General hospital costs in England of medical and psychiatric care for patients who self-harm: a retrospective analysis

Apostolos Tsiachristas, David McDaid, Deborah Casey, Fiona Brand, Jose Leal, A-La Park, Galit Geulayov, Keith Hawton

Summary

Background Self-harm is an extremely common reason for hospital presentation. However, few estimates have been made of the hospital costs of assessing and treating self-harm. Such information is essential for planning services and to help strengthen the case for investment in actions to reduce the frequency and effects of self-harm. In this study, we aimed to calculate the costs of hospital medical care associated with a self-harm episode and the costs of psychosocial assessment, together with identification of the key drivers of these costs.

Methods In a retrospective analysis, we estimated hospital resource use and care costs for all presentations for self-harm to the John Radcliffe Hospital (Oxford, UK), between April 1, 2013, and March 31, 2014. Episode-related data were provided by the Oxford Monitoring System for Self-harm and we linked these with financial hospital records to quantify costs. We assessed time and resources allocated to psychosocial assessments through discussion with clinical and managerial staff. We then used generalised linear models to investigate the associations between hospital costs and methods of self-harm.

Findings Between April 1, 2013, and March 31, 2014, 1647 self-harm presentations by 1153 patients were recorded. Of these, 1623 (99%) presentations by 1140 patients could be linked with hospital finance records. 179 (16%) patients were younger than 18 years. 1150 (70%) presentations were for self-poisoning alone, 367 (22%) for self-injury alone, and 130 (8%) for a combination of methods. Psychosocial assessments were made in 75% (1234) of all episodes. The overall mean hospital cost per episode of self-harm was £809. Costs differed significantly between different types of self-harm: self-injury alone £753 (SD 2061), self-poisoning alone £806 (SD 1568), self-poisoning and self-injury £987 (SD 1823; p<0·0001). Costs were mainly associated with the type of health-care service contact such as inpatient stay, intensive care, and psychosocial assessment. Mean costs of psychosocial assessments were £228 for adults and £392 for individuals younger than 18 years.

Interpretation If our findings are extrapolated to England, the estimated overall annual cost of general hospital management of self-harm is £162 million per year. More use of psychosocial assessment and other preventive measures, especially for young people and against self-poisoning, could potentially lower future costs at a time of major cost pressures in the NHS.

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Introduction

Self-harm is a major public health challenge in many countries worldwide. In a 2016 report1 from the Multicentre Study of Self-Harm in England, age-standardised rates of hospital-presenting self-harm of 362 per 100 000 population were estimated for men and 441 per 100 000 population for women. Extrapolated to England as a whole this equates to more than 200 000 episodes every year. Despite its public health effects, limited information is published about the economic costs of self-harm. What is known about the costs of self-harm needs to be improved, both to better inform service planning and, perhaps more fundamentally, to highlight the extent of the problem and the need for services. This information could also be used to estimate potential savings in resource use and costs to the NHS through increased investment in effective measures both to prevent initial episodes of self-harm and reduce the risk of subsequent events for those who have self-harmed. Having more accurate information about the costs of self-harm is also an essential prerequisite to assessment of the cost-effectiveness of different actions, including use of psychosocial assessment and psychological therapies.

Only a small number of studies in England have attempted to cost self-harm events and most of these have focused on the costs of self-poisoning alone2 rather than all types of self-harm. One exception was an analysis using data for individuals originally identified after self-harm in 1997 and followed-up to 2005, to estimate longer-term costs to health and social care services after their initial and subsequent self-harm episodes. In this study,3 inpatient psychiatric care accounted for two-thirds of costs in the year after the initial self-harm event. The National...
We searched PubMed, PsycINFO, CINAHL, and EconLit for articles published in any language between Jan 1, 1988, and Jan 31, 2017, that provide evidence for the immediate costs to health-care systems of intentional self-harm, as well as the costs of psychosocial assessment. The terms “suicide” and “self-harm” were combined with “costs” and “economic evaluation” in the search process, resulting in 5354 hits and 131 articles examining cost. UK studies focused mainly on costs of self-poisoning with little focus on the costs of self-injury, similar to studies done in Belgium, Ireland, Spain, and the USA. Detailed immediate health-care costs for all methods of self-harm are rare; examples include evaluation in England (although costs were not disaggregated by method of self-harm) and Switzerland. Furthermore, limited information exists about the costs of initial psychosocial assessment in these studies. In England, NICE previously relied on NHS Reference Costs for psychiatric consultations as an indicator of the costs of psychosocial assessments after self-harm.

**Added value of this study**

To our knowledge, this is the most detailed analysis of the immediate general hospital costs of self-harm in an English hospital to date, taking account and estimating the costs of psychosocial assessment and providing different estimates of cost for different types of self-harm. Our findings show that the mean hospital cost per episode of self-harm was £809. Treatment of combined self-poisoning and self-injury is the most complex. Hospital management of children and adolescents who self-harm is more costly than that for adults. Psychosocial assessment costs a mean of £254; £392 per assessment for patients younger than 18 years and £228 for assessments for adults.

**Implications of all available evidence**

Extrapolating our findings to the whole of England would mean that the overall costs for self-harm management (assuming 75% of cases, as in the study hospital, include psychosocial assessment) in general hospitals are substantial. Using our costings, if psychosocial assessment were done for every self-harm presentation, as suggested in NICE guidelines, this would cost around £51 million per year. The study provides fundamental information that can be used to inform economic modelling analyses to better assess the potential costs and benefits of policies to address self-harm.
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