Short report

Suicides in female prisoners in England and Wales, 1978–2004

Seena Fazel and Ram Benning

Summary
We calculated, in narrow age bands, suicide rates for female prisoners compared with the general population between 1978 and 2004. The standardised mortality ratio (SMR) for suicide was 20.7 (95% CI 16.7–25.7), with a higher excess in younger women (<25 years, SMR=40 [95% CI 29–57]; ≥25 years, SMR=20 [95% CI 15–26]). There was a trend over time for SMRs to have increased, supporting the need for recent national initiatives for suicide prevention in prisoners.

Declaration of interest
None.

Results
Between 1978 and 2004, 83 suicides in female prisoners were recorded (online Table DS1): 163 suicides per 100 000 prisoners. The SMR for suicide at all ages was 20.7 (95% CI 16.7–25.7). Age-specific SMRs were calculated. There were no suicides in prisoners under 18 years. In those aged 18–20 years, the SMR was 70 (95% CI 44–113); 37 (95% CI 23–58) in those 21–24 years; 27 (95% CI 17–43) in those 25–29 years; 17 (95% CI 10–27) in those 30–39 years; 22 (95% CI 12–38) in those 40–49; and 8 (95% CI 2–33) in those aged over 50. When larger age-bands were used, those <25 years had an SMR of 40 (95% CI 29–57) compared with those ≥25 years, who had an SMR of 20 (95% CI 15–26). There was a significant increase in SMRs over this time period (regression coefficient (β)=0.37, t=9.41, d.f.=5, P>0.001; Fig. 1). This did not change when the last time period (2003–2004) was excluded from the analysis (β=0.32, t=8.16, d.f.=4, P<0.004).

For the subanalysis of all-cause mortality from 1978 to 1997 (including deaths from natural causes in addition to suicide), 43 deaths in custody were analysed. All-cause SMR was 3.0 (95% CI 2.3–4.1) and suicides constituted 60.5% of the deaths. The SMR for natural causes of death (i.e. excluding suicide, homicide and accidents) was 1.6 (95% CI 1.0–2.6). There were insufficient numbers to calculate the cause-specific SMRs.

When opioid dependence was accounted for,8 the annual number of expected suicides was 0.30 among opioid injectors9 in the late 1990s multiplied by 1.5 to infer opioid users, as per previous work. As this assumes that the prevalence of opioid dependence has been unchanged during 1978–2004, we estimated expected suicide in two alternative models that assumed lower prevalences in the first 15 years of two-thirds (i.e. 29%) and a half (i.e. 22%).
and to reduce the availability and lethality of methods. Further work, including investigations of near-lethal suicide attempts and case-control studies of prisoners, is necessary to clarify the contribution of prison-related variables such as overcrowding, distance from the prisoner’s home, length of time served and the proportion of pre-sentenced females, and provide information on other potentially modifiable risk factors.

For the past 25 years, suicide has been about 20 times more common in female prisoners in England and Wales than in the general female population of similar ages. This excess has been increasing steadily over recent decades and is more than the fivefold increase in SMR for suicide found in male prisoners. Female prisoners aged < 25 years had higher SMRs than older inmates. The highest SMR in male prisoners was for the youngest age group (15–17 years). Together, these findings suggest that younger prisoners are a particularly high-risk group. The strengths of this study include its long duration and the careful comparison with general population suicide rates by narrow age-bands and by calendar year.

The higher overall SMR for female prisoners compared with male prisoners highlights a gender gap in suicide that has also been found in recently discharged prisoners but is less pronounced in psychiatric patients. In psychiatric patients, the male to female ratio of suicides is 2:1 compared with 3:1 in the general population. The gender gap does not appear to be present in the SMR for all-cause mortality: in male prisoners, over the same time period, all-cause mortality SMR was 2.9, compared with 3.0 reported here. One possible explanation for higher SMR for suicide in female prisoners is that females entering prison may have higher prevalences of risk factors associated with suicide, such as depression, previous self-harm and history of physical and sexual abuse. Substance misuse is a risk factor for prison suicides, and a systematic review has shown that the relative excess of substance misuse in prisoners compared with the general population is higher for female inmates. Another explanation is that prison may specifically increase the vulnerability of females to suicide. The impact of custody on women with dependent children, to take one example, may be relevant.

Although social class information was limited, such differences are unlikely to explain the SMR for suicide reported social classes. Some of the suicide excesses seen among prisoners may relate to characteristics before imprisonment, such as psychiatric illness and substance misuse. The increased mortality of opioid users, reported to be ten times the general population, accounted for about half the SMR. The reasons for the increasing SMR for prison suicide are likely to be complex. One possible explanation is that the above-average increase in the number of women convicted of drug-related offences may have led to increasing numbers of females entering prison with substance use problems. Our findings underscore the current national strategy to reduce risk in key high-risk groups such as prisoners

**Fig. 1** Trend over time for SMRs for suicide in female prisoners 1978–2004. SMR, standardised mortality ratio.

**Discussion**

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**References**


# Data supplement

**Table DS1** Number of suicides in female prisoners in England and Wales by age band

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<th>40+</th>
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<td>3</td>
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<tr>
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<td>11</td>
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