Readmission: use with caution

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The article by Robinson and Kerse in this issue of the Journal looks at rates of readmission in a national sample of elderly hospital patients. This paper conceptualises readmission in a simple and clear way: as an adverse health outcome. That is, although readmission may represent appropriate medical or social care for a given patient, readmission—like any hospitalisation—is an event that both patient and healthcare provider would hope to avoid.

However, readmission is commonly used outside these parameters, the event extrapolated to also represent the receipt of substandard healthcare quality - this interpretation assuming that a patient treated in the right way at the right time in the right place should not experience such an event.

While readmission is an easily derived measure that lends itself readily to risk-adjustment and sub-analysis, and is available from routinely collected data, it is also considered an important event because it represents a significant financial burden. For example, it has been estimated that unplanned readmissions cost US Medicare more than US$17 billion in 2004, and the Canadian Government more than CAN$1.8 billion in 2010. However, while readmission is itself an outcome of importance to patients and providers alike, the use of readmission rates as a proxy measure of hospital quality should be viewed with caution.

This is not a hypothetical concern. Readmission is employed in this way by many national health organisations—the National Health System of the United Kingdom has monitored rates since 1998, the Australian Institute of Health and Welfare since 1996, and the US Department of Health and Human Services use this measure to publicly rank the quality of hospitals nationally (see www.hospitalcompare.hhs.gov). The NZ Ministry of Health also uses readmission as a quality measure, publishing rates of readmission within 7 days of discharge for each District Health Board in its quarterly Hospital Benchmarking Reports. Moreover, it does so without controlling for any associated differences between hospitals in patient, clinical or other exogenous factors, which might be independently associated with readmission.

For while some readmissions may be preventable, the risk of readmission is intractably intertwined with factors beyond a hospital’s control; including age, case-complexity, comorbidity, the social/economic environment, and a number of as-yet-unknown variables. This means that differences in rates of readmission between health care providers do not necessarily reflect differences in underlying quality of care. In fact, although controlling for established confounders may improve the validity of the measure, even with risk-adjustment methods it is likely that readmission rates are a valid proxy of quality of care in only a few situations.

Nonetheless, readmission continues to be used as an indicator of quality, often with significant consequences. For example, some jurisdictions apply financial penalties to
facilities with higher readmission rates—from April 2011, primary care trusts in the UK ceased to pay hospitals for acute readmissions within 30 days of discharge from a planned hospital stay,\textsuperscript{14} and as of 1 October 2012, Medicare commenced fining US hospitals for ‘excessive’ rates of readmission for patients experiencing heart attack, heart failure or pneumonia.\textsuperscript{15}

In addition to its lack of specificity for healthcare quality, some worry about unintended consequences of this application of readmission. For example, strategies encouraging the reduction of readmissions may incentivise clinicians to delay discharge or increase a patient’s length of stay, and discourage the provision of patient-centred care.\textsuperscript{16,17}

Particular concerns have been raised about the impact of policy aimed at reducing readmissions on vulnerable populations.\textsuperscript{18} Currently, there are two distinct applications for the iPad or iPhone freely available on the iTunes store that calculate an individualised ‘readmission risk’ for a given patient.\textsuperscript{19} It is possible that in some health systems, institutions or providers concerned about the financial implications of caring for ‘high readmission risk’ patients (such as the elderly, the deprived, and some ethnic groups) may subconsciously or deliberately choose not to care for them at all.\textsuperscript{18}

We suggest considerable caution in the use of readmission as an indicator of quality of hospital care. Our recent research examined differences in the rates of readmission between Māori and NZ Europeans admitted for defined surgical interventions.\textsuperscript{13} While it found a small but significant difference between the two ethnic groups (16% higher rate of readmission among Māori patients, 95% CI 8%–24%), quantitative bias analyses suggest that only around 30% of this difference may be attributable to poor quality care. That is, 70% of the difference was likely to be the result of other factors, unrelated to healthcare quality.

We strongly recommend that crude measures of readmission should not be used as a measure of quality of care. We also recommend that interpretations of the risk-adjusted readmission measure as a proxy for quality should be extremely cautious, and limited to defined situations only—for example, comparisons of the same population over time, or to identify (with the intention of exploring and learning more about) outlying facilities.

Nonetheless, a simpler conceptualisation of readmission as an adverse health outcome (such as how it is employed in the paper by Robinson and Kerse\textsuperscript{1}) is useful in its ability to identify groups that may benefit from targeted interventions (whilst in hospital or post-discharge) in order to reduce future morbidity.

Policy or programmes that focus on particularly vulnerable populations may reduce readmission while also being economically efficient for the health system and society as a whole. We suggest that this is a more appropriate use of readmission, and one that avoids the use of cautionary labels.
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