

## Cost, production, efficiency, or effectiveness: where should we focus?



Across all countries, costs of care are increasing, and so increased prevention of disease is widely thought to mean reduced costs in the future. Although this assumption might be true for the disease being prevented, increased prevention will mean that populations live longer (a good thing of course), and as a result adopt different disease profiles.<sup>1</sup> As population profiles change, demand for health care increases and changes—but what does this mean for those committees and individuals involved in service delivery planning and policy making? Issues raised by these processes could be especially important the more constrained resources become, particularly in countries of low and middle income.

Looking at changes in the Global Burden of Disease in the past decade and changed projections in disease profiles, an increase and change in health-care demands is expected, which could substantially increase overall costs of treatment. In economic terms, the profile of health systems needs to change. Supply needs to change to meet demand, and because resources are finite, efficiency of delivery is especially important to ensure effective and cost-effective care is available as and when it is needed.

To assess the efficiency of production of care, we need to develop and compare measurement metrics; this process requires reliable data for services provided (ideally over time) and valid methods of comparison. In terms of cost effectiveness of health spending, it is increasingly important to know whether you are getting what you pay for.

We can do this in lots of ways. At the health-system level, across geographical regions, clear differences in spending can be seen. For example, increased health-care expenditure from around US\$50 to around \$150 per person per year in Asia compared with in Africa can mean a difference in life expectancy of 20 years. However, differences between countries that spend the same amount of money on care exist. For example, at around US\$70 per person expenditure, Zambia has a life expectancy of 49 years compared with 64 years for Ghana.

Obviously this comparison is highly simplistic: there are many variables and confounding factors, including education, housing, security, and disease profiles. If we

had excellent data and reliable standard metrics, we could adjust for such confounding factors, and compare the health systems of similar countries in terms of resource allocation, producing useful benchmarks about how changes in provision could result in increased effective care.<sup>2</sup>

To benchmark effectively, we need standard metrics made up of inputs (usually costs, sometimes physical quantities—eg, staff numbers) and outputs (amounts of care, ideally adjusted for case-mix, and quality). Methods for construction of these metrics are available, but they are very data driven.<sup>3</sup> Thus, before comparisons between countries can be made, a very clear picture of what is happening within countries is needed, which can be achieved with improved data collection.

Looking at evidence so far on measurement of health-care efficiency, especially in countries of low and middle income, large variation in the use and usefulness of studies exists<sup>4</sup>, thus standardisation of measurements is important,<sup>5</sup> and work is underway in terms of information provision. So, can the work being undertaken be of real use? If, after controlling for confounding factors, we have data we can rely on and use to construct reliable measurements to make benchmarking comparisons, not only between countries, but also within countries (eg, important information could be provided to allow benchmarking across hospital systems, health centres, or vaccination programmes), and this leads to more efficient delivery of effective care, the answer must be yes.

Saying this, we must remember that efficiency is only one objective of health systems, and there are many others. One example is access to care, not only in socioeconomic terms, but also in geographical—there is no sense in closing an inefficient health centre if it is a 50 km walk to the next nearest centre. Efficiency is only one part of a framework for measurement of health system performance.

Given the potentially drastic changes occurring across populations in terms of demand for health, we must make use of information of this nature to help to ensure policies and systems are put in place, allowing scarce resources to be allocated efficiently and effectively in terms of improvement of health

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For more on **changes in national and international disease profiles** see work of the **Global Burden of Disease programme** see <http://www.healthmetricsandevaluation.org/gbd>

For more on **information provision** see <http://www.healthmetricsandevaluation.org/dcpn/focus-areas/abce>

For **comparisons of countries spending on health, income, and health outcomes** see <http://www.gapminder.org/>

outcomes, to prevent countries falling even further behind in terms of health care.

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- 1 Lozano R, Naghavi M, Foreman K, et al. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 2012; **380**: 2095–128.
- 2 WHO. The World Health Report 2000—Health systems: improving performance. [http://www.who.int/entity/whr/2000/en/whr00\\_en.pdf](http://www.who.int/entity/whr/2000/en/whr00_en.pdf) (accessed July 24, 2013).
- 3 Hollingsworth B. The measurement of efficiency and productivity of health care delivery. *Health Econ* 2008; **17**: 1107–28.
- 4 Au N, Hollingsworth B, Spinks J. Measuring the efficiency of health services in low income countries: health services in PNG. *Dev Policy Rev*: (in press).
- 5 Hollingsworth B. Revolution, evolution, or status quo? Guidelines for efficiency measurement in health care. *J Prod Anal* 2012; **37**: 1–5.