

# Suicide, substance use and natural causes are respectively the most important causes of mortality in the first year post discharge from psychiatric hospitals

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**COMMENTARY ON:** Walter F, Carr MJ, Mok PLH, *et al.* Premature mortality among patients recently discharged from their first inpatient psychiatric treatment. *JAMA Psychiatry* 2017;74:485–92.

## WHAT IS ALREADY KNOWN ON THIS TOPIC

People with mental health conditions such as schizophrenia and mood or anxiety disorders have an elevated all-cause mortality.<sup>1</sup> Those who have been admitted to psychiatric hospitals are at particular risk.<sup>2</sup> Some of this increased mortality can be explained by suicides,<sup>3</sup> but it is generally believed that the majority of the premature deaths of mentally ill people are from natural causes.<sup>1</sup> However, suicide rates are alarmingly high in the year after discharge from psychiatric hospitals,<sup>4</sup> but the relative contribution of suicide and natural death to premature mortality in this period is under-researched.

## METHODS OF THE STUDY

The present study examined the relationship between the independent variable of psychiatric admission and dependent variables of all-cause mortality, natural mortality and mortality from unnatural causes (suicides, unintentional death and alcohol-related death) among Danish nationals born between 1967 and 1996 who were traced between the ages of 15 and 44 years.<sup>5</sup> The outcome measures were the incidence rates and incidence rate ratio (IRR) during the first year and the subsequent years after an initial psychiatric hospitalisation.<sup>5</sup>

## WHAT THIS PAPER ADDS

- ▶ Of the cohort of 1 683 385 people, 48 599 (2.9%) were admitted to a psychiatric hospital and 340 (0.02%) died within a year of their first discharge. One hundred and forty-six died from suicide, 99 from other unnatural causes, 89 from natural causes and in 4 deaths no cause was tabulated. Discharged people had elevated all-cause mortality within 1 year (IRR 16.2, 95%CI 14.5 to 18.0) compared with those who had not been admitted.
- ▶ The relative risk for unnatural death (IRR 25.0, 95%CI 22.0 to 28.4) was higher than for natural death (IRR 8.6, 95%CI 7.0 to 10.7), although even natural deaths were much more common among discharged than non-admitted people. The highest IRR was for suicide at 66.9 (95% CI 56.4 to 79.4), followed by alcohol-related death at 42.0 (95% CI 26.6 to 66.1).
- ▶ Among the psychiatric diagnostic categories assessed, psychoactive substance abuse without comorbid psychiatric disorder conferred the highest all-cause mortality (IRR 24.8, 95%CI 21.0 to 29.4) and was associated with the highest incidence of death (1724 per 100 000 person years). Involuntary patients (1 per 1748 per 100 000 person years) and those in the first month post discharge (1 per 1576 per 100 000 person years) also had very elevated mortality rates.
- ▶ The all-cause mortality declined by 44% in the first year post discharge, unnatural death declined by 41%, natural causes by 33%, suicide by 64%, unintentional death by 12% and alcohol-related death by 46%.
- ▶ The study highlights the roles of suicide and substance use as the most important causes of the elevated mortality among younger people in the 1-year postdischarge period.

## LIMITATIONS

- ▶ Despite the large sample size, the study was not sufficiently powered to generate reliable estimates of the IRR or the mortality rates associated with specific natural causes such as vascular and neoplastic disease in the first year post discharge.
- ▶ The results might not be generalisable to people who are discharged before the age of 15 or after the age of 44.
- ▶ The results might not be generalisable to people who have been discharged more than once.

## WHAT NEXT IN RESEARCH

Future research should examine the interaction between age, the period post discharge, and natural and unnatural death. The reasons for the elevated death rate from natural causes in the first year post discharge, when compared with after longer periods of follow-up, are uncertain. The possibility of increased mortality from natural causes among patients with more long-standing conditions who have been discharged repeatedly also requires further investigation.

It remains unclear why psychiatrically admitted patients have increased natural mortality. It seems unlikely that there is anything intrinsic to hospitalisation that would cause such mortality; this association is likely to have been confounded by indication or other factors such as smoking rates, the side effects of medication and less intensive medical investigation or treatment. The extent of these confounders could be explored by an examination of deaths from natural causes according to levels of psychiatric care, as has been recently reported in a study of suicide in Denmark.<sup>6</sup>

Any relationships between medical and psychiatric follow-up and natural and unnatural mortality rates in the postdischarge period would be of great interest.

## DO THESE RESULTS CHANGE YOUR PRACTICES AND WHY?

Among younger people discharged from hospital for the first time, the dangers of substance use, particularly alcohol use, should not be ignored because of its contribution to both suicide and accidental death. Reducing the mortality of recently discharged patients should become a priority for mental health services. This will require higher levels of coordination between those providing psychiatric and medical care and greatly improved access to timely treatment of substance use disorders.

**Competing interests** ML has given evidence about postdischarge deaths in coroners' matters and other legal cases. SS has no competing interests to declare.

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