Is case-mix adjustment important for the National Cancer Patient Experience Survey in England (CPES)? A summary

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Summary

Some patient groups, such as ethnic minorities, younger people and some rarer cancers, typically report poorer patient experience. Hospitals trusts tend vary in terms of the types of patients they treat and may specialise in certain cancer types. However analysis shows that case mix does not explain differences in hospital rankings.

Background

The CPES is a survey of cancer patients' experiences of care and treatment that allows hospitals in England to benchmark their performance on patient experience. Understanding the reasons for a hospital's performance on patient experience is key to developing successful improvement initiatives. But uncertainty about the influence of the socio-demographic makeup or clinical case-mix of the patients served by different hospitals on hospital performance can lead to reluctance to use the survey results. Frontline clinicians and managers working in poorly performing hospitals may attribute bad performance to (a perceived) 'more difficult case-mix of patients'. Such a perception leads to staff disengagement and de-motivation - in the hospitals where staff need to be most engaged and motivated in improvement work.

Case-mix adjustment can be used to create a 'level playing field' when comparing performance between hospitals that serve very different patient populations, thus allowing fairer comparisons between hospitals.

This study uses evidence from 2011/12 CPES to provide empirical evidence about whether poor performance can be explained by case-mix.

Methodology

The methodology uses case-mix adjustment, a statistical technique that can be used to predict hospital scores should their case-mix be the same as the national profile. Case-mix adjustment will have an impact on a hospital's scores if either

- patient groups who in general report worse experiences of care are over-represented in the hospital sample of respondents;
- or if patient groups who in general report better experiences are underrepresented.

But the impact will depend on the size of imbalance of both the case mix and reported experience between groups, relative to the true importance of hospital performance.

Case-mix adjustment was undertaken in respect of age, gender, ethnicity and cancer type and applied to the responses to each question in the CPES. Comparison of case-mix adjusted and non case-mix adjusted hospital rankings enabled the impact of case-mix adjustment on hospital performance across the country to be assessed.

Key findings

Overall, case-mix does not matter greatly for hospital performance on the CPES, with the rankings of hospitals broadly similar with and without case-adjustment. In other words, relatively few hospitals become big "winners" or "losers" following case-adjustment.

Questions relating to pre-hospital diagnosis are a notable exception; these were very sensitive to case-mix adjustment. Up to half of the hospitals in the top or bottom fifth would become big winners or big losers as a consequence of case-mix adjustment. This is likely to be because these questions do not directly measure hospital performance – variation in time to diagnosis, for example, depends on GP and patient factors (particularly cancer diagnosis) far more than hospital factors.

Why was this work important?

For most questions case-mix adjustment makes a measurable but small change to overall rankings of hospitals. If the publicly reported performance for cancer patient experience for a hospital (which does not take case-mix into account) is poor then clinicians and managers can be confident in this result and that poor performance is unlikely to be explained by the type of patient that the hospital treats alone; improvement strategies can be implemented accordingly.

It should also be borne in mind that current hospital scores do in fact reflect the actual reported experience of the patients that attend each hospital. Using case-mix adjustment might be seen as a fairer way to compare hospitals but no degree of adjustment can 'correct' for the poorer experience of certain groups of cancer patients. Efforts should always be made to address systematic differences in experience between patient groups.