimate indicates a decreasing suicide rate. In contrast to England, we did not find a significant decrease in Denmark in the inpatient suicide rate by diagnosis of schizophrenia; however, the estimates do reveal borderline significant falling rates, especially in the multivariable Cox regression analyses.

The Danish overall postdischarge suicide rate shows a highly significant decreasing trend, which contrasts with the English finding[12] of an increasing postdischarge rate. Hence, the Danish data suggest no transfer of the suicide risk from the inpatient setting to the postdischarge period, as the inpatient adjusted hazard rate indicates an annual falling suicide risk between 1998 through 2005 of 7%, versus 6% for the postdischarge suicide risk.

As mentioned in the introduction, we were able to adjust the suicide rates for changing patient profiles over the study period and thus retrieve a more precise estimate of whether there has been a "true" time transfer in the rates. In Tables 2 and 3, the hazard rates demonstrate a decreasing trend from the univariable to the multivariable analyses (except the postdischarge rate among patients with affective disorders), which indicates an even stronger decreasing time effect in the suicide rates that goes beyond a differing suicide risk profile over the study period for the hospitalized patients.

Table 2. Changes in Inpatient Suicide Rates From 1998 Through 2005 as Estimated by Hazard Ratios

Inpatient Group	Days of Admission, Median (IQR)[a]	No. of Suicides	Univariable Hazard Ratio (95% CI)	*P* Value	Multivariable Hazard Ratio (95% CI)	*P* Value
All inpatients	11 (2–37)	219	0.95 (0.89–1.00)	.051	0.93 (0.88–0.99)[b]	.013
Female	14 (3–41)	79	0.89 (0.80–0.98)	.014	0.87 (0.79–0.96)[c]	.005
Male	9 (2–32)	140	0.98 (0.91–1.05)	.483	0.96 (0.90–1.03)[c]	.295
Schizophrenia	16 (4–49)	59	0.94 (0.85–1.04)	.195	0.92 (0.83–1.02)[d]	.123
Affective disorder	21 (5–44)	93	0.95 (0.86–1.03)	.214	0.93 (0.85–1.01)[d]	.097

[a]Median days of admission fell from 11 in 1998 to 9 in 2005 (18%). The overall mean number of days of admission was 33.
[b]Adjusted for gender, age, psychiatric diagnoses, educational status, and earlier deliberate self-harm.
[c]Adjusted for age, psychiatric diagnoses, educational status, and earlier deliberate self-harm.
[d]Adjusted for gender, age, educational status, and earlier deliberate self-harm.
Abbreviation: IQR = interquartile range.

Table 3. Changes in Suicide Rates During the 3-Month Postdischarge Period From 1998 Through 2005 as Estimated by Hazard Ratios

Discharged Patient Group	No. of Suicides	Univariable Hazard Ratio (95% CI)	*P* Value	Multivariable Hazard Ratio (95% CI)	*P* Value
All discharges	585	0.95 (0.92–0.99)	.008	0.94 (0.91–0.98)[a]	.002
Female	210	0.96 (0.90–1.02)	.159	0.95 (0.89–1.01)[b]	.083
Male	375	0.95 (0.91–0.99)	.024	0.94 (0.90–0.98)[b]	.008
Schizophrenia	112	0.91 (0.83–0.99)	.035	0.90 (0.83–0.99)[c]	.023
Affective disorder	220	0.96 (0.90–1.02)	.160	0.96 (0.90–1.01)[c]	.109

[a]Adjusted for gender, age, psychiatric diagnoses, educational status, and earlier deliberate self-harm.
[b]Adjusted for age, psychiatric diagnoses, educational status, and earlier deliberate self-harm.
[c]Adjusted for gender, age, educational status, and earlier deliberate self-harm.

All in all, the decreasing suicide rates, unadjusted as well as adjusted, indicate that the suicide risk among hospitalized psychiatric patients has been decreasing from 1998 through 2005 in Denmark. On a positive note, this finding even showed significance among recently discharged men, who often represent a more difficult group to reach with preventive interventions.[24,25]

Possible explanations for the decreasing suicide trends in hospitalized psychiatric patients include an increased focus on suicide prevention during the last decade (especially in hospitals with improved ward safety and enhanced focus on physician assessment of patients' suicidal risk)[26] and better medical and/or psychotherapeutic treatment of psychiatric inpatients. The falling postdischarge suicide rates among patients with schizophrenia could be a positive effect of the widespread introduction of assertive specialized treatment of patients with psychosis in Denmark, in which patients have more contact with their treatment teams during and after psychiatric admission compared to earlier standard treatment.[27–29]

Furthermore, reduction in the number of psychiatric beds and shorter admission length during the study period have been followed by increasing psychiatric outpatient treatment (the annual number of treated persons in outpatient settings has increased from about 64,000 in 1999 to 89,000),[30] which may have had an influence on the decreasing postdischarge suicide rate. Having pointed to differing explanations for our findings of overall decreasing suicide trends over time in psychiatric patients, both during a hospital stay and after discharge, it is important to bring focus to the composition of the study population and how it possibly affects the suicide rate. If deinstitutionalization has resulted in changes in the diagnostic profiles of admitted patients (for instance, if fewer people with an alcohol/substance misuse diagnosis were admitted), then the community setting to where they are referred might include more severely ill patients and consequently have a higher suicide rate. In other words, this study bypasses these "patients," as they are no longer admitted and as a result not included in the study population. In future studies, it might be worth investigating whether the suicide rate has changed among former patients who, through deinstitutionalization processes, have been "outsourced" to community settings.

Finally, we note that from 1997 through 2006 the suicide rate decreased in the general population of Denmark, so it seems the decrease reflects either that suicide prevention has improved generally or that fewer people have suicidal problems. However, that being said, we do not know how much of the decrease in the general suicide rate is explained by the decrease in inpatient and postdischarge suicide rates among psychiatric patients.

Methodological Strength and Weaknesses

As there are no private psychiatric hospitals in Denmark, it is an overall strength of this study that it is based on a national cohort. Still, the analyses are affected by power problems, especially in the estimation of the inpatient suicide rate. Because we were concerned about the power of our findings, we wanted to test the "robustness" of our estimation by examining the change in the inpatient and postdischarge suicide rates. In our analyses, the years were collapsed into 3 groups (1998–2000, 2001–2003, and 2004–2006) to see if the

trends would hold. These tests showed the same significant decreasing trends in both the overall adjusted inpatient and postdischarge suicide rates. We also validated our results in analyses that included patients who were admitted to a hospital in 1997 and discharged in 1998, so that all discharged patients in 1998 were followed up, not just those who were admitted from January 1998 as in our original design. These analyses replicated our findings in Table 2.

The generalizability of this study may depend on similarities and differences in the organization and accessibility of psychiatric treatment between countries. For instance, in Denmark, no private psychiatric hospitals exist, and all psychiatric hospital treatment is free of charge. Thus, the estimated inpatient and postdischarge suicide rates in Denmark may not be comparable with those in countries where access to treatment relies more on the individual level of health insurance security, as this may lead to a patient population that differs in, for example, sociodemographic composition compared to the Danish patient population.

CONCLUSION

Overall, this study demonstrates that decline in the number of psychiatric hospital beds and shorter admission lengths did not seem to increase the suicide rate in the immediate postdischarge period. Although our results show a decreasing trend in suicide rates, the rates are still very high. This emphasizes that the focus on suicidal behavior in mental health care settings must continue and be improved.

Author affiliations: Psychiatric Center Copenhagen, Copenhagen University Hospital, Copenhagen, Denmark.
Potential conflicts of interest: None reported.
Funding/support: A fund supporting the prevention of suicide and suicide attempt, administered by the Ministry of Interior and Social Affairs in Denmark, provided support for this study.
Role of the sponsor: The sponsor had no role in the conduct of the study.

REFERENCES

1. Tidemalm D, Waern M, Stefansson CG, et al. Excess mortality in persons with severe mental disorder in Sweden: a cohort study of 12,103 individuals with and without contact with psychiatric services. *Clin Pract Epidemiol Ment Health*. 2008;4:23.
2. Bostwick JM, Pankratz VS. Affective disorders and suicide risk: a reexamination. *Am J Psychiatry*. 2000;157(12):1925–1932.
3. Palmer BA, Pankratz VS, Bostwick JM. The lifetime risk of suicide in schizophrenia: a reexamination. *Arch Gen Psychiatry*. 2005;62(3):247–253.
4. Harris EC, Barraclough B. Suicide as an outcome for mental disorders: a meta-analysis. *Br J Psychiatry*. 1997;170(3):205–228.
5. Hawton K, van Heeringen K. Suicide. *Lancet*. 2009;373(9672):1372–1381.
6. Qin P, Agerbo E, Mortensen PB. Suicide risk in relation to socioeconomic, demographic, psychiatric, and familial factors: a national register-based study of all suicides in Denmark, 1981–1997. *Am J Psychiatry*. 2003;160(4):765–772.
7. Qin P, Nordentoft M, Høyer EH, et al. Trends in suicide risk associated with hospitalized psychiatric illness: a case-control study based on Danish longitudinal registers. *J Clin Psychiatry*. 2006;67(12):1936–1941.
8. Qin P, Nordentoft M. Suicide risk in relation to psychiatric hospitalization: evidence based on longitudinal registers. *Arch Gen Psychiatry*. 2005;62(4):427–432.
9. Danish Regions. Development of activities. In: *Regions Economy and Activities in Psychiatry in 2008* [in Danish]. Copenhagen, Denmark: Danish Regions; 2009.
10. Bauer J, Okkels N, Munk-Jørgensen P. State of psychiatry in Denmark. *Int Rev Psychiatry*. 2012;24(4):295–300.
11. Kapur N, Hunt IM, Webb R, et al; National Confidential Inquiry into Suicide and Homicide. Suicide in psychiatric in-patients in England, 1997 to 2003. *Psychol Med*. 2006;36(10):1485–1492.
12. Kapur N, Hunt IM, Windfuhr K, et al. Psychiatric in-patient care and suicide in England, 1997 to 2008: a longitudinal study. *Psychol Med*. 2013;43(1):61–71.
13. Madsen T, Agerbo E, Mortensen PB, et al. Predictors of psychiatric inpatient suicide: a national prospective register-based study. *J Clin Psychiatry*. 2012;73(2):144–151.
14. Rantanen H, Koivisto AM, Salokangas RK, et al. Five-year mortality of Finnish schizophrenia patients in the era of deinstitutionalization. *Soc Psychiatry Psychiatr Epidemiol*. 2009;44(2):135–142.
15. Salokangas RK, Honkonen T, Stengård E, et al. Mortality in chronic schizophrenia during decreasing number of psychiatric beds in Finland. *Schizophr Res*. 2002;54(3):265–275.
16. Pirkola S, Sohlman B, Heilä H, et al. Reductions in postdischarge suicide after deinstitutionalization and decentralization: a nationwide register study in Finland. *Psychiatr Serv*. 2007;58(2):221–226.
17. Mors O, Perto GP, Mortensen PB. The Danish Psychiatric Central Research Register. *Scand J Public Health*. 2011;39(suppl):54–57.
18. Helweg-Larsen K. The Danish Register of Causes of Death. *Scand J Public Health*. 2011;39(suppl):26–29.
19. Pedersen CB. The Danish Civil Registration System. *Scand J Public Health*. 2011;39(suppl):22–25.
20. World Health Organization. *International Statistical Classification of Diseases, 10th Revision (ICD-10)*. Geneva, Switzerland: World Health Organization; 1992.
21. Danmarks Statistik. *IDA: an integrated database for Labour Market Research* [in Danish]. Copenhagen, Denmark: Danmarks Statistik Printing; 1991.
22. Agerbo E. High income, employment, postgraduate education, and marriage: a suicidal cocktail among psychiatric patients. *Arch Gen Psychiatry*. 2007;64(12):1377–1384.
23. Nordentoft M, Laursen TM, Agerbo E, et al. Change in suicide rates for patients with schizophrenia in Denmark, 1981–97: nested case-control study. *BMJ*. 2004;329(7460):261.
24. Galdas PM, Cheater F, Marshall P. Men and health help-seeking behaviour: literature review. *J Adv Nurs*. 2005;49(6):616–623.
25. Thorup A, Albert N, Bertelsen M, et al. Gender differences in first-episode psychosis at 5-year follow-up—two different courses of disease? results from the OPUS study at 5-year follow-up [published online ahead of print February 7, 2013]. *Eur Psychiatry*.
26. National Board of Health. *Action Plan for Prevention of Suicide Attempt and Suicide in Denmark* [in Danish]. Copenhagen, Denmark: Aabenraa Bogtrykkeri; 1998.
27. Bertelsen M, Jeppesen P, Petersen L, et al. Five-year follow-up of a randomized multicenter trial of intensive early intervention vs standard treatment for patients with a first episode of psychotic illness: the OPUS trial. *Arch Gen Psychiatry*. 2008;65(7):762–771.
28. Bertelsen M, Jeppesen P, Petersen L, et al. Suicidal behaviour and mortality in first-episode psychosis: the OPUS trial. *Br J Psychiatry suppl*. 2007;191(51):s140–s146.
29. Petersen L, Jeppesen P, Thorup A, et al. A randomised multicentre trial of integrated versus standard treatment for patients with a first episode of psychotic illness. *BMJ*. 2005;331(7517):602.
30. Centre for Psychiatric Research. Table 7: Outpatient contacts. *Centre for Psychiatric Research* [serial online]. Risskov, Denmark: Aarhus University; 2013. http://tnu.dk/psykiatrisk-centralregister/aarstabeller/. Accessed March 6, 2013.