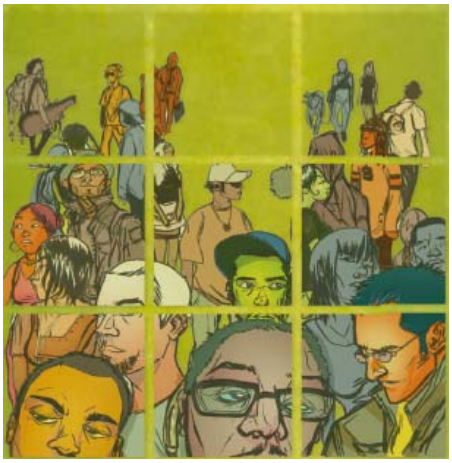
Health services utilization and out-of-pocket expenditure at public and private facilities in low-income countries

Priyanka Saksena, Ke Xu, Riku Elovainio and Jean Perrot

World Health Report (2010)
Background Paper, 20

HEALTH SYSTEMS FINANCING
The path to universal coverage

World Health Organization



Health services utilization and out-of-pocket expenditure at public and private facilities in low-income countries

World Health Report (2010) Background Paper, No 20

Priyanka Saksena[1], Ke Xu[1], Riku Elovainio[1] and Jean Perrot[1]

[1] World Health Organization, Geneva, Switzerland

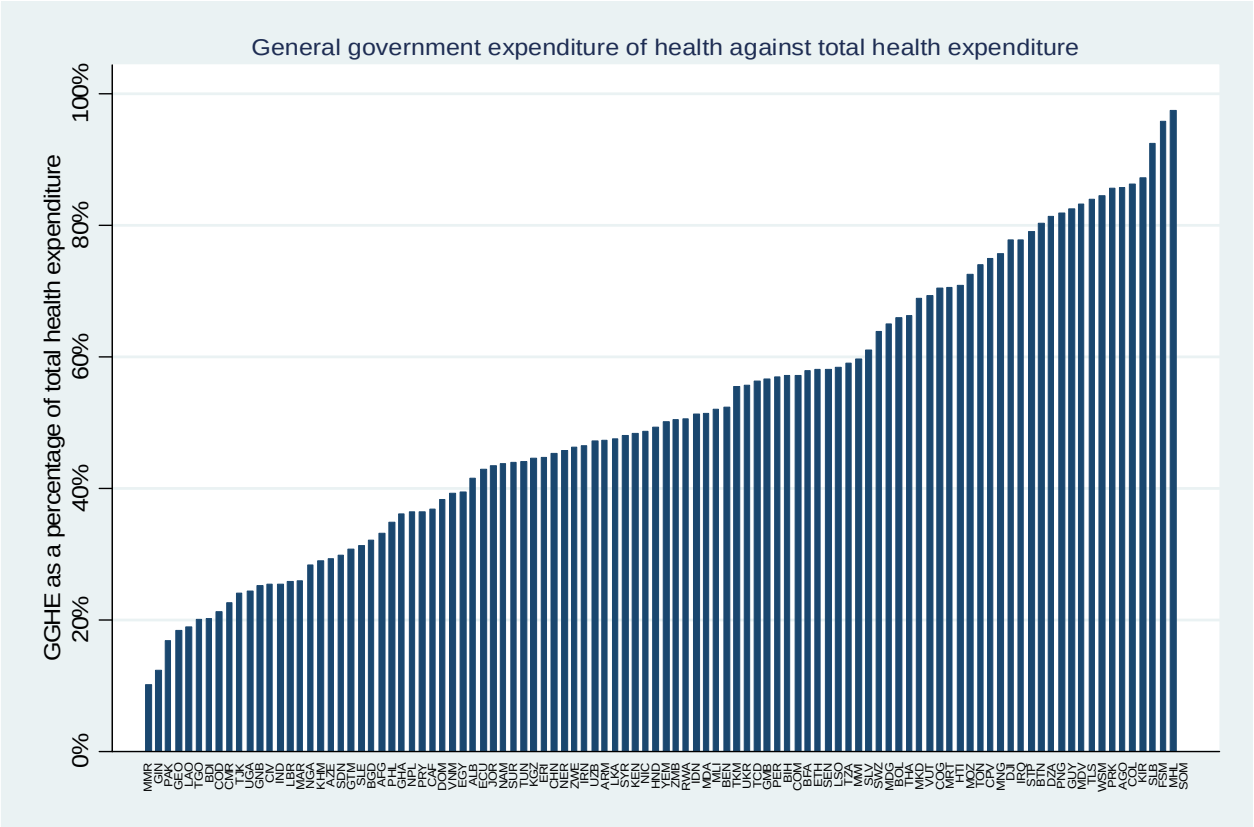
Introduction

The size and role of the private sector in health care provision varies. In nearly all countries, regardless of economic development, private facilities including faith-based facilities, non-government non-profit organizations and private for-profit facilities are involved in health services provision. And in many contexts, their importance is growing. There are great differences among private facilities in terms of their objectives, principles, operation styles, and location to name a few. They can range from an informal private provider operating in a slum area of a large city, a high-end clinic providing sophisticated care for the elite in the rich neighborhoods of the same city to a church-run non-profit health center in a rural village where public services may not even exist.

The role of private health providers has sparked controversial debates in low-and middle income countries. For some increasing private provision could lead to gains in efficiency, responsiveness, quality and consumer choice (1;2). Indeed, the private sector has complemented or taken on health service delivery functions with positive outcomes in some contexts (3;4). Others have argued that relying on public provision for health care services is the best guarantee for equitable access and for better health outcomes for the whole population (5;6) Globally the evidence on the relative advantages of the private sector in health service provision is largely inconclusive (7-9). However, there is one common message from almost all previous research - governments cannot afford to ignore non-state actors (10-12).

It is not possible to dichotomize clearly between public funding and service provision and private funding and service provision. Public funding can be channeled through private facilities and vice versa. However, irrespective of this, it is in practice impossible to ensure equitable access with limited overall public funding. National Health Account (NHA) data shown in Figure 1 illustrates that general government expenditure on health (GGHE) as a share of total health expenditure (THE) ranged from 10% to 97% in low and low-middle income countries in 2007. Per capita GGHE ranges from a mere Int $ 1 to Int $ 529. In half of these countries, public funding accounts for less than 50% of total national health expenditure, but there is considerable variation. Publically funded facilities are often unable to provide a full range of services or provide medicines for free at the point of service and user charges commonly exist despite the efforts of many countries in abolishing them (13;14).Moreover, in order to get health care services people have to pay indirect costs such as transportation costs, which are indifferent to the public-private divide.

Figure 1 - General government expenditure on health as a share of total health expenditure in low and low-middle income countries, 2007



The need for a closer examination of the current and evolving roles of various actors in the health sector is fairly evident. Governments need to garner a better grasp of what they can directly control. Yet at the same, they may also need other policy tools to ensure that the national health system, including non-government actors, consistently and effectively promotes better and more equitable access. In this study we look at how utilization and out-of-pocket spending flows to different providers and how much is spent on transportation to reach health facilities. We use a unique dataset that allows us to explore the patterns of health service utilization and related payments in public and private facilities in 39 low and low-middle income countries. This paper does not go into a normative debate on the appropriate role and size of the private sector provision of health services. Indeed, how the private sector should be integrated to serve national health goals is undoubtedly context-specific. Our objective is simply to provide further evidence on the utilization of public and the private sectors as they presently exist in different countries.

Methodology and data

The World Health Survey of 2003 from 39 low and low-middle income countries is used to look at utilization and spending at different facilities. The uniform nature of the survey questions and methodology provides a useful backdrop for this analysis. We use a descriptive approach in this analysis which focuses on country patterns and the differences between the rich and poor. An appendix lists the country abbreviations used in the figures.

Service utilization, out-of-pocket payment and transportation cost are from the individual section of the survey. We included outpatient visits that were reported to have occurred in the 30 days preceding the survey and inpatient stays within the one year preceding the survey. In order to yield meaningful cross-country results, we aggregated all the different non-public providers under the single denomination of "private providers". We classified providers listed in the survey as public and private (where the former were providers operated by the government and later included privately operated, NGO and other facilities). OOP was separated into consultation/doctors fees, medicines, tests and others costs.

Utilization rates, out-of-pocket payments (OOP) and per-visit charges are reported for outpatient consultations and inpatient stays for different providers. We also analyze transportation costs in order to better understand the factor of the distance and travel cost in choosing facilities.

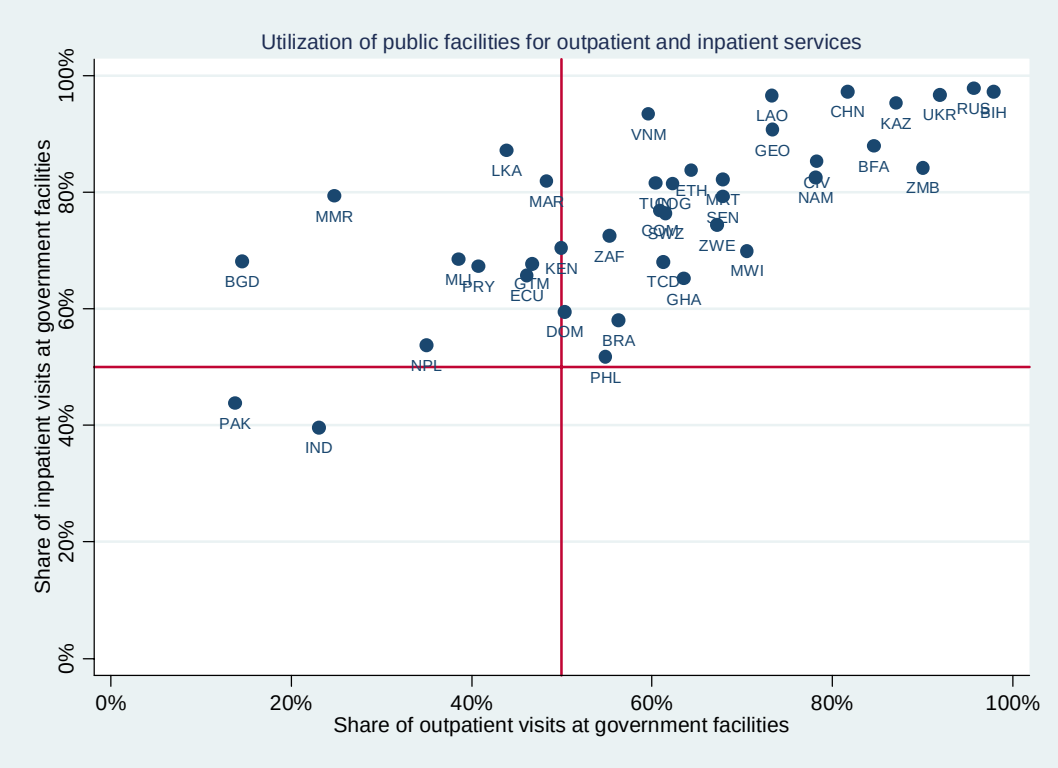
Results

Utilization

Results from the surveys showed that for outpatient services, more than half of the utilization was at public facilities in 27 out of 39 countries in the study (Figure 2). For some countries, over 80% of services were provided at public facilities. For inpatient services, public facilities are even more dominant and their share exceeded that of the private facilities in all countries except Pakistan and India. In Brazil, Nepal, the Philippines and the Dominican Republic between 50% and 60% of hospitalizations were at public facilities. These results can be validated with similar country-specific findings in previous literature (15-17).

In general we can observe a relationship between the dominance of public facilities in outpatient and inpatient services. Countries with high utilization of public facilities for outpatient services show similar patterns for inpatient services. However, in exceptions like Bangladesh, private facilities account for a significant share of outpatient visits, but not inpatient stays.

Figure 2 - Utilization of government facilities



In a simple model that doesn't distinguish between purchaser and providers, a larger share of government expenditure in total health expenditure would be expected to be associated with a higher use of public facilities. Figure 3 below shows utilization of public facilities for outpatient services as compared to GGHE as a share of total health expenditure (THE) in each country. Similarly, Figure 4 shows utilization of public facilities for inpatient services as compared to GGHE as a share of THE.

Figure 3 - Utilization of public facilities for outpatient services as compared to GGHE as a share of THE

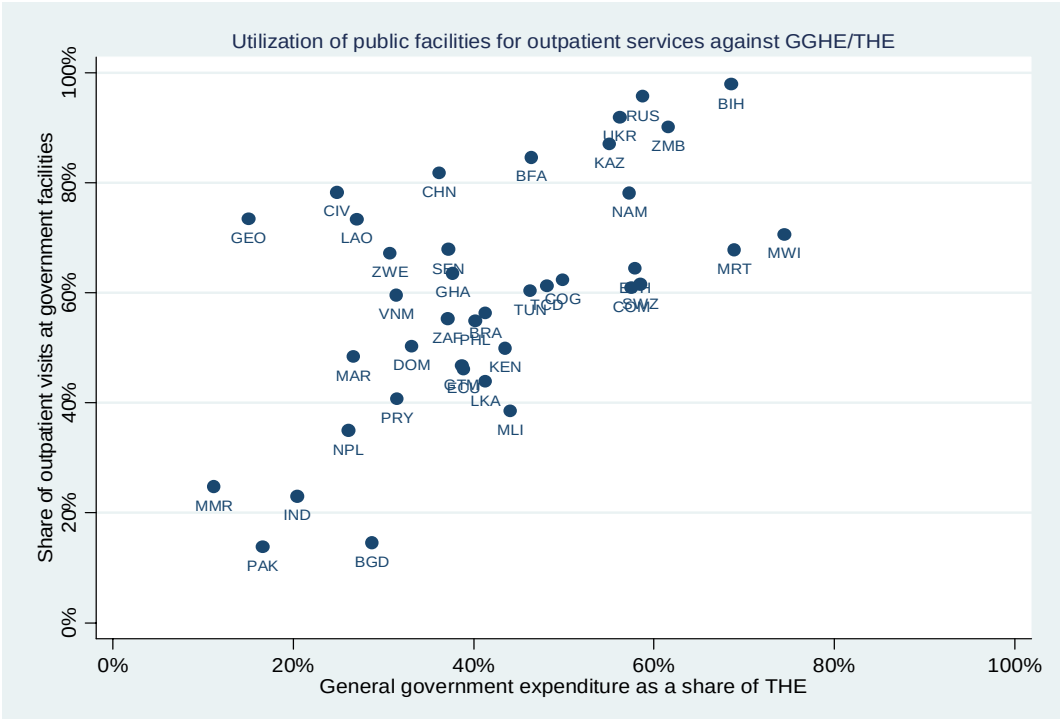
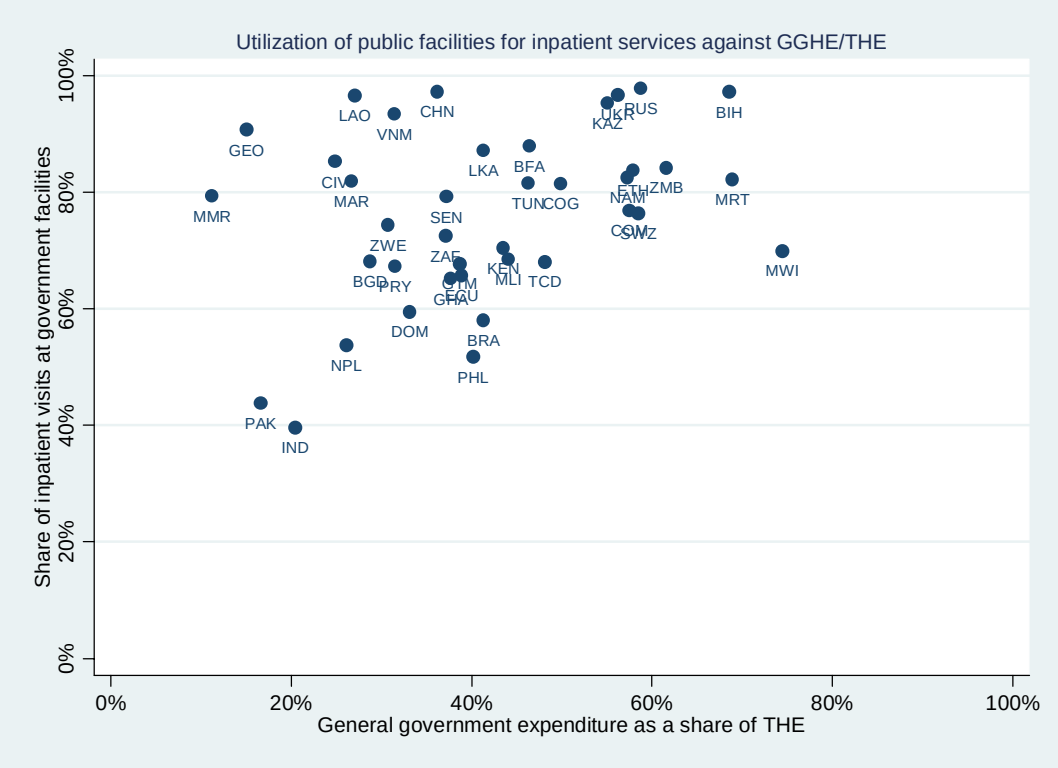


Figure 4 - Utilization of public facilities for inpatient services as compared to GGHE as a share of THE



There is a general trend of higher utilization of public facilities in countries with larger shares of government expenditure in THE. However, there is much variation across countries. This could be explained by many factors, such as the difference in services available and the efficiency of public facilities. More importantly it may reflect the different financial arrangements between fund holders and service providers. Governments can pay for services directly provided through public facilities, but they can also purchase services from private providers through social health insurance reimbursements that cover also the private sector or through contracting. Indeed, previous research shows that there is not always a clear linear relationship between public funding and public service provision (18;19).

Figure 5 shows the utilization patterns for outpatient services for the poorest quintile in a country as compared to the richest quintile, quintile 5. In most countries, among those who reported utilization of outpatient services, the poorest quintile were more likely to use public providers as compared to the richest quintile. For example in Brazil, government operated outpatient services were much more likely to be used by those in quintile 1 relative to those in quintile 5. This could be expected since the Brazilian health care model relies on a dual system where the richer part of the population uses mainly privately provided services where as the Sistema Único de Saúde (SUS) provides public services through pro-poor targeted public funding (20). However, in some countries such as Swaziland, the pattern is strikingly the opposite - with the richest quintile using public facilities for outpatient services more than the poorest quintile. In other countries like Ghana or Republic of Congo, reliance on public facilities seems to be similar across the quintiles.

Figure 5 - Share of use of public facilities for outpatient services in quintile 1 and quintile 5

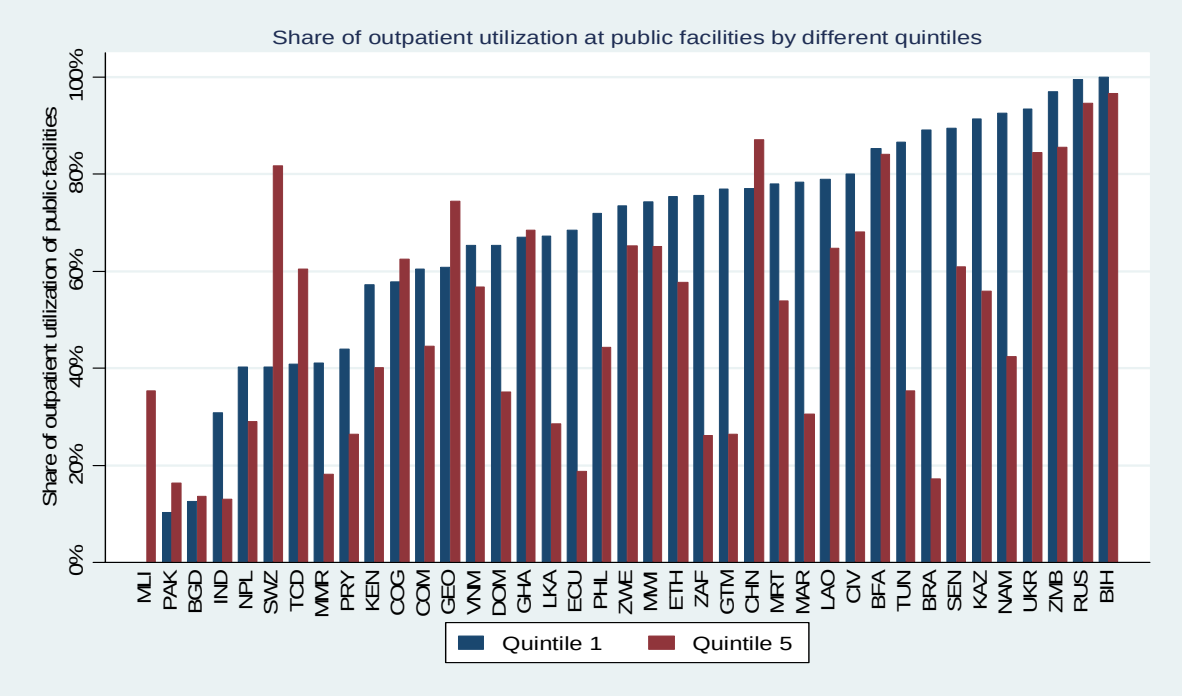
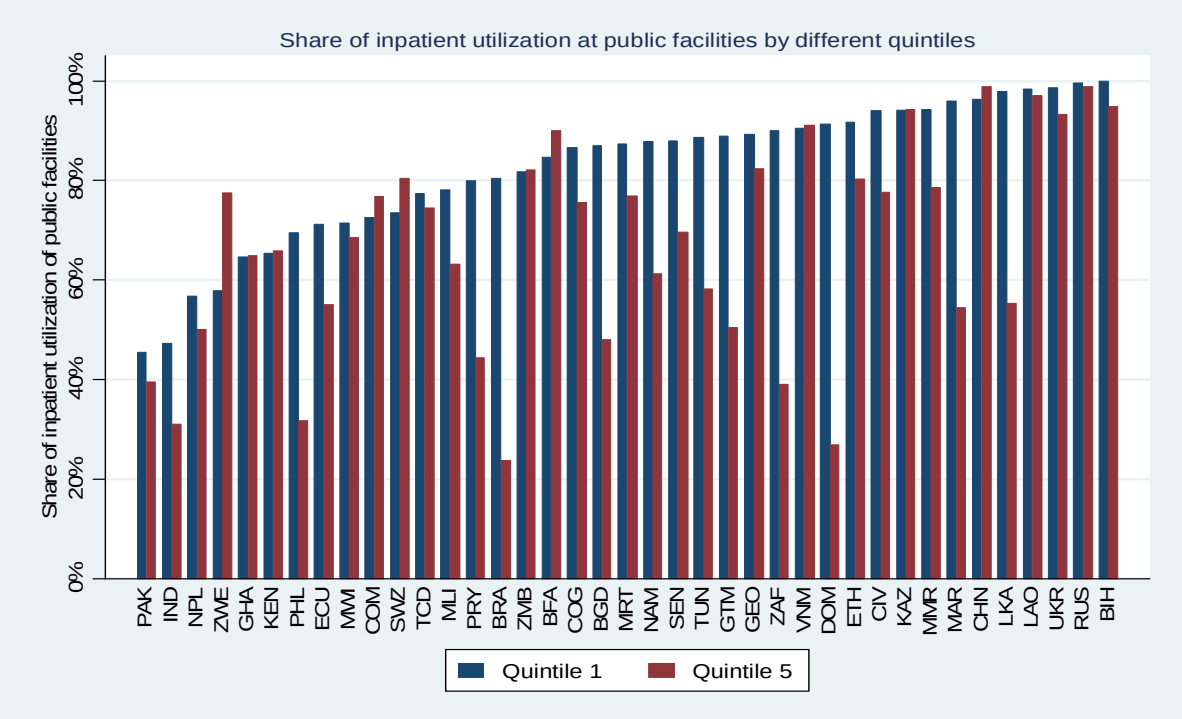


Figure 6 presents the utilization patterns for inpatient stays for quintile 1 and quintile 5. Similar patterns as those for outpatient services emerge. However, the richest quintile is rarely more likely to use public facilities compared to the poorest quintile. This figure also confirms the expectation that poorest groups tend to rely almost exclusively on government facilities for inpatient care- with their use exceeding 80% in 25 of the 39 countries presented. However, primarily due to the small sample of people reporting hospitalization, the difference is only statistically significant in 12 countries.

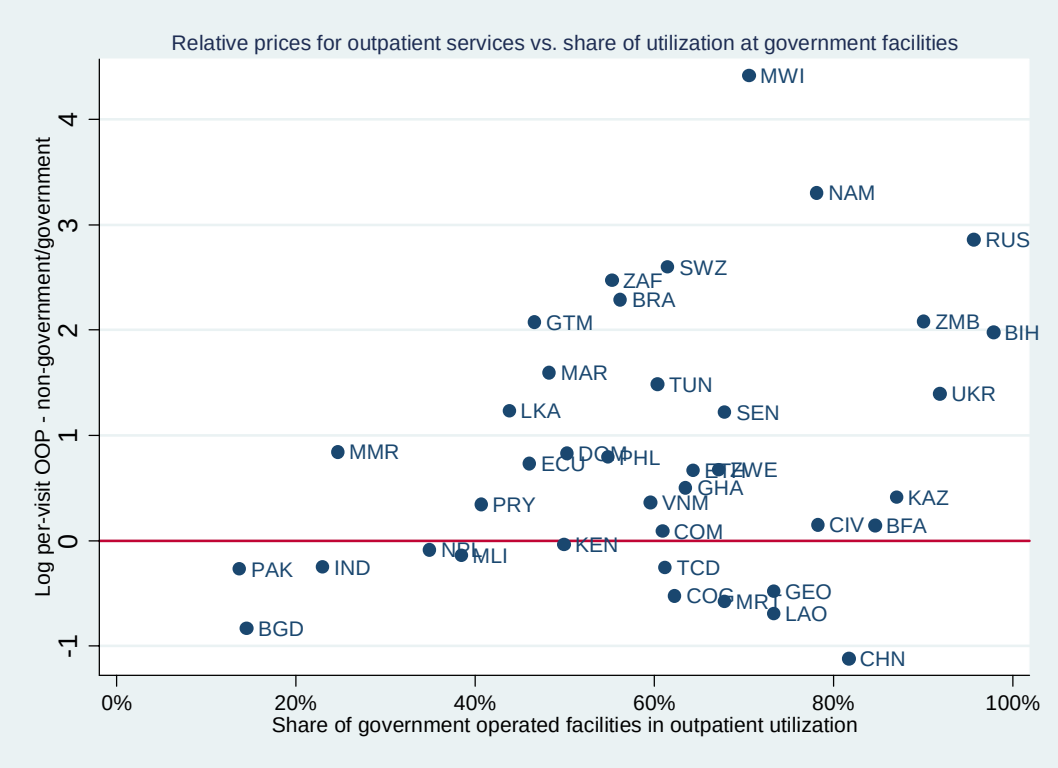
Figure 6 - Share of use of public facilities for inpatient services in quintile 1 and 5



Per visit charges in public and private facilities

Figure 7 presents ratio of average per visit charges at public facilities to private facilities. The charges include all components of OOP – consultation fees, medicines, tests as well as others costs. The Y-axis is the logarithmic ratio of charges. Values greater than 0 on the axis reflect charges at private facilities being greater than charges at public facilities and values less than 0 reflect the opposite. The x-axis here (which is the same as the y-axis of Figure 4) plots the share of utilization of outpatient services in the public sector. As would be expected, in general, charges at private facilities are higher than at public facilities. This holds for outpatient services in 27 of the 39 countries presented. Exceptions include countries such as India, Pakistan and Bangladesh, where private provision of services is also considerable as well as Georgia, Lao People's Democratic Republic, China and Mauritanian where public provision is dominant. There are no clear patterns of utilization at public facilities increasing as the price differential increases as there is much variation in these results.

Figure 7 - Ratio of per visit charges vs. share of outpatient service use at public facilities



Similarly to Figure 7, Figure 8 plots the relative charges per-visit for public and private providers against the share of utilization in the former for inpatient services. Once again, we observe that charges per-visit are higher at private facilities in 30 out of 39 countries in this study. Once again, there are variations in the share of outpatient and inpatient use in public facilities given the same level of difference in per visit charges.

Figure 8 - Ratio of per visit charges vs. share of inpatient service use at public facilities

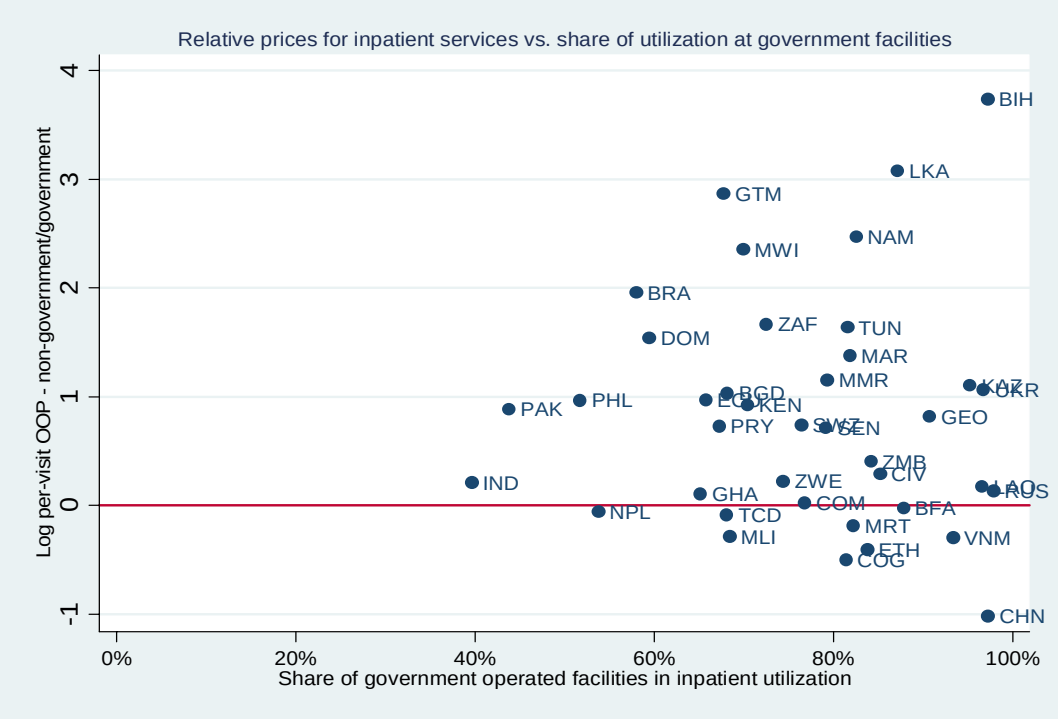
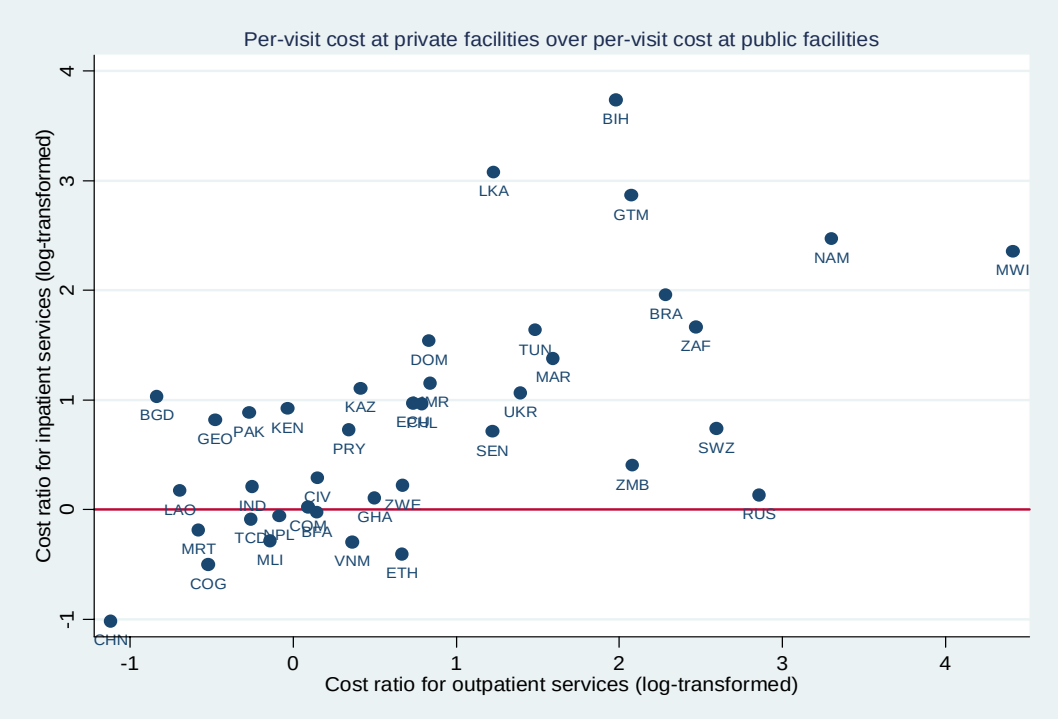


Figure 9 compares the ratios of per-visit charge for private and public facilities for outpatient and inpatient services. We can note that in most countries with considerable price differentials between private and public providers for outpatient services, there are also higher prices differentials for inpatient services. However there are some exceptions, such as Bangladesh, where outpatient services are cheaper in the private sector, but inpatient visits are cheaper in the public sector. The opposite trend seems to hold for other countries such as Ethiopia and Viet Nam.

Figure 9 - Relative price for outpatient and inpatient services

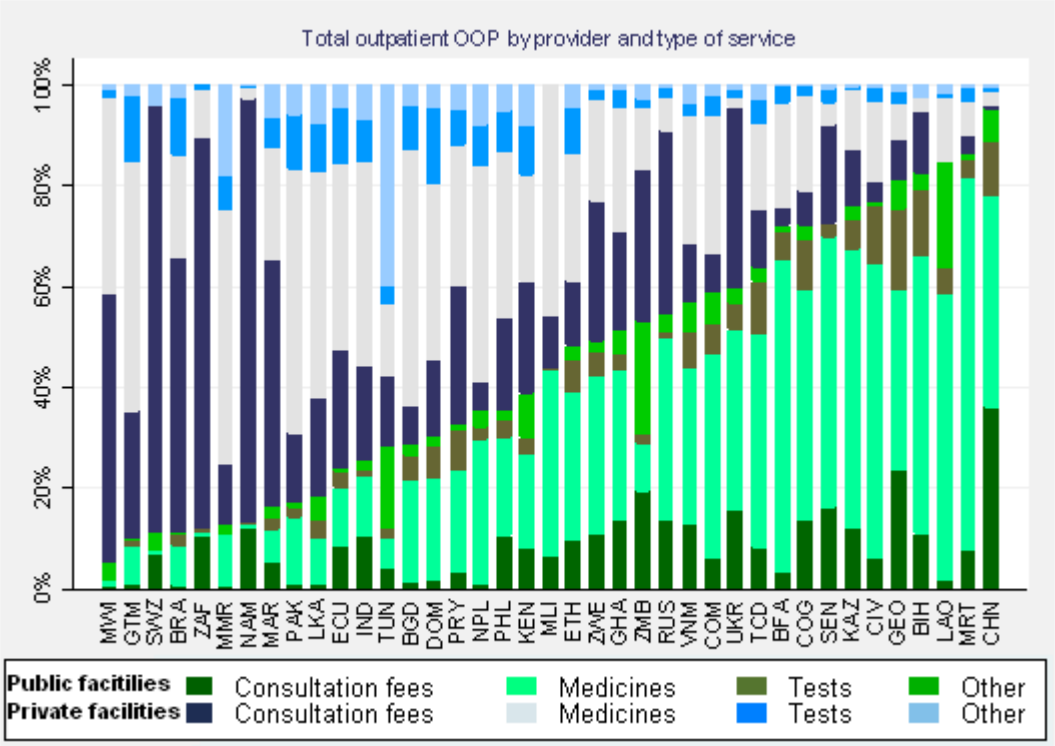


Total out-of-pocket payments

Figure 10 shows the distribution of total outpatient OOP reported in the survey, grouped by component as well as by type of facility. On average, 45% of total out-of-pocket payments (which include consultation/doctor's fees, medicines, tests and other expenses) for outpatient services are paid to public providers. However, the range across countries is quite wide, with outpatient OOP at public facilities representing less than 10% in countries such as Guatemala and Malawi, and over 95% in China.

Expenditure on medicine accounts for the largest component of OOP in both public and private facilities. On average, medicines represented over 57% of outpatient OOP at public facilities and over 45% of outpatient OOP at private facilities. Exceptions were countries such as Swaziland and South Africa, where consultation fees represented the largest component of outpatient OOP. Overall, consultation fees were the second largest component, representing on average, 22% of OOP at public facilities and 40% of OOP at private facilities. Consultation fees in public facilities accounted for less than 10% of total outpatient OOP on average. Among the study countries, China and Georgia are the only countries where consultation fees in public facilities represented over 20% of total outpatient OOP.

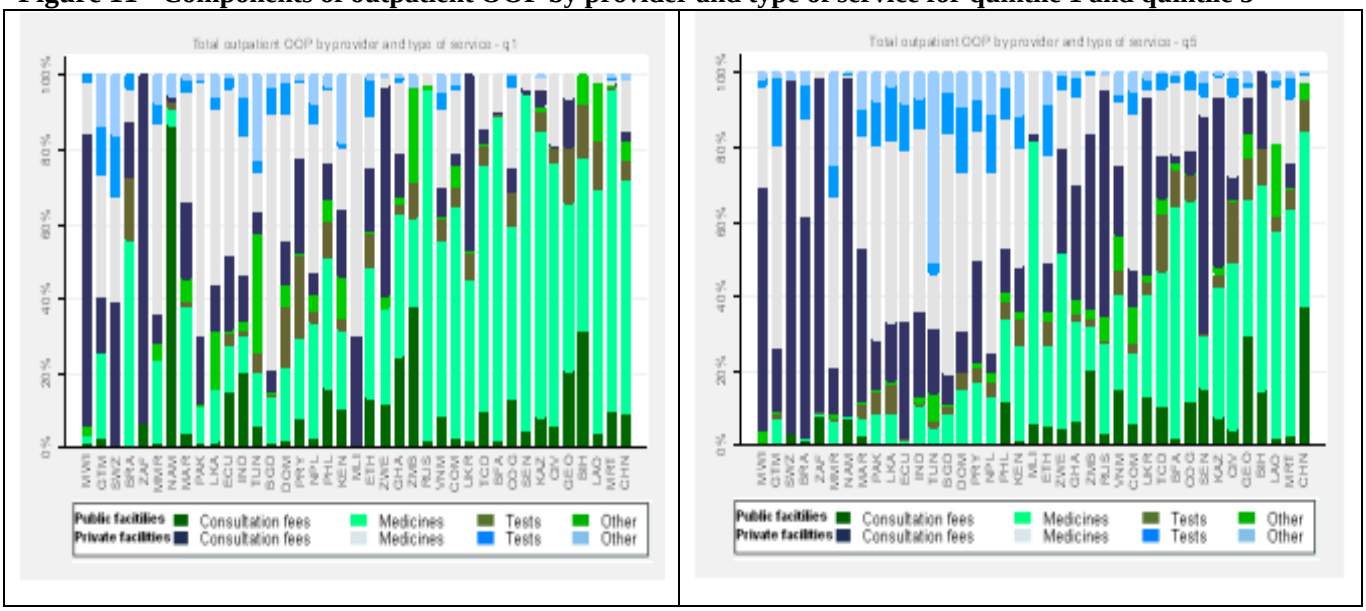
Figure 10 - Components of total outpatient OOP by providers and type of service



With regards to the differences in distribution of outpatient OOP across different quintiles, Figure 11 shows that quintile 5 spends more on the private facilities than quintile 1. Indeed, on average, only 37% of OOP payments by quintile 5 are to public facilities as compared to 57% of payments by quintile 1. However, the range is once again very wide with no OOP reported at public facilities by quintile 1 in countries like Swaziland and Mali, but as much as 100% of OOP in others. Similarly, the range for quintile 5 for public facilities is from under 2.5% in Ecuador to over 95% in China. With respect to the components of OOP,

quintile 5 seems to spend more on consultation fees than quintile 1, although the patterns are generally similar to the overall level.

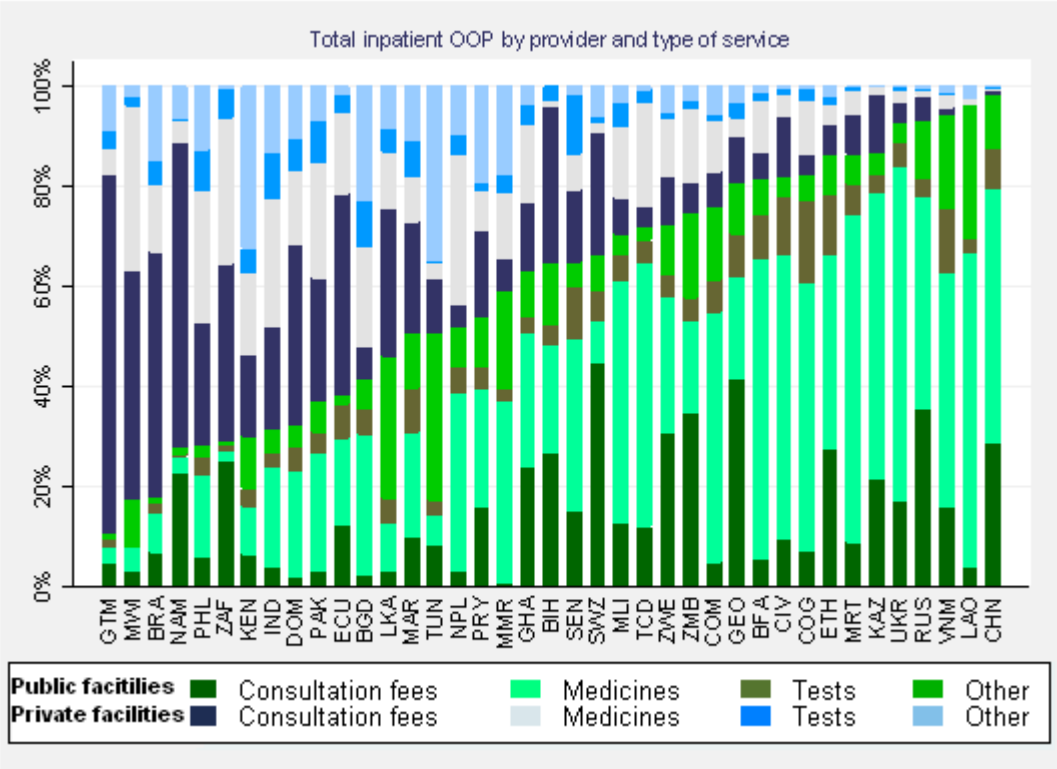
Figure 11 - Components of outpatient OOP by provider and type of service for quintile 1 and quintile 5



On average, almost 60% of inpatient OOP was at public facilities (Figure 12). It exceeded 80% in 12 countries. Overall, it ranged from just over 10% in Guatemala to over 98% in China.

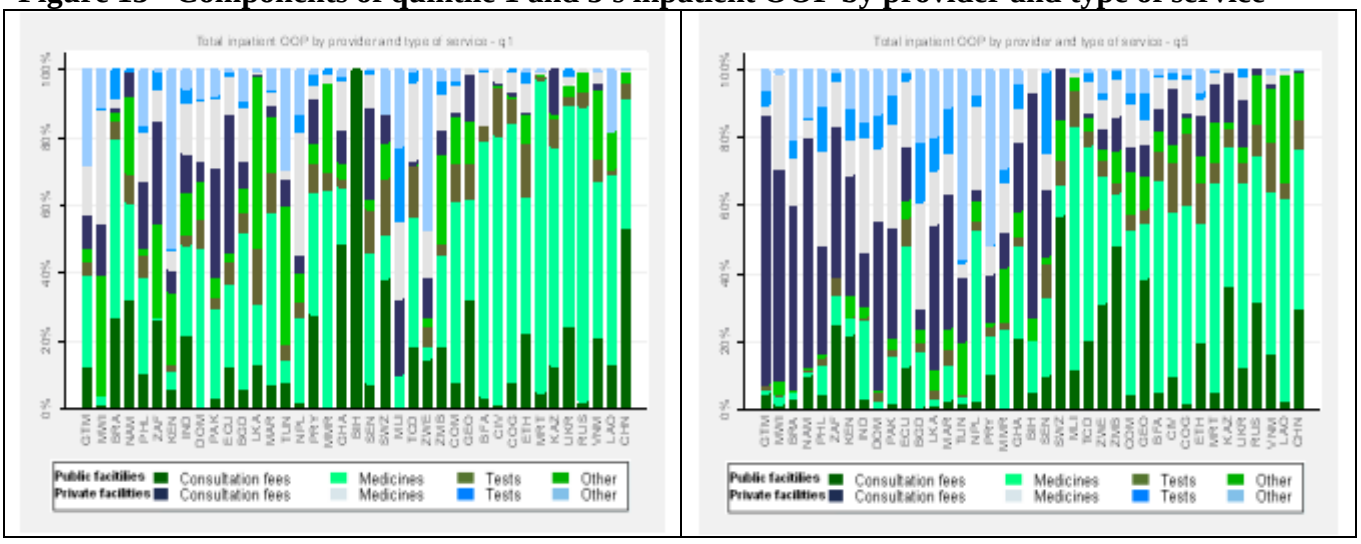
Compared to outpatient OOP, consultation fees represented biggest share of inpatient OOP at private facilities, where they accounted for 43% of inpatient OOP. Medicines represented 31% of OOP at private facilities on average. However, in some countries such as Bangladesh, medicines accounted for a bigger share than consultation fees. Among public facilities, expenditure on medicines was still the most dominant component of inpatient OOP, representing on average 48%. The share of OOP on consultation fees at public facilities was slightly higher for inpatient services at 26% as compared to outpatient services. Notably in countries such as South Africa and Swaziland, consultation fees were the biggest component of inpatient OOP at public facilities. Overall, OOP on medicines at public facilities represented 30% of total inpatient OOP, ranging from 2% to 67%. Consultation fees at private facilities represented 18% of total outpatient OOP.

Figure 12 - Components of total inpatient OOP by provider and type of service



Differences in patterns of inpatient OOP across different quintiles also emerge (Figure 13). As with outpatient OOP, quintile 5 spends less at public facilities than quintile 1 for inpatient OOP. On average, quintile 5 spends 54% of inpatient OOP at public facilities compared to 72% for quintile 1. However, once again a fairly wide range is observed - for quintile 1 from under 10% in Mali to 100% in Bosnia and Herzegovina, and for quintile 5 from 6% in Brazil to almost a 100% in China. With respect components of inpatient OOP by type of services, a similar picture to that of outpatient OOP emerges - once again, quintile 5 seems to spend more on treatment than quintile 1.

Figure 13 - Components of quintile 1 and 5's inpatient OOP by provider and type of service

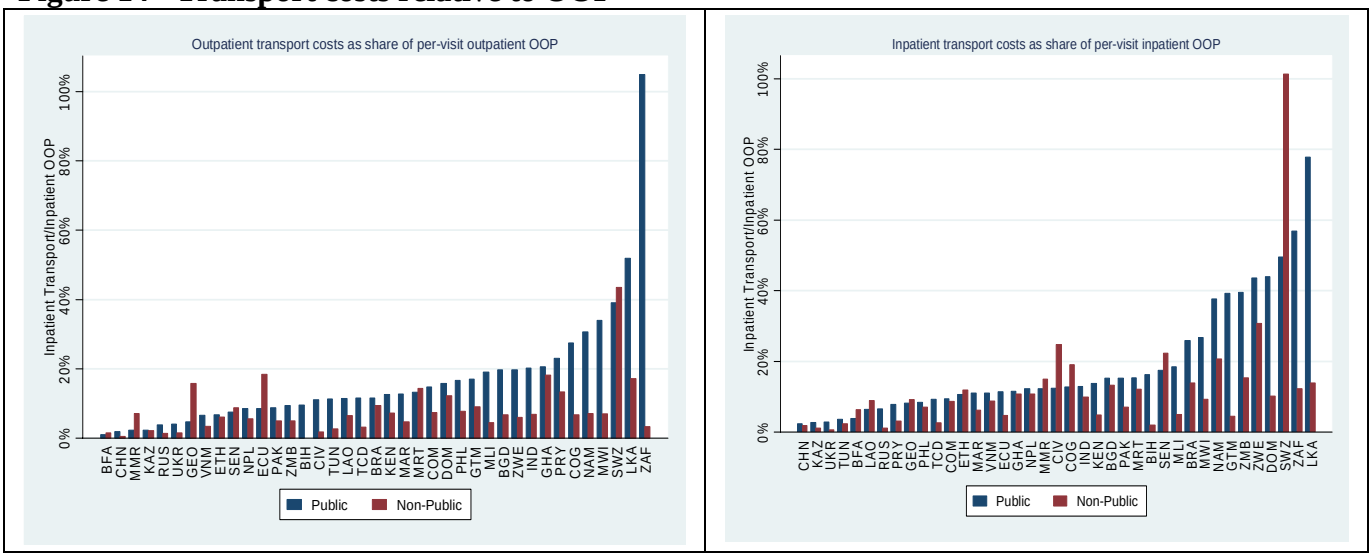


Transport costs

Transportation costs were not included in per-visit treatment charges or OOP. However, when the ratio of per-visit treatment charges and transportation costs on average are compared, we find that transportation costs can be considerable. Our results show that on average, transportation costs were 12% of per-visit treatment charges for outpatient services. In 22 of the 39 countries, they are more than 10% of outpatient treatment charges. Transportation costs for hospitalization were 17% of inpatient treatment charges on average. They were less than 15% for 28 of the countries presented.

Figure 14 shows the ratio of transportation to per-visit treatment charges for outpatient and inpatient services respectively. The ratios of transport costs to treatment charges are smaller for outpatient services at private facilities in most countries with exceptions such as Swaziland. On average for outpatient services, transportation costs to private facilities were 8% of treatment charges with and the ratio exceeding 10% in only 8 countries. For inpatient services, they were 12% on average but as low as around 1% in the eastern European countries shown here. In 7 countries, they exceeded 15% of inpatient treatment charges.

Figure 14 - Transport costs relative to OOP



Discussion

Before interpreting the results, some limitations of the study need to be discussed. People's understanding of whether a health care provider is "public" or "private" may differ. The possibility of misclassification arising from personal interpretation as well as differences in health systems across different countries should be kept in mind. We should also be cautious in comparing the results for per visit charges between public and private facilities without information on the quality and the intensity of the services. Additionally, the general data quality may vary from country to country. But as there is no strong evidence of this, we have chosen to indiscriminately present all data for all countries.

A few findings are worth highlighting here. Firstly, the study found that individuals in the richest quintile are more likely to use private facilities as compared to lowest income group. However, the use of private sector is not limited to the elite. Even for among poorest quintile, private facilities are used for more than 20% of total outpatient visits in the majority of countries. This result is in line with previous studies that have also noted a considerable use of private health services among the poor (21-23).

Secondly, we find that price competition may not be the main criteria for patients in many countries. Indeed, in many countries even when the price at private facilities is well above that of public facilities, use of public sector providers is comparatively low. Others factors such as perceived quality, responsiveness and geographical access may play an important role in determining what kind of facility is used. Indeed, our study also found that in most countries included in this study, transport costs represented more than 10% of what the individuals were paying for treatment.

The study also found that consultation fees in public facilities do not necessarily represent the largest component of OOP. Consultation fees for inpatient and outpatient visits in public facilities account for, on average, only 10% of total OOP. In most countries, the level is well below 15%. Importantly, the major part of OOP at public facilities are for the purchase of medicines.

These findings suggest that blanket policies of abolishing user fees, which in most cases only include consultation fees in public facilities, do not solve the whole problem. As this study shows, this may ignore the majority of payments such as spending on medicines as well as spending at private facilities, which are likely to pose immense challenges for equitable access. In practice governments will need to find funding mechanisms other than direct payments for improving access to services and medicines. Countries should also consider lowering transportation costs through long-term strategies, such as increasing the number of facilities and allocating resources based on population need, as well as other policies such as vouchers or other reimbursement schemes to cover transportation costs (24;25).

More importantly perhaps national health financing systems need to engage with the private sector in a way that enables greater and better access for the population. Governments, as health sector stewards, should ensure quality standards are met and routinely gather information from both public and private facilities. In addition governments may need to implement regulatory measures or establish contractual agreements with the private sector as part of national service provision strategies. There are many pioneering programs engaging with the private sector in various settings (26-29). Building on existing experience and the lessons learnt, policymakers in every country could take steps to better engage with the private sector to achieve national goals.

Last but not the least, we must bear in mind that the "private" or "non-government" sector is very heterogeneous. And country-context is key. For example, private facilities may provide drastically different

quality of care in different settings and for different people (30;31). Indeed, our study also found much variation, both in utilization and in the cost of services. As such, countries should not adopt dogmatic views on the role of the private sector in health care. This is a complex reality, and policies should reflect rather than ignore context-specific subtleties.

References

1. Preker AS, Harding A, Travis P. "Make or buy" decisions in the production of health care goods and services: new insights from institutional economics and organizational theory. Bull World Health Organ 2000;78(6):779-90.

2. Bhattacharyya O, Khor S, McGahan A, Dunne D, Daar A, Singer P. Innovative health service delivery models in low and middle income countries - what can we learn from the private sector? Health Research Policy and Systems 2010;8(1):24.

3. Loevinsohn B, Harding A. Buying results? Contracting for health service delivery in developing countries. The Lancet 2005;366(9486):676-81.

4. Liu X, Hotchkiss DR, Bose S. The effectiveness of contracting-out primary health care services in developing countries: a review of the evidence. Health Policy and Planning 2008;23(1):1-13.

5. Oxfam, International. Blind Optimism Challenging the Myths About Private Health Care in Poor

6. Rannan-Eliya, R and Sikurajapathy, L. Sri Lanka: "Good Practice" in Expanding Health Care Coverage. Research Studies Series 3. 2009. Institute for Health Policy, The World Bank.

7. Hollingsworth B. The measurement of efficiency and productivity of health care delivery. Health Economics 2008;17(10):1107-28.

8. Mills A. Improving the efficiency of public sector health services in developing countries: bureaucratic versus market approaches. In: Colclough C, editor. Marketizing education and health in developing countries: miracle or mirage? Oxford University Press; 1997.

9. Patouillard E, Goodman C, Hanson K, Mills A. Can working with the private for-profit sector improve utilization of quality health services by the poor? A systematic review of the literature. International Journal for Equity in Health 2007;6(1):17.

10. Bustreo F, Harding A, Axelsson H. Can developing countries achieve adequate improvements in child health outcomes without engaging the private sector? Bull World Health Organ 2003;81(12):886-95.

11. Hanson K, Gilson L, Goodman C, Mills A, Smith R, Feachem R et al. Is Private Health Care the Answer to the Health Problems of the World's Poor? PLoS Med 2008;5(11):e233.

12. Preker AS. Public ends, private means: strategic purchasing of health services. World Bank Publications; 2007.

13. Meessen, B., Hercot, D., Noirhomme, M., Ridde, V., Tibouti, A., Bicaba, A., Tashobya, C. K., and Gilson, L. Removing user fees in the health sector in low-income countries: a multi-country review. 2009. United Nations Children's Fund (UNICEF).

14. Yates R. Universal health care and the removal of user fees. Lancet 2009;373(9680):2078-81.

15. Dilip TR. Utilization of inpatient care from private hospitals: trends emerging from Kerala, India. Health Policy and Planning 2010;25(5):437-46.

16. Sengupta A, Nundy S. The private health sector in India. BMJ 2005;331(7526):1157-8.

17. Barnes J, O'Hanlon B, Feeley F, Mckeon K, Gitonga N. Private Health Sector Assessment in Kenya. World Bank Publications; 2010.

18. Hanson K, Berman P. Private Health Care Provision in Developing Countries: A Preliminary Analysis of Levels and Composition. Health Policy and Planning 1998;13(3):195-211.

19. Gauri V, Cercone J, BriceΓ±o R. Separating financing from provision: evidence from 10 years of partnership with health cooperatives in Costa Rica. Health Policy and Planning 2004;19(5):292-301.

20. Elias PE, Cohn A. Health Reform in Brazil: Lessons to Consider. Am J Public Health 2003;93(1):44-8.

21. Harding, April. Partnerships with the Private Sector in Health: What the International Community Can Do to Strengthen Health Systems in Developing Countries. 2009. Center for Global Development.

22. Prata N, Montagu D, Jefferys E. Private sector, human resources and health franchising in Africa. Bull World Health Organ 2005;83(4):274-9.

23. Bhatia JC, Cleland J. Health-care seeking and expenditure by young Indian mothers in the public and private sectors. Health Policy and Planning 2001;16(1):55-61.

24. Noirhomme M, Meessen B, Griffiths F, Ir P, Jacobs B, Thor R et al. Improving access to hospital care for the poor: comparative analysis of four health equity funds in Cambodia. Health Policy and Planning 2007;22(4):246-62.

25. National Health Service England. Healthcare Travel Costs Scheme. http://www.nhs.uk/nhsengland/Healthcosts/pages/Travelcosts.aspx . 7-24-2010.

26. Mahmud H, Ullah Khan A, Ahmed S. Mid-term health facility survey - urban primary health care project. Dhaka: Mitra and Associates 2002.

27. Balique H, Ouattara O, Ag Iknane A. Dix ans d'expérience des centres de santé communautaire au Mali. Santé Publique 2001;13(1):35.

28. Danel I, La Forgia G. Contracting for Basic Health Care in Rural Guatemala - Comparison of the Performance of Three Delviery Models. Health Systems Innovations in Central America: Lessons and Impact of New Approaches.Edited by Gerard LaForgia.World Bank, Washington DC.ISBN-10: 0-8213-6278-X 2005.

29. Mavalankar D, Singh A, Patel SR, Desai A, Singh PV. Saving mothers and newborns through an innovative partnership with private sector obstetricians: Chiranjeevi scheme of Gujarat, India. International Journal of Gynecology & Obstetrics 2009;107(3):271-6.

30. Harding A, Preker AS. Private participation in health services. World Bank Publications; 2003.

31. World Health Organization. World health report. Primary health care: now more than ever. 2008. Geneva, Switzerland.

Appendix 1 - Country abbreviations used in figures

Country	Abbreviation
Burkina Faso	BFA
Bangladesh	BGD
Bosnia and Herzegovina	BIH
Brazil	BRA
China	CHN
Côte d'Ivoire	CIV
Congo	COG
Comoros	COM
Dominican Republic	DOM
Ecuador	ECU
Ethiopia	ETH
Georgia	GEO
Ghana	GHA
Guatemala	GTM
India	IND
Kazakhstan	KAZ
Kenya	KEN
Lao People's Democratic Republic	LAO
Sri Lanka	LKA
Morocco	MAR
Mali	MLI
Myanmar	MMR
Mauritania	MRT
Malawi	MWI
Namibia	NAM
Nepal	NPL
Pakistan	PAK
Philippines	PHL
Paraguay	PRY
Russian Federation	RUS
Senegal	SEN
Swaziland	SWZ
Chad	TCD
Tunisia	TUN
Ukraine	UKR
Viet Nam	VNM
South Africa	ZAF
Zambia	ZMB
Zimbabwe	ZWE