Making Health Insurance Pro-poor: Lessons from 20 Developing Countries

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ABSTRACT
The last 20 years have seen a substantial growth in research on the extent to which health sector reforms are pro-poor or pro-rich. What has been missing is knowledge synthesis work to derive operational lessons from the empirical research. This article fills the gap for the most popular form of health financing reform, health insurance. Based on publications covering 20 developing countries, we find that health insurance is no panacea for improving equity in the health sector. More importantly, we find certain design elements of health insurance can increase the likelihood of tackling inequality in the health sector in developing countries.

Introduction
Concerns about inequalities in the health sector have historically focused mainly on inequalities in health outcomes, such as mortality rates or life expectancy at birth, across countries with different levels of national income. The most cited, reproduced, and updated example was the Preston curve, which explored the strong correlation between country-based life expectancy at birth and per capita national income.\textsuperscript{1,2} A few publications in the 1980s and 1990s, mostly by World Bank researchers, dug more deeply and introduced the concept of within-country inequalities in access to health care services and the related public subsidies to these services.\textsuperscript{3–7} When a new statistical technique allowed Demographic and Health Survey (DHS) data sets to be analyzed from a wealth-equity perspective, an explosion of data motivated interest in research on the important topic of within-country inequalities in health outcomes and access to health services.\textsuperscript{8–10}

The dissemination of the DHS data with an inequality lens in the late 1990s and early 2000s led to a substantial growth in research on how policies or reforms in the health sector could impact within-country inequality, positively as well as negatively.\textsuperscript{11} The rapidly expanding research found its way into two knowledge synthesis efforts between 2003 and 2008. The first culminated in 2004 in the publication of the World Development Report 2004: Making Services Work for the Poor (WDR04).\textsuperscript{12} The second effort, the Reaching the Poor Program (RPP), was funded by four agencies (the World Bank, the Bill and Melinda Gates Foundation and the development agencies of the Netherlands and Sweden) and produced a number of research and synthesis reports and books.\textsuperscript{13–15}

Both WDR04 and RPP used an empirical approach to document inequality in health and an empiricist approach (learning from experiences) to help identify possible solutions. Both, however, had limited data points on successful (or even evaluated) health insurance programs in developing countries to draw from. In fact, RPP was initially designed to produce evaluations of health programs from an equity perspective before turning to synthesis. Similarly, WDR04 and the two RPP publications refer to just three countries (Colombia, Mexico and Rwanda) with evaluated health insurance schemes that showed positive results in reducing inequality in the use of health services.\textsuperscript{13,14} There was no attempt to identify schemes that did not have positive results.

Since the late 2000s, the landscape of empirical work evaluating policies like health insurance has grown substantially, but there has not been a serious effort to synthesize the lessons on what has and has not worked to reduce within-country inequalities in the health sector. This article builds on earlier synthesis work to update knowledge on what works for addressing inequality.

We focused on health insurance as a policy instrument because of the substantial growth of research, likely reflecting the policy interest in insurance as a proxy for Universal Health Coverage.\textsuperscript{16} We define as a health insurance scheme...
any program that includes payment of a premium by or on behalf of each individual covered and provides a benefit in terms of health services covered. We exclude programs that perform an insurance function (access to care with financial risk protection) but are financed through direct public funding of service provision. What makes health insurance especially interesting is the many different ways it can be developed and implemented. Health insurance can be compulsory or voluntary, single-payer or competitive, publicly owned or private, for-profit or not, publicly managed or contracted out to non-governmental entities, and targeted or universal. The heterogeneity in forms of health insurance and the large volume of related evaluative research allows for the identification of elements of design that are likely to reduce inequality. It is important to note that many health insurance systems were found not to reduce inequality, making it important to understand what types of insurance and which design elements increase the likelihood of pro-poor outcomes.

Methodology

In 2018 we undertook a review of the literature on health financing interventions covering the period between 2009 and 2018. The goal was to systematically summarize the operational and policy lessons from published empirical evaluations of health financing interventions in developing countries that were intended to reduce inequality in the health sector and benefit poor and vulnerable populations. This paper covers a subset of that effort, focused specifically on health insurance.

Qualitative methods enabled the study team to extract and organize data in a systematic fashion from key documents and peer-reviewed journal articles. The literature search terms for the original full review of health financing interventions were created based on key concepts deemed relevant for a review of interventions aimed at reducing health inequality. EconLit and Pubmed (Med-line) were then searched for all peer-reviewed articles in which the abstract included at least one of the following key concepts. The full list of search terms was too long to be included, but illustrative terms are shown below:

Health Financing Intervention: Article must discuss an intervention that is implemented by a country (though can be funded and/or supported by external sources) that helps design and/or implement policies affecting 1) generation of revenue, 2) pooling of risks, or 3) purchasing of health services. (Search terms: (“health insurance” OR “health financing” OR “Health Services Accessibility/economics” OR “Community Health Services/economics” OR “Health Services/Utilization” OR “health care costs” OR “program evaluation” OR “health care reform” OR “healthcare reform” OR “health reform”))

Poor or Vulnerable groups: Article must include a reference to the intervention’s effect on poor people or “groups of people who, due to factors usually considered outside their control, do not have the same opportunities as other, more fortunate groups in society. Examples might include unemployed people, refugees and others who are socially excluded.” In cases where the terms are used without elaboration, we included the definition as evaluated by the researcher. (Search terms: “poverty” OR “healthcare disparities” OR inequality* OR equality* OR “vulnerable populations” OR “vulnerable groups” OR “poorer groups” OR “Catastrophic *” OR “socioeconomic factors”)

Evaluation: Article must provide evidence identifying whether or not an intervention has improved conditions for a specific poor or vulnerable group. To identify this, we looked for output or outcome indicators (e.g., use of and/or satisfaction with health services, financial protection, health outcomes) but not process indicators (e.g., people covered with insurance, people enrolled in a program). Both qualitative and quantitative methods are allowed, but must include at least implicitly some baseline against which a change (or lack thereof) can be measured. (Search terms: “analysis” OR “program evaluation” OR “health services accessibility” OR “health status indicator”)

LICs/LMICs: We include any country classified by the World Bank as Low Income or Lower-Middle Income for any year 2009–2018. To be included, the country must be classified as either Low Income or Lower-Middle Income in the same year that the intervention was implemented. (Search terms: “emerging countr*” OR “emerging nation” OR “emerging population” OR “developing countr*” OR “developing world” OR “underserved nations” OR “middle income nations”)

The team also employed exclusion criteria, which included:

- Articles that are published in a language other than in English
- Articles that are published before 2009
- Articles that focus on a financing intervention that is not health-related
- Articles that focus on a health intervention that is not finance-related
- Articles that describe an intervention rather than evaluate it
- Articles that focus on an intervention’s impact for the population at large and not specifically the poor or vulnerable
- Commentaries, editorials, and opinion pieces
These articles were divided between two reviewers who determined whether the literature met criteria. If either reviewer was not certain, a third senior reviewer provided a final decision. The initial search netted 6,733 peer reviewed articles, and the exclusion criteria and screening efforts narrowed the database to 107 papers (Figure 1). For the purposes of this paper, the authors filtered the health financing interventions so that only articles discussing health insurance were included. This is the one difference between the two literature reviews. We identified 64 evaluations of health insurance schemes in 20 developing countries.

The substantially expanded published literature covered in this paper goes beyond inequalities in health service utilization to include financial protection and, in a very small number of cases, even health outcomes. It is hard not to conclude that the global health community has focused on the poor far more seriously than in the past and no longer takes for granted that all health programs reach the poor. Moreover, there were more papers assessing the pro-poor potential of health insurance than any other health financing reforms or interventions. In other words, health insurance appears to be a popular health system intervention among those hoping to improve pro-poor results.

**Results**

Our systematic review focused on two central questions, both covered in this section. First, given the fact that health insurance was, by a substantial margin, the most evaluated pro-poor health financing intervention in this review period, and given that the previous synthesis found three successful examples and did not look for unsuccessful ones, we asked what evidence there is that health insurance schemes and programs address the global inequality challenge. Second, we asked which elements of health insurance design were most likely to be associated with a reduction in inequality in the health sector. On the second question, it is important to state that health system reform evaluations, by their nature, rarely allow for gold standard evaluation techniques such as randomized double-blind control. Moreover, given the heterogeneity of the countries, insurance schemes, data collected, and research instruments used, it would be impossible for the review to draw definitive conclusions that would apply in all contexts. However, the volume and wealth of the research unearthed in the search and covered in this review can provide valuable information for countries considering health insurance. It is important to learn from negative as well as positive results.

**Is Insurance the Answer to Reducing Inequity in Healthcare?**

The papers covered insurance schemes in a range of developing countries in Asia, Africa, Latin America and Europe. China, India and Ghana were heavily represented in the published evaluations, but there were also studies on Brazil, Burkina Faso, Cambodia, Colombia, Ethiopia, Georgia, Indonesia, Kenya, Lao PDR, Mexico, Moldova, Nepal, Nigeria, the Philippines, Thailand, Turkey, Vietnam, and multi-country studies covering Asia and the WHO Euro region.

In reviewing the papers we used a simple pro-poor results framework. First, the scheme studied must enroll a large proportion of the poor. Second, the poor people who are enrolled must increase their utilization of health

![Figure 1. Literature review.](image-url)
services. Third, the scheme must improve financial protection for the poor by reducing out of pocket payments that lead to increased poverty. Fourth, over time, successful health insurance schemes should improve health outcomes for the poor. Our review of the programs gives some indication of the features that contributed to their success or otherwise: this is covered in the remainder of this section.

A striking finding from the review was that only around half of the evaluations we reviewed provided evidence of pro-poor results on any of our four measures. The findings of these studies are shown in Table 1. A blank cell indicates that the evaluation did not address that measure. It was, not surprisingly, rare to find papers that were able to look at pro-poor health outcomes. Based on this systematic review, the likelihood of a scheme achieving pro-poor results in more than one measure appears to be low. In other words, while health insurance schemes are popular, it is far from guaranteed that they will achieve pro-poor results.

**Health Insurance Design Elements that Appear to Make a Difference (Learning from Research and Experience)**

Success or failure in achieving a pro-poor result appears in many cases to depend on factors outside the insurance scheme, including quality of care (supply side), as well as social and cultural factors. Context appears to matter considerably if the objective of setting up health insurance is to achieve pro-poor results. Our main findings as they relate to actual design elements of health insurance schemes, regardless of external context, were as follows.

**Universal Eligibility**

Evidence shows that universal eligibility for insurance with a substantial premium subsidy can reduce or eliminate the financial barrier to access and so reaches the highest total and group-specific enrollment rates, benefitting the poor. In Thailand, where any citizen not covered by a formal sector scheme is both eligible for and automatically enrolled in a noncontributory health insurance program, enrollment is near 100% and the scheme has been shown to increase utilization, reduce out of pocket (OOP) spending and improve health outcomes. In Ghana, universally exempting all pregnant women from paying premiums significantly expanded coverage of the poor, with the biggest increases in enrollment occurring among the poorest segment of the population. It also significantly increased utilization of maternal health services.

**Indirect Targeting with Substantial Premium Subsidies**

If a universal approach is not possible, indirect targeting mechanisms based on geographic or socioeconomic characteristics, combined with large subsidies, tend to lead to greater enrollment of the poor than direct mechanisms based on some form of means testing. The latter fall down for various reasons, including flaws in the design of the means testing mechanism. In Ghana, use of a proxy means test to identify the poor and exempt them from paying National Health Insurance Scheme (NHIS) premiums did not effectively increase enrollment of poor people into the NHIS scheme, and they remained disproportionately unenrolled. This was due in large part to the test selection criterion of homelessness, which is not a common characteristic of the poor in Ghana.

**Minimizing Administrative Obstacles through Automatic Enrollment and/or Communication Outreach**

Even if the poor are well identified, a scheme will achieve pro-poor enrollment only if it effectively reduces administrative obstacles to enrollment for the poor. Even though India’s Rashtriya Swasthya Bima Yojana (RSBY) health insurance program is open to all individuals and households classified as living below the poverty line, enrollment is voluntary and lack of understanding of the scheme was found to be a barrier in Kerala, where the poorest were least likely to be enrolled and uninsured participants reported that the major reason for not being insured was lack of awareness of the scheme and enrollment dates. Indonesia’s Jaminan Kesehatan Masyarakat program is available for any household in the lowest two income quintiles, but to register people need to present several official documents, which is challenging for many, limiting registration. In contrast, people in Karnataka who are issued a “below poverty line” card are automatically enrolled in the state’s Vajpayee Arogyashree scheme (VAS), which provides tertiary care free of charge and achieved reductions in both mortality and out of pocket payments for inpatient care for the poor.

**Voluntary Schemes are Typically a Bad Idea, but There are Incentive Structures that Can Help**

Voluntary schemes can overcome obstacles to enrollment if responsibility for enrolling the poor is assigned to appropriate bodies and they are sufficiently incentivized. Examples include when the organization responsible for enrollment receives conditional budget transfers, additional funds in form of matching grants or commissions, or rewards in terms of reputation and
| Study | Pro-poor enrollment | Pro-poor utilization | Pro-poor financial Protection | Pro-poor health outcomes |
|-------|---------------------|----------------------|-------------------------------|--------------------------|
| Georgia Medical Insurance for the Poor (2007–2008) | No pro-poor effect | Increased utilization of inpatient services by the poor. | Reduced OOP and CHE | |
| Georgia Medical Insurance for the Poor (2006) | | | | |
| Ghana two rural districts | Enrollment rates much lower for the poor than for the rich. | Narrowed the differential in facility deliveries between rich and poor. | Insurance had a strong protective effect against CHE for the poor. | |
| Ghana NHS coverage of pregnant women in Brong Ahafo | Enrollment was automatic for all pregnant women. Enrollment rose by more for poor women than for rich. | Utilization of inpatient services was highest among the poorest quintile | Not explicitly examined, but pregnant women were exempt from the premium and all co-payments. | |
| Kenya Jamii Bora CBHI | Poorest were most likely to be enrolled | | | |
| Ethiopia CBHI | Participation in the Productive Safety Net Program increased the likelihood of enrollment in CBHI | | | |
| Burkina Faso Nouna CBHI | Use of community wealth ranking increased enrollment by the poor | | | |
| Mexico (Seguro Popular) | Not reported, but the data came from a program that also increased enrollment of the poor. | | | |
| Colombia | Coverage was mandatory | Point estimates suggest a large increase, but the study was not powered to detect significant changes. | Substantially reduced OOP costs for hospital admissions | Reduced mortality |
| India VAS Karnataka | Enrollment is automatic | | Reduced OOP | |
| India RSBY Himachal Pradesh | | | Most enrollees who were hospitalized still faced OOP payments. | |
| India RSBY Gujarat | | | Small positive effect | |
| China NCMS TB | Enrollment rates are high in NCMS | | Reforms removed the pro-rich bias in reimbursement by NCMS. | Very limited pro-poor effect |
| China NCMS Puding county 2009 reforms | Enrollment rates are high in NCMS | | | |
| China NCMS Rural | Enrollment rates are high in NCMS | | | |
| China urban schemes Shaanxi | | | | |
| China NCMS six counties | Enrollment rates are high in NCMS | Small pro-poor impact on inpatient utilization; no significant impact on outpatient utilization. | Significant pro-poor impact on financial protection. | |
| Vietnam Health Care Fund for the Poor (HCFP) | Successfully enrolled the poor | No significant impact | No significant impact on financial protection | |
| Vietnam HCFP for the rural elderly poor | | Increased utilization | No impact found on financial protection | |
| Vietnam under 6 years old | Enrollment is automatic | Increased utilization | No impact found on number of sickness days or bed days | |
| Vietnam health insurance in rural areas | | Small impact on outpatient visits; larger impact on inpatient utilization by the poor | | |
| Philippines | Enrollment of the poor increased | Pro-poor impact on utilization of both outpatient and inpatient services | Insurance significantly reduced CHE for poor women | |
| Indonesia Jamkesmas delivery care | | No pro-poor effect that could be attributed to insurance coverage | | |
| Indonesia obstetric care in three hospitals | | Modest effect on facility-based delivery and skilled delivery among poor women. | | |
| Thailand migrants | Some success in enrollment | Utilization remained low | | |
recognition related to enrollment levels. This often requires the central government to run enrollment campaigns and finance most of the subsidy. China’s New Rural Cooperative Medical Scheme (NRCMS) achieved high enrollment even though the level of subsidy provided to the poor was low, because central government budget transfers to local governments were conditional upon achieving a target enrollment rate. In Ghana, on the other hand, enrollment in NHIS by the poor remained low because policy makers and implementers saw high enrollment of poor members as a barrier to their ability to generate sufficient revenue for their planned expenditure. Additionally, district staff were not paid to enroll new poor members so had no incentive to conduct outreach activities.

**Tailoring to Specific Needs Helps**

Voluntary schemes can increase enrollment of the poor by tailoring enrollment processes to the specific needs of their potential members. The Yeshasvini community-based health insurance (CBHI) scheme for cooperative rural farmers and informal sector workers in Karnataka achieved higher re-enrollment rates where there were more co-operative societies to act as intermediaries and provide information to their members about the benefits of insurance. The Jamii Bora CBHI scheme in informal settlements in Nairobi, Kenya, which allowed subscribers to pay the premium in weekly installments rather than annually, enrolled more people in the lower half of the income distribution than in the upper half. Enrollment was also mandatory for those who took out a microfinance loan.

**Knowledge about Entitlements is Important**

Information and administrative features of schemes evaluated in our review also influence enrollment, utilization and financial protection. For example, insurance increases utilization only if enrollees understand their entitlements, but there is evidence that many do not, especially if they have been automatically rather than voluntarily enrolled and have not been well informed about their entitlements. In Kerala, lack of knowledge about the benefit package and empaneled hospitals was found to be one of the main reasons that people who held a Comprehensive Health Insurance Scheme card did not use it. In contrast, the Rajiv Aarogyasri Community Health Insurance Scheme in Andhra Pradesh, and VAS in Karnataka both use hospitals to conduct outreach camps that specifically educate and screen enrollees to help them better understand the importance of seeking care around certain potential health concerns. Rajiv Aarogyasri also includes health system navigators to guide patients through the process of using services. Utilization in both schemes has increased. A study of CBHI in rural Ethiopia found that members of the Productive Safety Net Program were more likely to enroll in the scheme, were more likely to have attended a meeting about CBHI, and had slightly better understanding of health insurance than nonmembers.

Furthermore, lack of information leaves enrollees vulnerable to non-pro-poor behavior by providers. The potential positive impacts of the RSBY scheme on utilization and financial protection risk being undermined by evidence from Kerala and Gujarat of the insurance company delaying issuing cards and hospitals being reluctant to serve members or charging them for services that should have been free. This behavior in turn was found to be related to schemes’ reimbursement policies. In Gujarat, RSBY diagnosis-related group reimbursement rates were perceived as being low and there were delays or uncertainty in reimbursement. Schemes for the poor that set low reimbursement rates for providers or that are slow to reimburse them make poor patients less attractive and so keep utilization by the poor lower than it would otherwise be and/or increase unofficial OOP payments.

**Geographical Barriers May Hinder Utilization by the Insured Poor, but Can Be Overcome**

In Gujarat, the patients covered by RSBY who made OOP payments were found to be poorer and to live in more remote areas further away from hospitals than those who did not. Geographical barriers have been found to limit pro-poor utilization and financial protection in several schemes. In Lao PDR, for example, the CBHI scheme was found to exacerbate poor-rich inequalities in utilization because of remaining financial and non-financial barriers affecting the poor, including costs of transportation. In Indonesia the impact of insurance on health facility deliveries by poor women was limited by distance to a facility and transportation costs, among other factors. In Mexico, rural Seguro Popular beneficiaries with access to larger health facilities had large reductions in catastrophic health expenditures, while beneficiaries with access to limited facilities had little if any reduction. Again, well-designed schemes can overcome some of these barriers. Schemes that cover large rural populations have more impact on utilization by the poor if providers are required to actively seek patients in rural areas and provide transport to distant facilities. VAS in Karnataka (which also has a preauthorization process to prevent provision of inappropriate treatment) and Aarogyasri in Andhra Pradesh are good examples.
Level and Timing of Payments by the Poor Matter

The level of co-payments and coverage ceilings affects financial protection. Schemes with no copayments, such as VAS in Karnataka, do better at reducing out of pocket payments. There is evidence that the absence or low level of cost-sharing in Thailand, Indonesia and Vietnam for the subsidized or for the poorest plays a role in improving financial protection. NRCMS in China has high deductibles and co-payments, and financial protection is found to be limited for the poor.

Schemes that require people to pay upfront for their care and then reclaim costs are rare but are particularly bad at increasing utilization and financial protection, especially for the poor. The system of paying upfront and then claiming reimbursement acted as a deterrent to service use for the poor in NRCMS in China and in the Philippines. Evidence from one county in China suggests that when simultaneous reimbursement was introduced under NRCMS (and the benefit package was expanded to include outpatient services), the scheme became more pro-poor.

The Benefit Package Matters

The composition of the benefit package can have a large impact on whether or not a scheme is pro-poor. Financial protection is only increased if the services for which poor people would otherwise have significant out of pocket expenditure are covered. This includes both outpatient services for chronic conditions and medicines as well as inpatient treatment. Evidence from one county in China suggests that when NRCMS was reformed to include outpatient services, utilization by the poor increased. In Moldova there is evidence that low coverage for outpatient medicines may have led to lower utilization by the poor than by the rich and lower financial protection for the poor. In Georgia pharmaceuticals were initially not covered in the subsidized scheme, reducing enrollment and utilization. In India, RSBY’s benefit package focused on inpatient care and was less successful in enrolling poor people or providing financial protection, whereas Yeshasvini included outpatient services and led to both increased use of primary care and a reduction in out of pocket payments, particularly for poorer patients.

Other features of the benefit package can also make a scheme more valuable to poor people. In the Yeshasvini scheme in Karnataka, which gives poor people access to good quality private hospitals, re-enrollment rates were found to be higher in districts where the quality of government infrastructure was lower.

Schemes are also more pro-poor when benefit packages are the same or similar for the poor as for the non-poor. Integration is much more common in middle-income Europe than in LICs. In 2005, Turkey’s Green Card program expanded services covered so that it matched other common benefit packages (SIO, Bag-Kur and GERF); after this change there was a statistically significant increase in enrollment. This had the added benefit of facilitating the synthesis/aggregation of these multiple schemes under the Health Transformation Program in 2008.

Conclusion

The systematic review of published research on health insurance and equity produced clear conclusions. The last 12 years have seen a substantial increase in published empirical evidence on what works and what does not in serving the needs of the poor in the health sector. At least three factors likely contributed to this positive outcome. First, the universal health coverage (UHC) agenda has focused attention on the global lack of access to health care as well as on the financial barriers created by out-of-pocket payments. Likely other contributors to this increase are the increased availability of disaggregated household survey data and previous high-visibility publications focusing on inequality.

A second clear conclusion from the systematic review is that health insurance, as a policy instrument, is not a panacea for addressing widespread inequality in the health sector. A majority of papers reviewed did not find health insurance schemes to be pro-poor by any of the criteria used. This is an important message to reinforce as health insurance appears to be an attractive form of health financing reform in developing countries. Finally, the experience documented in this article identifies operational and design elements that appear to have increased the pro-poor orientation of many health insurance schemes. It is incumbent on implementers of existing health insurance schemes and designers of future schemes to take advantage of documented lessons if the intention of these schemes is to be pro-poor in support of UHC. It is a fair reading of the literature that the most pro-poor scheme would be universal, would combine automatic enrollment with good information about entitlements, would include outpatient services and medicines as well as inpatient services, would cover at least as large a benefit package for the poor as for the non-poor, would provide timely reimbursement for providers at similar rates for the poor and non-poor, would operate in a context where the supply side worked well, and would actively seek out patients and take services to them if necessary.

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The authors have declared that no competing interests exist.

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References

1. Preston SH. The changing relation between mortality and level of economic development. Popul Stud. 1975;29(2):231–24. doi:10.1080/00324728.1975.10410201.
2. World Bank. World development report 1993: investing in health. New York: Oxford University Press; 1993.
3. Selowsky M. Who benefits from government expenditures? A case study of Colombia. New York: Oxford University Press; 1979.
4. Meerman J. Public expenditure in Malaysia. Public expenditures in Malaysia: who benefits and why? New York: Oxford University Press; 1979.
5. Van de Walle D. The distribution of subsidies through public health services in Indonesia, 1978–1987. World Bank Econ Rev. 1994;8(2):279–309. doi:10.1093/wber/8.2.279.
6. Hammer J, Nabi I, Cercone J. Distribution effects of social expenditures in Malaysia, 1974–1989. In: van de Walle D, Nead K, editors. Public spending and the poor. Baltimore: Johns Hopkins University Press; 1995. p. 521–54.
7. Castro-Leal F, Dayton J, Demery L, Mehra K. Public sector spending in Africa: do the poor benefit? World Bank Res Obs. 1999;14(1):49–72. doi:10.1093/wbro/14.1.49.
8. Filmer D, Pritchett LH. Estimating wealth effects without expenditure data—or tears: an application to educational enrollments in states of India. Demography. 2001;38(1):115–32. doi:10.1353/dem.2001.0003.
9. Gwatkin D, Rutstein S, Johnson K, Pande R, Wagstaff A. Socio-economic differences in health, nutrition, and population—45 countries. Washington (DC): Health, Nutrition, and Population Department, World Bank; 2000.
10. Gwatkin DR, Rutstein S, Johnson K, Suliman E, Wagstaff A, Amouzou A. Socio-economic differences in health, nutrition, and population within developing countries. Washington (DC): The World Bank; 2007. HNP Working Paper Series.
11. Yazbeck AS. Shining the spotlight on inequality in the health sector. PLOS Blog: 2017. [accessed 2020 Sep 10]. http://blogs.plos.org/plos/2007/11/guest-blog-by-abdo-s-yazbeck-world-bank-shining-the-spotlight-on-inequality-in-the-health-sector/.
12. World Bank. World development report 2004: making services work for the poor. New York: Oxford University Press; 2004.
13. Gwatkin D, Wagstaff A, Yazbeck AS. Reaching the poor with health, nutrition, and population services. Washington (DC): IBRD; 2005. Sept. ISBN 0-8213-5961-4.
14. Ashford L, Gwatkin D, Yazbeck AS. Designing health and population programs to reach the poor. Washington (DC): Population Reference Bureau; 2006.
15. Yazbeck AS. Attacking inequality in the health sector: a synthesis of evidence and tools. Washington (DC): IBRD; 2009 Jan. ISBN 0-8213-7444-3.
16. Yazbeck AS, Savedoff WD, Hsiao WC, Kutzin J, Soucat A, Tandon A, Wagstaff A, Yip W. The case against labor-tax-financed social health insurance for low- and low-middle-income countries. Health Aff. 2020;39(5):892–97. doi:10.1377/hlthaff.2019.00874.
17. World Health Organization. Glossary of terms used for Health Impact Assessment (HIA). [accessed 2010 Dec 10]. https://www.who.int/publications/m/item/glos-sary-of-terms-used-for-health-impact-assessment-hia.
18. Bauhoff S, Hotchkiss D, Smith O. The impact of medical insurance for the poor in Georgia: a regression discontinuity approach. Health Econ. 2011;20(11):1362–78. doi:10.1002/hec.1673.
19. Hou X, Chao S. Targeted or untargeted? The initial assessment of a targeted health insurance program for the poor in Georgia. Health Policy (N Y). 2011;102(2–3):278–85. doi:10.1016/j.healthpol.2011.06.006.
20. Nguyen H, Rajkotia Y, Wang H. The financial protection effect of Ghana national health insurance scheme: evidence from a study in two rural districts. Int J Equity Health. 2011;10(1):4–4. doi:10.1186/1475-9276-10-4.
21. Dzakpasu S, Soremekun S, Manu A, Asbroek G, Tawiah C, Hurt L, Fenty J, Owusu-Agyei S, Hill Z, Campbell O, et al. Impact of free delivery care on health facility delivery and insurance coverage in Ghana’s Brong Ahafo Region. PLoS ONE. 2012;7(11):e49430. doi:10.1371/journal.pone.0049430.
22. Mwaura JW, Pongpanich S. Access to health care: the role of a community based health insurance in Kenya. Pan Afr Med J. 2012;12.
23. Shigute Z, Mebratie A, Sparrow R, Yilma Z, Alemu G, Bedi A. Uptake of health insurance and the productive safety net program in rural Ethiopia. Soc Sci Med. 2017;176:133–41. doi:10.1016/j.socscimed.2017.01.035.
24. Souares A, Savadogo G, Dong H, Parmar D, Sié A, Sauерborn R. Using community wealth ranking to identify the poor for subsidies: a case study of community-based health insurance in Nouma, Burkina Faso. Health Soc Care Community. 2010;18:636–68.
25. Grogger J, Arnold T, León AS, Ome A. Heterogeneity in the effect of public health insurance on catastrophic out-of-pocket health expenditures: the case of Mexico. Health Policy Plan. 2015 June;30(5):593–99. doi:10.1093/heapol/czu037.
26. Arroyave I, Cardona D, Burdorf A, Avendaño M. The impact of increasing health insurance coverage on disparities in mortality: health care reform in Colombia, 1998–2007. Am J Public Health. 2013;103(3):e100–6. doi:10.2105/AJPH.2012.301143.

27. Sood N, Bendavid E, Mukherji A, Wagner ZR, Naggal P, Mullen P. Government health insurance for people below poverty line in India: quasi-experimental evaluation of insurance and health outcomes. BMJ. 2014;349 (sep25 4):g5114–g5114. doi:10.1136/bmj.g5114.

28. Sood N, Wagner ZR. Social health insurance for the poor: lessons from a health insurance programme in Karnataka, India. BMJ Global Health. 2018;3(1): e000582. doi:10.1136/bmjgh-2017-000582.

29. Gupta A, Kaur P, Kamraj P, Murthy BN. Out of pocket expenditure for hospitalization among below poverty line households in District Solan, Himachal Pradesh, India. 2013. PLoS ONE. 2016;11:e0149824. doi:10.1371/journal.pone.0149824.

30. Devadasan N, Seshadri T, Trivedi M, Criel B. Promoting universal financial protection: evidence from the Rashtriya Swasthya Bima Yojana (RSBY) in Gujarat, India. Health Res Policy Sys. 2013;11:29–29. doi:10.1186/1478-4505-11-29.

31. Zhou C, Long Q, Chen J, Xiang L, Li Q, Tang S, Huang F, Sun Q, Lucas H, Huan S. The effect of NCMS on catastrophic health expenditure and impoverishment from tuberculosis care in China. Int J Equity Health. 2016;15. doi:10.1186/s12939-016-0463-0.

32. Filipski M, Zhang Y, Chen K. Making health insurance pro-poor: evidence from a household panel in rural China. BMC Health Serv Res. 2015;15. doi:10.1186/s12913-015-0871-7.

33. Zhang L, Cheng X, Tolhurst R, Tang S, Liu X. How effectively can the new cooperative medical scheme reduce catastrophic health expenditure for the poor and non-poor in rural China? Trop Med Int Health. 2010;15:468–75.

34. Zhou Z, Zhu L, Zhou Z, Li Z, Gao J, Chen G. The effects of China’s urban basic medical insurance schemes on the equity of health service utilisation: evidence from Shaanxi Province. Int J Equity Health. 2014;13:23–23. doi:10.1186/1475-9276-13-23.

35. Liu X, Tang S, Yu B, Phuong NT, Yan F, Thien DD, Tolhurst R. Can rural health insurance improve equity in health care utilization? A comparison between China and Vietnam. Int J Equity Health. 2012;11:10–10. doi:10.1186/1475-9276-11-10.

36. Wagstaff A. Estimating health insurance impacts under unobserved heterogeneity: the case of Vietnam’s health care fund for the poor. Health Econ. 2010;19 (2):189–208. doi:10.1002/hec.1466.

37. Thanh NX, Lindholm L. Has Vietnam health care funds for the poor policy favored the elderly poor? BMC Health Serv Res. 2012;12:333–333. doi:10.1186/1472-6963-12-333.

38. Palmer M, Mitra S, Mont D, Groce N. The impact of health insurance for children under age 6 in Vietnam: a regression discontinuity approach. Soc Sci Med. 2015;145:217–26. doi:10.1016/j.socscimed.2014.08.012.

39. Guindon GE. The impact of health insurance on health services utilization and health outcomes in Vietnam. Health Econ Policy Law. 2014;9(4):359–82. doi:10.1017/S174413311400005X.

40. Paredes KP. Inequality in the use of maternal and child health services in the Philippines: do pro-poor health policies result in more equitable use of services? Int J Equity Health. 2016;15. doi:10.1186/s12939-016-0473-y.

41. Brooks M, Thabrany H, Fox M, Wirtz V, Feeley F, Sabin L. Health facility and skilled birth deliveries among poor women with Jamkesmas health insurance in Indonesia: a mixed-methods study. BMC Health Serv Res. 2017;17:105. doi:10.1186/s12913-017-2028-3.

42. Quayyum Z, Nadjib M, Ensor T, Sucayha P. Expenditure on obstetric care and the protective effect of insurance on the poor: lessons from two Indonesian districts. Health Policy Plan. 2010;25(3):237–47. doi:10.1093/heapol/czp060.

43. Tangcharoensathien V, Thwin AA, Patcharanarumol W. Implementing health insurance for migrants, Thailand. Bull World Health Organ. 2017;95:146–51. doi:10.2471/BLT.16.179606.

44. Suphanchaimat R, Prakongsai P, Limwattananon S, Mills A. Impact of the health insurance scheme for stateless people on inpatient utilization in Kraburi Hospital, Thailand. Risk Manag Healthc Policy. 2016;9:261–69. doi:10.2147/RMHP.S117173.

45. Wagstaff A, Manachotphong W. The health effects of universal health care: evidence from Thailand. Washington (DC): World Bank; 2012. Policy Research Working Paper. No. 6119. https://openknowledge.worldbank.org/handle/10986/11937 License: CC BY 3.0 IGO.

46. Kotoh AM, Van der Geest S. Why are the poor less covered in Ghana’s national health insurance? A critical analysis of policy and practice. Int J Equity Health. 2016;15:34. doi:10.1186/s12939-016-0320-1.

47. Philip NE, Kannan S, Sarma SP. Utilization of comprehensive health insurance scheme, Kerala: a comparative study of insured and uninsured below-poverty-line households. Asia Pac J Public Health. 2016;28 (1Suppl):77S–85S. doi:10.1177/105381591662306.

48. Vilcu I, Probst L, Dorjsuren B, Mathauer I. Subsidized health insurance coverage of people in the informal sector and vulnerable population groups: trends in institutional design in Asia. Int J Equity Health. 2016;15(1):165. doi:10.1186/s12939-016-0436-3.

49. Aggarwal A. Impact evaluation of India’s ‘Yeshasvini’ community-based health insurance programme. Health Econ. 2010;19:5–35. doi:10.1002/hec.1605.

50. Rao M, Singh PV, Katyal A, Samarth A, Bergkvist S, Renton A, Netuveli G. Has the Rajiv Aarogyaari community health insurance scheme of Andhra Pradesh addressed the educational divide in accessing health care? PLoS ONE. 2016;11(1):e0145707. doi:10.1371/journal.pone.0145707.

51. Alkenbrack S, Lindelow M. The impact of community-based health insurance on utilization and out-of-pocket expenditures in Lao People’s Democratic Republic. Health Econ. 2015;24(4):379–99. doi:10.1002/hec.3023.

52. Yu B, Meng Q, Collins C, Tolhurst R, Tang S, Yan F, Bogg L, Liu X. How does the new cooperative medical
scheme influence health service utilization? A study in two provinces in rural China. BMC Health Serv Res. 2010;10:116–116. doi:10.1186/1472-6963-10-116.

53. Mathauer I, Theisling M, Mathivet B, Vilcu I. State budget transfers to health insurance funds: extending universal health coverage in low- and middle-income countries of the WHO European Region. Int J Equity Health. 2016;15(1):57. doi:10.186/s12939-016-0321-0.

54. Karan A, Yip W, Mahal AS. Extending health insurance to the poor in India: an impact evaluation of Rashtriya Swasthya Bima Yojana on out of pocket spending for healthcare. Soc Sci Med. 2017;181:83–92. doi:10.1016/j.socscimed.2017.03.053.

55. Yardim M, Cilingiroglu N, Yardim N. Financial protection in health in Turkey: the effects of the health transformation programme. Health Policy Plan. 2014;29:177–92. doi:10.1093/heapol/czt002.