# Interpreting health systems performance indicators: more complex than it looks?

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The contribution of health systems to inequities in access to health services and resultant outcomes among ethnic groups is not well understood.[1] The study by Srinivasa Vittal Katikireddi and colleagues[2] published in *The Lancet Public Health* marks a considerable step forward in helping to close this gap. Using a linked dataset, which brings together Census data and hospital and deaths records, with follow-up over a period of 12 years, the authors were able to study variations in health-care outcomes in the Scottish population, distinguishing demographic characteristics such as age, sex, and ethnicity, while adjusting for other important determinants of health, such as socioeconomic status. They find ethnic variations in avoidable hospital admissions, and higher amenable and preventable mortality in white Scottish people than in several ethnic minorities.

To understand the effect of health systems on variation in population health, the authors used a range of indicators that shed light on different aspects of health system performance: quality of health care (using amenable mortality), effectiveness of health policy (preventable mortality), and their combination (avoidable mortality), along with more specific indicators that are thought to reflect the quality of primary care (avoidable hospital admissions) and of secondary care (unplanned readmissions and the length of stay), for different ethnic groups. These indicators have been used widely, albeit variously, to understand health-system performance.

However, as with many broad indicators, the devil is in the detail and there is a need for greater scrutiny in their interpretation. First, the notion of avoidable mortality, the sum of amenable and preventable mortality, has been conceptualised in different ways, and this greatly affects its explanatory power. Although there is general agreement on the definition of amenable deaths—namely, deaths that could be avoided through timely and effective health care—definitions of preventable mortality vary widely. These definitions range from including three causes of death (lung cancer, liver disease, and road traffic deaths)[3] to intentionally ambiguous and broad definitions, such as that used by the Office for National Statistics, which considers deaths "that could be avoided by public health interventions in the broadest sense"[4]). Katikireddi and colleagues use the Office for National Statistics definition, which not only includes lung cancer, liver disease, and road traffic deaths, but also deaths from ischaemic heart disease, influenza, diabetes, breast cancer, and cervical cancer—conditions that are also included in the measure of amenable mortality. The use of this definition raises the question of what precisely is being measured if conditions are deemed to be similarly (fully) amenable to health care and to public health interventions in their broadest sense? More importantly perhaps, who should act on observed variation? The idea of distinguishing between amenable and preventable mortality was to establish broad lines of accountability. Thus, amenable mortality includes conditions for which there are identifiable effective interventions and health-care providers; it should provide warning signals of potential shortcomings in health-care delivery.[5] Preventable mortality captures wider policy measures that stretch beyond the health system, requiring the involvement of other sectors, such as legal measures around road safety or a smoking ban. Therefore, the inclusive approach used in the study provides little information in terms of targeting and clarity of the policy message.

Second, more specific health service outcome indicators such avoidable hospital admissions, readmissions, and length of stay, have to be interpreted with caution. Adjustment for patients' morbidity profile is essential to make meaningful comparisons.[6] Nevertheless, the study suggests that people of south Asian ethnic background had greater barriers in accessing primary care in comparison with other ethnic groups. The message for secondary care is much less clear though: the impact on unplanned readmissions could also potentially be reflective of barriers to accessing care, whereas the absence of variation in length of stay says little about the quality of care itself.[7]

Despite these complexities of interpretation, there is a strong message for health system performance, particularly for primary care, which either provides inequitable access or inequitable services. The study shows that relevant data to help us better understand inequalities exist and can be used meaningfully to

highlight shortcomings in the performance of health systems. Provided similar datasets are available in other parts of the UK, the approach used in this study would enable more refined monitoring and assessment across the UK's health systems in terms of access to services, equity, and quality of health-care provision. This is particularly important in view of the many challenges the National Health Service in England has been facing in recent years, with consequences for the nation's health.[8,9]

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We declare no competing interests.



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