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TECHNICAL REPORT

Preventing emergency readmissions to hospital

A scoping review

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Prepared for the UK Department of Health (England)
within the Policy Research Programme (PRP) project
“An ‘On-call’ Facility for International Healthcare Comparisons”

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Summary

1. In its 2010 White Paper 'Equity and excellence: liberating the NHS' the Coalition Government expressed a commitment to create a mechanism whereby the NHS in England is held accountable for improving healthcare outcomes. The proposed NHS Outcomes Framework comprises a set of national goals for outcomes in five domains; one domain, capturing effectiveness, is centred around 'Helping people to recover from episodes of ill health or following injury', and the Framework proposes using 'emergency readmissions within 28 days of discharge from hospital' as one of the indicators to measure progress in this domain.
2. Emergency readmission to hospital is frequently used as a proxy measure of avoidable adverse outcomes after initial or 'index' admission to hospital but its appropriateness as a quality or performance indicator has been questioned as other factors unrelated to the quality of care can affect the probability of readmission. There is a need to further understand the various factors that influence readmission rates and so enable assessment of the potential for preventability attributable to health and/or social care. There is a particular need to better understand the transferability of evidence produced elsewhere to the NHS context.
3. This report aims to contribute to this process by presenting a scoping review of the evidence and potential for use of 'emergency readmissions within 28 days of discharge from hospital' as an indicator within the NHS Outcomes Framework. It draws on a rapid review of evidence presented in systematic reviews that have been published in the past 18 months. The review is complemented by a synopsis of work in a small sample of countries designed to better understand current patterns of readmissions and the interpretation of observed patterns in four countries (England, the USA, Australia and the Netherlands), drawing on published evidence and consultation with experts in the field.
4. Sixteen published studies assessing avoidability of readmissions within 28 or 30 days suggest that between 5 percent and 59 percent of readmissions may be avoidable. The weighted average percentage of admissions avoidable in these studies was 20.6 percent. An alternative approach to producing an overall figure is to pool all studies carried out in the UK whatever the assessment period. This gives a figure of 15.6 percent of readmissions that could be avoided. It should be noted that these studies are highly heterogeneous, and previous authors have advised against producing a benchmark figure for the percentage of readmissions

that can be avoided. Instead, benchmarking against local best practice (eg the top quartile in a region) or assessment of improvements against a historical baseline of the same organisation(s) may be preferable. Nevertheless, if such a figure is required for policy purposes in England, based on the evidence reviewed here, about 15 percent up to 20 percent may be considered reasonable.

5. Methodologies based on lists of diagnoses which can be considered a priori avoidable can produce radically different figures of the proportion of avoidable readmissions, eg 70–80 percent. However the great limitation of such approaches is that they do not take (often complex) individual patient circumstances into account.
6. It would be possible to analyse the evidence in more detail to attempt to explain differences between the percentages assessed as avoidable in different studies. However, we believe that this is unlikely to be fruitful because of the wide range of healthcare systems in which these studies took place and because of large differences in study population characteristics and methodologies. Prospective studies are needed to assess the proportion of readmissions that are avoidable in the contemporary NHS.
7. The majority of published studies focus on clinical factors associated with readmission. Studies are needed of NHS organisational factors which are associated with readmission or might be altered to prevent readmission.
8. No single diagnostic group or set of conditions stand out as being responsible for a high proportion of readmissions. In general, readmissions appear commoner among sicker patients, eg those who have needed more complex procedures or who are discharged to nursing homes.
9. There is a belief, only moderately well substantiated in the literature, that readmissions following surgery are more likely to result from deficiencies in hospital care, whereas readmissions following medical problems are more likely to result from deficiencies in community care or inadequate discharge planning.
10. There is a question as to whether some types of condition should be excluded from assessment of rates of readmission. Areas for exclusion commonly discussed in the literature include mental health, cancer chemotherapy, obstetric care and end of life care. Opinion is divided on whether readmissions for mental health should be included. However for the last three (chemotherapy, obstetric care and end of life care), attempting to performance manage readmissions down could damage patient care.
11. The introduction of new performance indicators always has the potential to produce gaming. Observers from the USA cite experience which suggests hospitals might increase income by admitting less serious cases, thus simultaneously increasing their income and reducing their rate of readmission. There is also the possibility that there may be some shift in coding of admissions between ‘emergency’ and ‘elective’ depending on the incentives. If hospitals are performance managed on the basis of readmission rates, it would be reasonable to expect that some behaviour of this type would occur.

12. Some interventions designed to reduce readmission have been robustly assessed in randomised controlled trials. Promising interventions include structured discharge planning. Evidence of the effectiveness of post-discharge follow up (including telephone follow) remains mixed.
13. There are strong associations between rates of readmission in England and clinical factors including diagnosis, and socio-demographic factors including age and ethnicity. There are arguments for and against risk adjusting readmission rates prior to publication. There may be a case for not adjusting for socio-demographic characteristics (apart from age) in order not to mask inequalities in the delivery of care. At the same time, it will be important to risk adjust readmission rates for diagnosis and comorbidity if hospitals are to be fairly and validly compared. Data from the USA suggest that hospitals may vary substantially in the type of patient case-mix that they admit. We do not know if this is the case in the UK, but strong advice from our US informants is that readmission data should be adjusted for illness severity and comorbidity.
14. For most clinical conditions, an average hospital will not have sufficient admissions and readmissions to allow reliable estimation of avoidable readmission rates over one year. Diagnoses either need to be aggregated into larger groups (eg medical or surgical) or by providing rolling three-year averages (as done by NCQA in the USA). Further research examining sample sizes required to produce reliable figures would usefully inform the development of condition-specific rates.