Account for primary health care when indexing access and quality

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It is well established that primary care leads to better health outcomes, lower costs, and greater equity in health,[1] and an important part of a country's development should be the strengthening of primary health-care services. This way, the health care provided will be comprehensive and people-centred, for all ages and stages of life, incorporating and coordinating health promotion, prevention, acute and chronic care management activities, to deliver equitable access and safe high-quality care.[2] As a consequence, the contribution of primary health care should be acknowledged when assessing the functioning of health systems: use of indicators to measure health reforms that fail to recognise the effective function of primary care and its contribution to health systems and health outcomes will give a skewed and erroneous picture of communities' and nations' access to, and quality of, health care.[3,4]

In *The Lancet*, Christopher Murray and colleagues[5] use mortality rates for avoidable deaths from 32 causes for 195 countries (derived from the Global Burden of Diseases, Injuries, and Risk Factors study) over 25 years from 1990 to 2015. The researchers were able to use data from low-resource as well as high-resource countries by redressing errors or misclassification in death certification and risk-standardising local cause-specific mortality rates. This method enables the removal of variations due to risk exposure (which might be modified by health-promotion strategies, public health programmes, and policy rather than personal health care), meaning that any variations are likely to be due to differences in personal health-care access and quality.

The researchers then constructed the Healthcare Assess and Quality Index (HAQ Index) to make comparisons over time and between countries. A frontier was produced to look at the relationship between HAQ Index and the Sociodemographic Index (measure of development, ie, income per capita, education, and fertility rates) to see how changes in personal health-care access and quality relate to the country's development over time.

This is a robust design that provides a novel way of looking at changes in personal health-care access and quality for high-resource and low-resource countries over time, and provides a snapshot of how personal health care improves as countries become more developed. We applaud a method that gives insight in what health care, public health, and socioeconomic development contribute to population health.

The HAQ Index shows great promise, but is a very broad brush for measuring personal health care, and its assessment of criterion-based validity will prove difficult. There is considerable heterogeneity, especially when deaths from infectious diseases and non-communicable diseases are combined. Most non-communicable diseases require a personal as well as a population approach to affecting risk-enhancing lifestyles and customs. This is a core component of primary health care. In many countries strengthening of primary health care has resulted in an increase of vaccination rates and safe motherhood care, resulting in a lowering of avoidable infant and maternal mortality, for example in Egypt[6] and Sri Lanka.[7] Controlling for the effect of prevention in assessing the effects of personal health care, as the authors did in their calculations of the HAQ Index, might have ignored this important contribution of person-centred primary health care. This highlights the bridging role of primary health care between individual and population needs,[8,9] and the contribution individual health care makes to population health. As well as not distinguishing between population and personal health-care measures, the HAQ Index is not

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able to sufficiently differentiate mortality reductions due to primary versus secondary care.

Both secondary and primary care systems are complex. Measuring primary care is more challenging, because it is provided by a range of health-care professionals, under a mix of funding models, in dispersed rather than centralised locations, and data collections can be limited. This revisits the so-called paradox of primary care;[10] when focusing on the level of diseases—or in the study by Murray and colleagues, on mortality of defined diseases—while the contribution of primary health care might be hard to see, it is readily apparent at the level of whole people and populations. Murray and colleagues aim to identify and quantify contributing factors for population health, but it is important to clarify primary health care's contributions. Rather than combining community-based primary health care and hospital-based secondary care as personal health care, the HAQ Index should reflect the process and outcome indicators of primary health care in its own right in measuring the health of populations.[3,11] There is the danger of throwing out the baby with the bathwater, if the specific contribution of primary health care is ignored.

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Ketamine fails to prevent postoperative delirium

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Postoperative delirium, an acute event of disordered cognition and attention, is often missed, creates anguish in hospital personnel and family members, and is associated with morbidity and mortality.[1] The study by Michael Avidan and colleagues[2] in *The Lancet* tests an intriguing hypothesis that ketamine, an anaesthetic and analgesic associated with hallucinations, might paradoxically reduce postoperative delirium. The findings of the study show that it does not.

Patients older than 60 years having major cardiac or non-cardiac surgery under anaesthesia were randomly assigned to receive normal saline placebo (n=222), 0·5 mg/kg ketamine (n=227), or 1·0 mg/kg ketamine (n=223). The Confusion Assessment Method was used to assess delirium twice daily in the first three postoperative days. Incidence of delirium did not differ between the three groups, but there were more postoperative hallucinations (p=0·01) and nightmares (p=0·03) with increasing ketamine doses compared with placebo.

From previous studies, the probability that ketamine would protect against delirium, given the relatively scant animal and human data,[3] was not high, and the posterior probability after the present moderately sized multicentre clinical trial is low. One might wonder why this work achieved a level of priority adequate for publication in a leading general medical journal; there are three reasons for this.

First, just as death in the operating theatre for elective surgery has become vanishingly small, we are increasingly aware of the risks of major organ injury, long-lasting