Background Health services in Ireland and the United Kingdom have developed strategies to reduce the number of acute hospitals. This has involved the centralisation of services to centres of excellence along with the reconfiguration of smaller hospitals to urgent care centres – with reduced emergency department (ED) hours. However, the evidence base for improved patient outcomes is limited. We aimed to assess the impact of the reconfiguration of a hospital group in Ireland in terms of the burden of hospital-treated self-harm on each hospital and the clinical management of individual self-harm patients.

Methods The study was conducted in three Mid-Western regional hospitals in Ireland. The reconfiguration in April 2009 involved two hospitals (B and C) reducing the operation of their EDs while services at a third hospital (A) remained unchanged. As part of the National Self-Harm Registry Ireland, data were recorded relating to all self-harm presentations during the period January 2004 to April 2014. We used Poisson regression analysis to assess changes in the hospital burden and clinical management of self-harm.

Results During the study period there were 9223 self-harm presentations to the EDs of the three hospitals. Hospital A received the majority (75%), with Hospitals B and C receiving 14% and 11% of presentations, respectively. The reconfiguration was associated with a marked increase in the rate of self-harm presentations at Hospital A, from a rate of 46.0 to 65.2 per month [+19.2 (95% CI 16.2, 22.4)]. This increase was approximately equivalent to the decreases at Hospitals B [−7.7 (−8.4,−6.8)] and C [−9.4 (−9.9,−8.4)]. Despite this large increase in presentations, there was only a small increase in admissions into Hospital A [+3.4 per month (1.4, 5.5)].

Conclusion The cumulative decrease in self-harm presentations at the hospitals reconfigured to have reduced ED services was of similar magnitude to the increase at the other hospital's ED. This suggests that such reconfiguration does not reduce self-harm presentations to hospital EDs but shifts the burden of cases to other hospitals. The disproportionately small impact on hospital admissions suggests that the management of self-harm patients may change in response to increased numbers presenting.

This is the first known study to quantify the impact of acute hospital reconfiguration on patterns of self-harm attendances, highlighting changes in the management of self-harm specifically. Patient outcomes following hospital reconfiguration should be an ongoing research priority.