Towards Improved Measurement of Financial Protection in Health

Rodrigo Moreno-Serra1*, Christopher Millett2,3, Peter C. Smith1
1 Business School and Centre for Health Policy, Imperial College London, London, United Kingdom, 2 Department of Primary Care and Public Health, Imperial College London, London, United Kingdom, 3 South Asia Network for Chronic Disease, Public Health Foundation of India, New Delhi, India

Protecting citizens against the financial consequences of illness has long been a key objective of health systems worldwide. In the United Kingdom for example, financial protection—which refers to how far people are protected from the financial consequences of illness—was the fundamental goal when the National Health Service was established in 1948, more than health improvement or equitable access to health care [1]. The World Health Report 2000 identified financial protection against the costs of ill health as a fundamental objective of health systems, on the basis of the premise that a fair health system ensures households make health care payments according to their ability to pay rather than risk of illness [2]. This report helped put financial protection at the forefront of health policy and academic debates, leading to numerous studies concerned with identifying the determinants of financial protection levels [3].

Ten years later, the World Health Report 2010 called on all countries to take concrete steps towards achieving universal health coverage, defined as providing all people with access to needed health services of sufficient quality to be effective, without financial hardship associated with their use [4,5]. This call was made because most health systems still fail to offer adequate financial protection because of insufficient financial risk pooling and prepayment mechanisms. Financial risk pooling involves the collection and management of health revenues from all members of the pool, such that the risk related to health care payment is borne collectively rather than from each individual contributor. Health systems with higher prepaid funds for health care—that is, funds paid by individuals before the event of illness, through social health insurance contributions or taxes—are likely to enhance financial protection by favoring effective spreading of financial risk across all population groups (see Box 1 for a definition of key concepts). Financial hardship due to medical payments has been estimated to affect 150 million people globally each year, in both richer and poorer countries [6]. Affected individuals face a great risk of being driven into poverty because of health care expenses, resulting also in lack of access to needed care owing to inability to pay. Nevertheless, the squeeze on public finances associated with the global economic downturn has led some governments (e.g., Spain and Greece) to increase direct payments for health services. This increase is taking place despite accumulating evidence about the detrimental effect on both financial protection and the welfare of citizens of heavy reliance on user payments for financing health systems (leading to growing calls for the complete abolition of user fees in health care) [3,6–8]. In this context, service coverage and financial risk protection have been a primary topic of discussion at the WHO 64th World Health Assembly, whose resolution recommends that the matter be further debated at the forthcoming session of the United Nations General Assembly [9].

Financial protection should remain a key objective of any health system. However, we argue that there is an urgent need to develop indicators capable of providing a broader picture of financial protection for better health policy guidance, because the harm caused by inadequate financial protection in many parts of the world goes well beyond that measured by conventional indicators. In this paper, we discuss the shortcomings of conventional metrics and make recommendations about how financial protection analyses can be undertaken in a more rounded manner to better aid policy making.

Conventional Indicators of Financial Protection Have Important Shortcomings

Conventional indicators of financial protection assess whether people suffer financial hardship in paying for health services and are based on the notions of “catastrophic” and “impoverishing” health care spending, which relate health expenditures to some threshold in terms of living standards (Box 1). These measures have noteworthy limitations. Specifically, catastrophic and impoverishing spending metrics are constructed solely on the basis of out-of-pocket medical expenditures reported in surveys, thus ignoring the fact that poorer individuals often cannot afford...
Summary Points

- Most health systems fail to offer adequate financial protection to citizens because of insufficient financial risk pooling and prepayment mechanisms.
- The harm caused by inadequate financial protection goes well beyond that measured by conventional indicators such as catastrophic and impoverishing health spending.
- A broader set of metrics is required to better inform policy development on financial protection, including new indicators that identify citizens who cannot afford to use health services and may have very low or no health spending.
- Options include expanding the use of household surveys that assess cost barriers to health care access and the calculation of "need-adjusted" estimates of medical care utilization and spending.

Box 1. Glossary

Financial Protection Financial protection refers to how far people are protected from the financial consequences of illness. A growing body of research has focused on the extent to which health payments are catastrophic or impoverishing. These financial protection indicators provide information on the number of households spending a large proportion of their income on medical bills, where "large" means that their health payments exceed some threshold measured in terms of household income after subsistence costs such as food and shelter have been met (catastrophic spending), or push households below a predefined poverty line (impoverishing spending). The choice of threshold above which health care payments are defined as catastrophic or impoverishing is unavoidably arbitrary and ultimately a normative choice, varying across studies [3,6,16].

Health System Financing The financing of most health systems include some pooling arrangement, meaning that financial resources are accumulated and managed so as to share the financial risks of illness across all members of the pool. Thus, members of the pool who need to use health services will not have to bear the corresponding costs all by themselves, as costs will be shared across all pool members, making ill individuals less likely to be deterred from seeking care because of health payments and less likely to fall into poverty should any payments need to be made. Higher proportions of prepaid funds for health care—that is, funds paid by individuals before the event of illness or injury, through channels such as social health insurance contributions or taxes—are likely to enhance financial protection by favoring effective spreading of financial risk across all population groups [4]. On the other hand, financial protection will tend to be poorer if out-of-pocket payments (also referred to as cost-sharing or user fees) make up for a significant share of health funding: these are payments made directly by individuals to health providers at the time medical services are provided and include, for example, fees paid for consultations, laboratory tests, hospital admissions, and drugs.
income countries such as China, Ukraine, Bolivia, and Indonesia have estimated financial catastrophe incidence of about 4%. However, coverage figures for DTP3 immunization and the share of births attended by skilled personnel tend to be much higher in the former two countries (Figures 1 and 2). Analogously, Tajikistan, Kenya, and Nepal, three low-income countries with catastrophic health spending incidence between 3.5% and 4.3%, also exhibit remarkable differences concerning coverage of births attended by skilled personnel (71%, 42%, and 9%, respectively) and DTP3 immunization (82%, 73%, and 65%).

Evidence from a study by Schoen and colleagues shows that differential—and substantial—impacts of financial barriers to access are also present among richer countries with very low estimated incidence of financial catastrophe (0.5% or less) [11]. It found that 33% and 25% of individuals in the US and Germany (respectively) reported having been deterred from seeking necessary health care because of costs, against 10% in Sweden and only 5% in the United Kingdom. This finding suggests that citizens living in this group of countries are not equally protected against the financial consequences of medical needs, despite negligible levels of catastrophic spending.

**Financial Protection Measures: Suggested Areas for Development**

There is an emerging consensus on the need for practical alternatives to account for the effect of cost barriers to health care access in financial protection analyses [3,4,6,15]. As explained above, one alternative to obtain a broader picture of financial protection levels across and within health systems would be to complement conventional measures with information provided by de facto coverage indicators. Taking this route has a number of limitations, however. First, from a purely practical viewpoint, the coverage indicators available for such analyses may vary considerably in quality across countries and often pertain to data on selected primary care interventions (e.g., immunization rates) available from international agencies. These indicators may be more pertinent in low-income settings, posing problems if the final goal is to make international performance comparisons across health systems. Second, coverage indicators have limited scope by construction, offering little information on many other potential dimensions of forgone care (e.g., adherence to secondary prevention medications) which may result in delayed care and greater costs to individuals and health care systems. Also, there is usually scant information available at the national level on utilization figures for more complex outpatient and inpatient care—often associated with important cost bar-

Figure 1. Catastrophic spending incidence and DTP3 immunization coverage among 1-year-olds, 87 countries (various years).
Catastrophic spending is defined as out-of-pocket payments for health reaching at least 40% of a household’s nonsubsistence income [6,26].
doi:10.1371/journal.pmed.1001087.g001
riers to access and higher likelihood of financial catastrophe [16,17]. Finally, any analyses focusing on financial barriers to health care utilization must account for the fact that coverage measures can be influenced by a number of other nonfinancial factors such as cultural issues, workforce shortages, and health system planning [18,19].

Surveys containing questions on patterns and reasons for foregone health care utilization seem a more attractive—and frequently feasible—alternative to complement the information from conventional financial protection indicators. Standardized, multipurpose surveys have been applied in many countries and offer useful data for financial protection assessments. The Commonwealth Fund International Health Policy Surveys, conducted in various high-income countries, are a good example [20]. They provide cross-country information on the prevalence of financial barriers to access, such as whether individuals have been deterred from using health services or following the adequate course of treatment because of costs. Several middle- and low-income countries already implement regular household surveys containing questions about effective access to care [21], and including such questions into other national surveys should not result in major additional data collection costs. Moreover, a number of household surveys containing access and utilization questions have been conducted in the past under WHO’s World Health Survey project and the World Bank’s Living Standards Measurement Study [22,23]. The application of these surveys on a routine basis to allow the monitoring of the extent of financial (and other) barriers to access across countries remains an important challenge for timely, evidence-based policy.

A methodologically different route would be to attempt to incorporate the effect of financial barriers to access directly into the construction of financial protection metrics. In this regard, a small number of studies have computed “need-adjusted” figures of medical care utilization and spending using survey data, indicating the amount of medical care individuals would have received had they been treated as other individuals with similar “health need” characteristics (i.e., observable factors such as age and gender) were on average treated in the population [10,16]. These studies indicate that policy recommendations for achieving financial protection may be very different when the effect of financial barriers to access is explicitly considered (Box 2).

Both alternatives discussed above have methodological challenges of their own. Multipurpose household or health surveys with detailed medical spending information have rarely been conducted in poorer countries on a routine and relatively standardized basis, making international comparisons less straightforward. On the
References

1. Central Office of Information (1948) The new National Health Service. Leaflet prepared for the Ministry of Health. London: Central Office of Information.

2. World Health Organization (2000) The world health report 2000. Health systems: improving performance. Geneva: World Health Organization.

3. Wagstaff A (2009) Measuring financial protection in health. In: Smith P, Mossialos E, eds. Performance measurement for health system improvement: experiences, challenges and prospects. Cambridge: Cambridge University Press. pp 141-147.

4. World Health Organization (2010) The world health report 2010. Health systems: financing the path to universal coverage. Geneva: World Health Organization.

5. Bennett S, Ozawa S, Rao KD (2010) Which path to universal health coverage? Perspectives on the World Health Report 2010. PLoS Med 7: e1000100. doi:10.1371/journal.pmed.1000100.

6. Xu K, Evans D, Carrin G, Aguilar-Rivera A, Musgrove P, et al. (2007) Protecting households from catastrophic health spending. Health Aff (Millwood) 26: 972–983.

7. Riddel V, Meerstein F (2011) A scoping review of the literature on the abolition of user fees in health care services in Africa. Health Policy Plann 26: 1–11.

8. Yates R (2009) Universal health care and the removal of user fees. Lancet 373: 2078–2081.

9. World Health Organization (2011) World Health Assembly Resolution WHA 64.9: Sustainable health financing structures and universal coverage. Geneva: World Health Organization.

10. Preker A, Carrin G, Dror D, Jakab M, Hsiao W, et al. (2009) Rich-poor differences in health care financing. In: Preker A, Carrin G, eds. Health financing for poor people: resource mobilization and risk sharing. Washington: The World Bank. pp 3-51.

11. Schoen C, Osborn R, Squires D, Doty M, Pierson R, et al. (2010) How health insurance design affects access to care and costs, by income, in eleven countries. Health Aff (Millwood) 29: 2323–2334.

12. Mossialos E, Dixon A, Figueras J, Kutzin J, eds. (2002) Funding health care: options for Europe. Buckingham: Open University Press.

13. Kiwanuka S, Ekiara E, Peterson S, Okui O, Hafizur Rahman M, et al. (2008) Access to and utilization of health services for the poor in Uganda: a systematic review of available evidence. T Roy Soc Trop Med H Hyg 102: 1067–1074.

14. World Bank (2011) Country and lending groups. Available: http://data.worldbank.org/about/country-classifications/country-and-lending-groups/. Accessed 12 July 2011.

15. Lu C, Chin B, Li G, Murray C (2009) Limitations of methods for measuring out-of-pocket and catastrophic private health expenditures. Bull World Health Organ 87: 238–244.

16. Pradhan M, Prescott N (2002) Social risk management options for medical care in Indonesia. Health Econ 11: 431–446.

17. Flores G, Kininnaunam J, O’Donnell O, van Doorslaer E (2008) Coping with health-care costs: implications for the measurement of catastrophic expenditures and poverty. Health Econ 17: 1393–1412.

18. Ensor T, Cooper S (2004) Overcoming barriers to health service access and influencing the demand side through purchasing. HNP Discussion Paper, September. Washington (D.C.): The World Bank.
19. Baeza C, Packard T (2006) Beyond survival: protecting households from health shocks in Latin America. Washington (D.C.): The World Bank.

20. The Commonwealth Fund (2010) 2010 Commonwealth Fund international health policy survey. Available: http://www.commonwealthfund.org/Content/Surveys/2010/Nov/2010-International-Survey. Accessed 12 July 2011.

21. International Household Survey Network (2011) International Household Survey Network. Available: http://www.internationalsurveynetwork.org. Accessed 12 July 2011.

22. World Health Organization (2011) World health survey. Available: http://www.who.int/healthinfo/survey/en/index.html. Accessed 19 October 2010.

23. World Bank (2011) Living standard measurement study. Available: http://www.worldbank.org/hmms/. Accessed 12 July 2011.

24. Smith P (2005) User charges and priority setting in health care: balancing equity and efficiency. J Health Econ 24: 1018–29.

25. Hoel M (2007) What should (public) insurance cover? J Health Econ 26: 251–62.

26. WHO (2010) Immunization coverage data from WHO World Health Statistics. Available: http://www.who.int/whosis/whostat/2010/en/index.html. Accessed 19 October 2010.