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Lancet Private Sector Series

Article 1

What is the private sector? Understanding private provision in low and middle income countries' health systems

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Summary

Private health care in low and middle income countries (LMICs) is very extensive and wildly heterogeneous, ranging from itinerant medicine sellers, through millions of independent practitioners, unlicensed and licensed, to corporate hospital chains and large private insurers. Policies for universal health coverage (UHC) must address this complex private sector. Yet there are no agreed measures of the scale and scope of the private health sector, and policy makers tasked with managing and regulating mixed health systems struggle to identify the key features of their private sectors. This article proposes a set of metrics, drawn from existing data, that can form a starting point for policy makers to identify the structure and dynamics of private provision in their particular mixed health systems: that is, to identify the consequences of given structures, the drivers of change, and levers available to improve efficiency and outcomes. The central message is that private sectors cannot be understood except within their context of mixed health systems since private and public sectors interact. We develop an illustrative and partial country typology, using the metrics and other country information, to illustrate how the scale and operation of the public sector may shape the private sector's structure and behaviour, and *vice versa*.

Keywords: private sector; mixed health care systems; metrics; typology; low and middle income countries

Introduction

The 'private sector' in this article refers to the totality of privately owned institutions and individuals in the business of providing health care, including private insurers. In low and middle income countries (LMICs) the sector is generally large, poorly documented, and wildly heterogeneous, ranging from itinerant drug peddlers and individual clinical practitioners to corporate hospital chains and international private insurers. While most private health care enterprises operate for profit, there are also many non-profit enterprises avowing religious and charitable motivations. In some LMICs, private sector health care largely serves the better-off; in others, many of the poor rely on private provision. This economic and social patterning of private sector organisation is partly shaped by, and interacts with, the organisation and behaviour of the *public* sector in health care. The private sector therefore can be understood, and effectively regulated, only by understanding the mixed health systems of which it forms part.

Policy makers seeking to move health systems towards universal health coverage (UHC) must identify and ensure appropriate roles for private providers and for health markets^{1,2}. This in turn requires a better understanding than is currently available of the characteristics of the private sector within particular health systems, in order to devise effective interventions³. This article proposes a set of metrics, from existing data, that provide a useful starting point for measuring, describing and classifying the private sector in mixed health systems. We illustrate the usefulness of the metrics, in association with other country level data, by extracting an initial typology to illustrate some key patterns of interaction between public and private sectors.

Key messages

- The private sector in health is deeply influenced by, and also influences, the public sector.
 - A useful typology of types of private sector in different mixed systems can begin from three metrics: the private share in total health expenditure; the private share in primary and secondary care episodes; and the extent of reliance of the public sector on private fee payment; qualitative information is required to deepen understanding in each specific case.
 - Where the private sector dominates the health system, the poor struggle to access fee-for-service care which is generally of low quality.
 - A reasonably competent and highly accessible public sector can generate a complementary, reasonable-quality private sector;
 - An insurance-funded private sector at the top of a stratified system reinforces inequality and may display cost escalation;
 - A dominant but highly commercialised public sector constrains private provision while excluding the poor;
 - Making the public sector more accessible can reduce both exclusion and reliance by the poor on low quality private providers and medicine sellers.
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Panel: Searches and data sources

The article uses international datasets from WHO *World Health Statistics 2015*⁴ and World Bank comparative national income statistics⁵; and new analysis of country level data including the Indian National Sample Survey Organisation (NSSO) survey conducted during 2010-11, its 67th round⁶; data from successive Demographic and Health Surveys (DHS) for four LMICs⁷; National Health Accounts (NHAs); and a variety of secondary data sources. Searches of Pubmed and social sciences data bases were conducted, using key words including private sector, commercial, business, market, public-private, in association with health system and health sector, restricting results to LMICs. For the individual country studies further searches were conducted including grey literature to find relevant qualitative evidence.

Metrics for understanding private sectors in mixed health systems

Our proposition in this series as a whole is that, despite apparent extreme heterogeneity, it is possible to identify key patterns and dynamics to assist policy towards private health sectors. In this article we propose three metrics, using existing data, that combine to provide a clear starting point. The metrics are: (1) the extent and pattern of private finance within health care expenditure as a whole (“demand side”); (2) the scale and level of the private sector enterprises in health care, indicated by their relative weight in the use of ambulatory and primary, and clinic-based and secondary, care (“supply side”); and (3) the accessibility of the *public* sector, proxied by the extent to which the public provision relies on fees (“commercialization”). Sources and brief justification follow.

1. The size and pattern of the private share in total health expenditure.

Private expenditure on health care includes out-of-pocket (OOP) spending and also expenditure by insurers ('pre-paid plans'). The WHO health expenditure database⁸ has reasonably comparable cross-country data despite conceptual and measurement problems⁹. The extent of each type of private finance is a proxy indicator of the *characteristics* of the private supply sector, since private insurance generally funds larger licensed private providers, while much OOP spending funds smaller scale, often unlicensed provision.

However OOP spending also includes fees for public services and medicine purchases. As a result, on a cross-country basis, the share of private in total health expenditure has been shown to be uncorrelated with the (patchy) available data on the share of private beds in total hospital beds, or private facilities in total primary facilities, or the share of private providers in total medical consultations^{10,11}. It follows that the share of private in total health spending does *not* measure the share of private supply in total supply.

2. The share of the private sector in primary and secondary health care episodes.

There are no cross-country comparable data on private sector capacity levels and activity rates. We therefore use a variety of country-level DHS, WHO *World Health Survey*, and other household survey data, alongside facility surveys. Usage of different types of facility provides a better metric for the relative weight of the private sector than capacity measures such as number of hospitals and dispensaries. This is because the facilities vary in size and small scale unregistered dispensaries and shops are frequently omitted from surveys. Different countries and surveys use very different classifications of types of facility and other sources of treatment; the DHS can provide somewhat more comparable data but only for a restricted set of reproductive and child health needs.

3. The extent to which *public* sector facilities rely on OOP fees and charges

Public sector charging shapes the private sector's market context, influencing whom the private sector serves, with what quality, and at what price. In many LMICs, public sector health care became more commercialised in the 1980s and 1990s, depending increasingly on fees-for-service from OOP payments. The payments for medicines and tests, procedures and beds might go to individuals or to institutions, but the broad effect was to orient the public providers to respond to market incentives. Some public sectors thus took on a commercial character, competing with the private sector in a health care market while remaining publicly owned; globally, there is now a partial reversal of this trend. We measure public sector accessibility using country-level data on the proportionate reliance of the public sector on fees and charges, mainly estimated from information in National Health Accounts.

These three metrics locate a country's private sector within its mixed health system along three dimensions, as illustrated in Figure 1. This is to be understood, not as a "box" diagram of the type used to analyse moves towards UHC, but rather a 3-dimensional space in which different mixed health systems can be located.

Figure 1 Dimensions for classifying the private sector within health systems

An emergent typology: five types of private sector in mixed systems

We demonstrate the use of this approach to measurement and classification by generating an initial typology of five key types of private sector in mixed systems. In the absence of global comparative data for dimensions 2 and 3, we illustrate each type with one or more country cases using a range of data sources. The following list refers to the data in Table 1 for the three dimensions except where stated.

1. **A dominant private sector: India and Nigeria** : globally very high shares of OOP in total health expenditure; a private sector dominating activity in both primary and secondary care; and deteriorated public sectors (Section 1) with varying reliance on fee payments.
2. **A non-commercialised public sector and complementary private sector: Sri Lanka and Thailand**: moderate to low private expenditure shares, mainly OOP; moderate private share of primary care and low private share of hospital care; very low or no public sector fees.
3. **A private sector at the top of a stratified system: Argentina and South Africa**: relatively high shares of private and social insurance in health spending; substantial private sector activity in secondary and primary care alongside low public sector reliance on charges.
4. **A highly commercialised public sector: China**: relatively high but now falling share of private expenditure; small private sector; a commercialised public sector heavily reliant on fees and charges, now being reformed (Section 4).
5. **Stratified private sectors shaped by low incomes and public sector characteristics: Tanzania, Ghana, Malawi and Nepal**: high private expenditure shares in 2000, mainly declining recently; stratified private sector with hospitals and clinics for the better off and substantial use of private shops particularly by poor; varying public sector reliance on fees and charges influencing private sector demand (Section 5).

Table 1: Key indicators for each dimension: case study countries.

Dimension	Dimension 1				Dimension 2		Dimension 3	
Column no.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
	Private % total health expenditure (THE) 2000	Private % total health expenditure (THE) 2012	OOP payments % total health expenditure (THE) 2012	Prepaid plans + social security % THE 2012	Private sector % total out-patient visits/ primary care visits/ all visits (date)	Private sector % inpatient episodes / hospital visits (date)	OOP payments % total public facilities' expenditure (date)	
Country								
India	73	70	61	4	75 (2014)	62 (2014)	2 (2014)	
Nigeria	67	67	64	2	82 (2008/9)	n/a	64 (2005)	
Sri Lanka	52	61	51	3	50-60 (2008)	5-10 (2008)	0 (2008)	
Thailand	44	21	12	14	34 (2011)	10 (2011)	10 (2007)	
Argentina	46	31	20	45	45 (2010)	47 (2010)	0 (2014)	
South Africa	59	52	7	43	29 (2008)	18 (2008)	8 (2005)	
China	62	44	34	41	18 (2003)	3 (2003)	87 (2001)	
Malawi	54	44	10	2	29 (2003)	30 (2003)	9 (2005/6)	
Tanzania	57	61	32	3	40 (2007)	22 (2007)	38 (2009/10)	
Nepal	75	61	49	0	65 (2003)	46 (2003)	7 (2008/9)	
Ghana	50	32	29	17	36 (2003)	35 (2003)	25 (2009)	

Sources: Columns 1-4¹²; India columns 5-6¹³, column 7 see below; Nigeria column 5¹⁴ (*figure is for inpatient plus outpatient), column 7¹⁵; Sri Lanka column 5¹⁶, column 6¹⁷, column 7¹⁸; Thailand columns 5-6¹⁹, column 7²⁰; Argentina column 5²¹, column 6²², column 7²³; South Africa columns 5-6²⁴, column 7²⁵; China columns 5-6²⁶, column 7²⁷; Malawi columns 5-6²⁶, column 7²⁸; Tanzania columns 5-6²⁹, column 7³⁰; Nepal columns 5-6²⁶, column 7³¹; Ghana columns 5-6²⁶, column 7³²

Notes:

India: Column 7 Calculated as the ratio of receipts from user fees and other charges to patients (codes 020-01, 020-02 and 020-03) to total government expenditure at facility level from state and central government budgets for 20 major states, 2013-14 (Actual).

Nigeria: Column 5 percentages of all visits including medicines sellers but not herbalists or home treatment; Column (7) calculated from Table 3.8 p. 14¹⁵

Thailand: Columns 5 and 6 calculated from data for all visits to a facility for illness in last month;

South Africa: Columns 5 and 6 refer to outpatient and in-patient visits; Column 7 calculated from data based on some extrapolations from 1990s NHA; the authors comment that OOP is probably underestimated in their data²⁵.

China: Column 7 the data are for rural health centres only, 2001, do not include urban facilities.

Malawi: Column 7 percentage is for hospitals only, as source does not break down ambulatory care expenditure by public/private providers.

Tanzania: Column 5 percentages of visits to primary providers (dispensaries, individual doctors, pharmacies); Column 6 percentages of visits to hospitals and health centres

Nepal: Column 7 refers to government hospitals and other facilities; data taken from the NHA, which states that Total Government Health Expenditure 2008/9 was NPR16729, while NPR1151 was out of pocket costs in government hospitals/facilities.

1. A dominant private sector: India and Nigeria

India and Nigeria share three interacting characteristics: a globally high private share of total health expenditure and low ratio of public health expenditure to GDP; a private sector – including unlicensed sole practitioners, shops and medicines vendors – that dominates health care provision at all levels and incomes; and highly deteriorated public health sectors in which, in Nigeria's case, fees and charges create an additional barrier to care (Table 1), and in both countries, lack of public sector availability forces patients to turn elsewhere. In both countries this pattern has been associated with accelerated private sector growth; low quality private provision for the low income population; high levels of out-of-pocket health spending; and a lack of safety net access for the poor to accessible and competent public provision. The pattern and its consequences is illustrated here by the Indian case.

India has long been one of the nations with the lowest levels of public health spending¹³. As a percentage of GDP, the Indian government spent just 1.1% on health care in 2008-09³³. Inadequate government financing and utter neglect of public provision of health services has led to extreme dominance of the private sector. Nationally representative large-scale household surveys show a sharp increase in the role of private healthcare provision in the last two decades. Dominance of outpatient care (allopathy and non-allopathy providers) by private general practitioners and pharmacists consolidated at nearly 80% of visits in both rural and urban areas, while private inpatient care also rose sharply, to about 60 per cent of total episodes, from 1986-87 to 2014 (Table 2).

Table 2 India: Percentage share of private providers in episodes of hospitalisation and outpatient care 1986-87 and 2014

	Hospitalisation Care		Outpatient Care	
	1986-87	2014	1986-87	2014
Rural	40.0	58.1	74.3	71.7
Urban	39.6	68.0	72.8	78.8

Source: Estimates by Karan and Selveraj calculated from household level data of NSSO³⁴, respective surveys.

Furthermore, within a plethora of publicly-funded health insurance schemes, such as *Rastriya Swasthiya Bima Yojana* (RSBY) and several state government-sponsored insurance models, launched during the last 5-7 years, the private sector receives more than 80% of the total reimbursement claims³⁵.

Panel 1: Heterogeneity of India's private health sector

The heterogeneity of India's private sector is extreme: from fledgling super-speciality groups listed on stock exchanges to general practitioners and a variety of quacks and traditional healers³⁶⁻³⁹. Enterprise surveys by the National Sample Survey Organisation (NSSO) track this heterogeneity, estimating just over one million private health care enterprises, of which 75% are micro-enterprises (OAEs); the rest are medium to large medical establishments. The share of allopathic enterprises, and of hospitals, has risen (Table 3). The mode of ownership is overwhelmingly (98%) sole proprietorship. Only 66% of the medical facilities are registered under any act or society.

Table 3: Percentage share of different enterprise types, 2000-01, 2006-07 and 2010-11.

Enterprise type	Own account enterprises (OAEs)			Establishments with employees		
	2000-01	2006-07	2010-11	2000-01	2006-07	2010-11
Hospital service	0.7	1.2	3.6	15.4	14.9	25.7
Medical and Dental practices	52.1	55.5	63.3	58.4	47.1	48.9
Indian Systems of Medicine	28.7	24.2	23.0	13.2	18.1	12.9
Nursing and physiotherapy	15.3	14.4	5.2	1.5	7.3	1.9
Diagnostics/ pathology	1.4	2.3	2.4	9.2	11.3	9.0
Others	1.8	2.4	2.5	2.3	1.4	1.7
All	100	100	100	100	100	100
Total number of enterprises ('000)	1075	785	736	229	268	285

Source: Authors' estimates from NSSO, respective years

The private sector payment mechanism is overwhelmingly fee-for-service and the real (inflation adjusted) price of hospitalisation has doubled, rising much faster than in the government sector, during the last decade and a half⁴⁰. The financial burden of health care on Indian households is high and rising. Out-of-pocket health expenditure (OOP) was estimated at 6.8 per cent of household resources and 12.10 per cent of non-food expenditure in 2011-12. Catastrophic OOP payments increasingly lead to impoverishment through sale of valuable assets, running down savings, and borrowing at usurious interest rates from private money lenders⁴⁰.

2. A private sector complementing a universalist public sector : Sri Lanka and Thailand

These two countries' health systems differ considerably, but they share a key characteristic: public spending supports an accessible and universalist public sector whose role and limitations shape private sector investment into complementary roles within the health system. Both obtain good health outcomes from this pattern^{16,41}. We illustrate this pattern with data from Sri Lanka.

In Sri Lanka, the private/public expenditure ratio has been fairly stable since the mid-1990s, at around 55% private/ 45% public, with private expenditure largely out of pocket (OOP) (82%)¹⁷. Most out of pocket spending on health goes on private practitioners' fees (70% in the poorest quintile), except in the top income quintile where a third is spent on private hospital care (Figure 2). An internationally low percentage spent on drugs can probably be attributed to widespread availability of low cost or free drugs through the public system.

Figure 2: Structure of Out-of-Pocket Health Payments by income quintile, Sri Lanka 2009-10

Legend: prvpract: private practitioners' fees; specialist: specialists' fees; test: payments for tests; Prv Hospital: private hospital charges; Pharma: payments for medicines.

Source: Calculated from the Sri Lanka *Household Income and Expenditure Survey* data (2009/10)⁴²

In Sri Lanka most physicians working in private practice also work in the public system, and private providers offer over half the primary care; however most in-patient care remains in the public sector (Table 4).

Table 4: Health services provided by different sectors in Sri Lanka (% of total)

Type of care	Private Providers	Public Providers (Government)
Preventive Care	Minimal	Nearly 100
Curative care – out patient care	50 – 60	50 – 40
Curative care – in patient care	5- 10	90 -95

Source: *Annual Health Bulletin*, Ministry of Health, Sri Lanka, 2008⁴³

There has been a surge in private investment in health care in Sri Lanka since the 1980s, though the large majority of capital formation in health care remains public. Nearly 74% of private health facilities have sole owners; 88% of the small (less than 5 employees) clinics and 60% to 65% of the medium and larger hospitals and laboratories were owned by a single individual. As much as 75% of private out-patient care is provided by a sole proprietor, some of whom contract one or more practitioners as employees¹⁸. About half of private beds are in Colombo, and private in-patient facilities tend to be small (20-30 beds), while 72% of private facilities have at least one theatre. The private sector also provides pharmacies, laboratories and imaging facilities. Only the few large facilities rely to any extent on insurance payments¹⁶.

The public sector continues to provide accessible care. While those on lower incomes use primary care less than the better off – suggesting cost and other barriers – the burden of OOP as a proportion of non-food expenditure (proxy for disposable income) has remained stable. This is consistent with evidence from other Asian countries in the late 90's^{44,45} that (1) mean OOP budget share in Sri Lanka was relatively low in comparison with other Asian countries at comparable income

levels; and (2) the better off spent a larger fraction of their resources than the poorer population on health care sought in the private sector.

3. A high cost private sector heading a stratified system: Argentina and South Africa

South Africa and Argentina are two middle income countries in which the share of private plus social insurance in total health spending is over 40% (Table 1). This health insurance finances a private sector of hospitals and clinics serving the higher income groups. In the two countries, the private sector thus forms what Latin American health analysts call a private 'sub-system'⁴⁶ providing high quality care at the top of a stratified health system where the poor rely on generally lower quality public provision⁴⁷. In both countries, the public sector formally imposes low or no charges. The OOP payments in South Africa are made largely in the private sector by the better off who have catastrophic illness insurance cover only, paying out of pocket for ambulatory care. In Argentina the richest quintile spend 36% of their total payments for health care on insurance premiums: most insurance is bought by the top two quintiles who also make most of the OOP payments for outpatient visits. Conversely, the poorest two quintiles spend OOP mainly (61%) to buy drugs⁴⁶.

Despite their different culture and history, the private sectors of South Africa and Argentina share several institutional characteristics. Both countries display high social and economic inequalities reinforced by stratified health care, and private care is also geographically concentrated where incomes are highest. In South Africa, a 2008 survey found 72% of health care visits by the richest quintile and 89% of visits by those with medical insurance were to the private sector; the percentages for the poorest quintile and the uninsured were 13% and 19% respectively²⁴. South African private medical schemes began under apartheid as occupational schemes with income-related payments; deregulation from the 1980s shifted the sector to risk-rated commercial insurance. The insurers consolidated in the 1990s into three dominant firms, while private hospital ownership shifted from doctor-owned to corporate⁴⁸.

In Argentina, a social health insurance (SHI) sector owned and managed by trades unions was opened to risk-rated commercial insurance in the 1990s, allowing private insurers to compete to insure employees, and encouraging SHIs to buy care from private facilities. The 1990s reforms divided the SHI market into management-level employees and the rest, and SHI for management-level employees mostly purchased services from the private sector. Thus, the system switched from one fragmented by lines of business (or trade unions) to one stratified by socioeconomic status, separating white-collar workers from the rest of the insured population. In Argentina in 2010, 63% of health care visits by the richest quintile were to the private sector while the percentage for the poorest quintile was 28%²³. Between 1969 and 1995 private health facilities numbers nearly quadrupled⁴⁹, increasing from around one third to more than 50% of the total. In the early 2000s, international companies from Switzerland, America and other Latin American countries entered the Argentinean PHI market, greatly increasing concentration⁵⁰. By 2006, the three largest private insurers accounted for about 65% of revenues and 60% of affiliates in the private insurance sector⁵¹.

This stratified system, when deregulated for a lengthy period in each country, produced rapid escalation in private insurance premiums and private sector costs. The cost drivers were a mix of monopoly power on the part of private suppliers, individual risk-rating driving out lower income and lower risk individuals, and competition on high technology and specialist care⁴⁸. In South Africa the deregulation of the 1990s produced a sharp upward shift in trend increases in costs; after 2000, reregulation slowed the continuing rise. In Argentina, the reforms in the 1990s increased private

health insurance expenditure through the deregulation of social health insurance – with little increase in coverage. Health spending increased from 8.2 to 9 percent of the GDP between 1995 and 2000, private insurance rose from 0.9 to 1.3 and OOP expenditure from 2.3 to 2.7 as % of GDP during this period, mainly due to SHI deregulation and contracting with private providers.

4. A highly commercialised public sector now undergoing reform: China

Many LMICs have introduced charges for public sector health services. China provides a major illustration, with useful lessons for less extreme cases, of the emergence of public sector commercialisation from ad hoc reform, of its impact, and of the scope for tackling the perverse market effects through subsequent holistic health system reform.

China, in its two waves of health reform in the 1980s and 1990s, developed a globally extreme level of commercialisation of its public sector health care, an unintended side effect of the market-oriented economic reforms (see Table 1 Column 7 data for 2001). By 2001 government funding had fallen to only 8.6% of urban hospital income and 12.8% of rural township health centre income²⁷. The public facilities gained various degrees of autonomy and “self-governed” status: they were not privatized in the sense that the assets are still owned by the state, so the facilities had a public identity, yet their daily operations took on a business nature, focusing on revenue generation from charging users, translated into private gains through hospitals’ internal bonus allocation system. This was the market incentive installed by the initial health sector reform. The privately *owned* sector remained small, just 20 percent of urban hospitals in 2008 (Table 5), and private health insurance lacked significant impact⁵². In rural areas, health insurance coverage effectively collapsed, though social insurance provided some urban coverage for the employed.

Table 5 China: Hospitals by Ownership Type (1980 -2008)

Year	Total	Government	Public enterprises	Individual
1980	9902	Public dominant		
2000	16318	Public dominant but with strong for-profit incentive		
2008	19712	9777	6048	3887

Data source: Ministry of Health, China National Health Yearbook 2009⁵³

China thus developed publicly owned commercial health care. Key consequences included a focus by hospitals on generating income through high mark-ups on privately procured drugs, resulting in inappropriate and unnecessary prescribing^{54,55}, and frequent use of high technology-based medical procedures and advanced medical surgery. The fee-for-service payment method drove up OOP spending and incentivised over-prescription and over-charging, while detailed itemisation of services increased revenues and encouraged high cost high volume service competition. A large proportion of these revenues were given to the doctors⁵⁶. Rates of exclusion from care rose, especially in rural areas. Hospitalization became too expensive for many farmers; 64% of those who should have been hospitalized could not be admitted in 1998, increasing to 75% in 2003; for the same time period, health impoverishment, defined as poverty caused by OOP payment, increased from 22% in 1998 to 33% in 2003⁵⁷.

Panel 2: Reversing ‘public identity/private behaviour’ health care : China’s 3rd reform

China’s third wave of health reform, initiated in 2009, aimed to reverse the laissez-faire healthcare market through government investment of about USD 124 billion during 2009-2011. Since 2012,

China has introduced a range of regulatory instruments: forming a wider financial pool to leverage influence over provider behaviour; expanding the clinical pathways (clinical diagnostic and treatment protocols/guidelines) programme to more hospitals: piloting service payment methods such as capitation, by case, by episode, by block contract, and by rudimentary types of DRG.

To remedy the “public identity, private behaviour” hospital sector, the regulatory measures taken by China include the conversion of 20% of total hospital beds into “true” private hospital beds, and expanding private investment with standard corporate governance practices. A zero drug price mark-up is to be strictly implemented, replacing the mark-up with physician prescription charges to delink the (corrupt) connection between drug sellers and care providers. Public hospital governance structures are to change to specify hospital accountability to the health department and also the general public. A hospital administration agency will oversee public hospital performance and regulate the non-state hospitals. Finally, government investment in the rural health insurance scheme will total around 360 Rmb per farmer, aiming to integrate all public schemes into a single pre-paid pool which can influence provider behaviour.

Table 6 China: Health Insurance Coverage (1978 - 2011)

YEAR	1978	1985	1993	1998	2003	2008	2011
Urban	90+	Na	72.2	55.9	55.2	71.9	90.9
Rural	90+	7.0	15.9	12.7	21.0	92.5	97.4

Data sources: Data for 1993, 1998, 2003 and 2008 are from China Ministry of Health: National Health Survey in 1993, 1998, 2003, and 2008. Data for 1978 and 1985 are from S, Wang. ‘Learning mechanism and adaptation ability: Change of China rural CMS and its enlightenment’ (in Chinese).

<http://wen.org.cn/modeles/articles/view.articles.php/a1529> (accessed Sep. 28, 2009). Data for 2011 are from Meng, Q. Xu, L. Zhang, Y. et al.⁵⁸

Overall, the scale of this reform of public governance reflects the challenge in returning a commercialized public system to its public purpose. It includes governance reform; the development of budgeting and financial accounting system for hospitals under “self-governed” status; independent accreditation involving detailed surveillance; , and medical disputes settlement procedures. The policy directive in 2013 for independent accreditation of hospitals in 2013, halted for nearly two decades, represents progress.

5. Stratified private sectors shaped by low incomes and public sector characteristics: Tanzania, Malawi, Ghana and Nepal

A diverse private health sector in many lower income countries has been shaped by the changing characteristics of the public sector, driven by deregulation. In many settings the private sector has challenged or superseded public sector dominance. Common trends are the rise of private shops and pharmacies as a location for treatment, often of poor quality, alongside increasing inequalities in the use of private secondary facilities for care.

This section employs illustrative qualitative and quantitative evidence for Ghana, Malawi, Tanzania and Nepal, selected as examples of lower income countries with a socially stratified private health sector. They include a sub-sector of secondary level private clinics and hospitals attended in growing numbers by the better off^{59,60}. These higher end facilities are perceived to offer superior care and facilities in contrast to the perceived and actual failings of the public health sectors⁵⁹. Within the

private sector, however, there is generally a preponderance of visits to small private dispensaries, shops and pharmacies⁶¹. Deregulation has allowed smaller scale and poorer quality providers to multiply, with shops and pharmacies effectively offering widespread first line treatment, selling poorly regulated medicine supplies directly to users^{62,63}. Where the public sector charges for care and treatment, legally or illegally, people have often shifted to low quality low cost treatment from untrained shop assistants, although the efficacy of the treatment received is highly questionable^{11,64}.

Panel 3: Private sector stratification and public sector interaction: evidence from the DHS

Demographic and Health Surveys⁷ allow us to examine trends in private sector shares in activity, but they collect data only for treatment of two childhood illnesses (diarrhoea and fever) and for place of delivery at birth. For four low income countries: Ghana, Malawi, Tanzania and Nepal, the locations to which children under 5 were taken for treatment for episodes of diarrhoea in the two weeks prior to each survey were calculated for successive surveys (Figures 3 and 4). Detailed categories of places for treatment were grouped into public, private, religious facilities at both primary and secondary levels, plus shops/pharmacies and traditional healers.

Figure 3 shows the percentage of infants taken to a private secondary facility, defined in the survey as a private hospital or clinic, split by quintile of asset wealth (see^{65,66} for information on wealth quintiles). There is a clear difference between income groups in most countries for all years; Tanzania is a partial exception.

Figure 3: Percentage of Infants treated for diarrhoea that were taken to a private secondary facility by wealth, year and country

Figure 4 shows the percentage of visits for diarrhoea treatment to private providers, broken down by visits to shops/pharmacies and to private primary and secondary health facilities. Also shown is

the percentage taken to public facilities, which in Malawi and Tanzania are the most common place of treatment. Visits to shops and pharmacies form the majority of private sector visits in all countries, except for the first and last year in Malawi.

The data suggest that public sector characteristics influence use of the private sector. In Malawi, where the public sector has historically been little commercialised (formally or informally) (Table 1) but gaps in provision have encouraged recourse to shops⁶⁷⁻⁶⁹, the 2004 Essential Health Package, free in public and some faith-based facilities, was associated with reduction in shop use. In Ghana, where public sector charging is widespread, expansion of National Insurance was associated with falling shop use, though that fall has stagnated since 2008. In Nepal too, fewer children were cared for in shops/pharmacies after the 2009 reforms, which allowed free access to primary care for treatment and drugs⁷⁰. Meanwhile in Tanzania, where charging continues, shop usage remains high and stable.

Figure 4: Percentage of infants who were treated for diarrhoea taken to shops/pharmacies, other private facilities and public sector facilities, by country and year, with key health reforms

* Percentages may total more than 100% due to visits to multiple locations for care

Conclusion

We have shown that it is possible, for a number of illustrative countries, to compile from existing data a comparative, though not wholly comparable, understanding of different private health

sectors, including the segment(s) of the population served. The patterns implied by the three metrics proposed here (Table 1) can be used in conjunction with qualitative evidence to generate an emerging typology of the roles of private sector health care within mixed LMIC health systems, and their consequences for access to care. Countries can be grouped by key characteristics, including the pattern of stratification of private sector use, the scale and accessibility of public provision, and the extent of reliance of the poor on out-of-pocket payment.

We have also shown, through the analysis of data on four low income countries (Section 5), and by the contrast between Sri Lanka and India (Sections 1 and 2) that the public sector's size and behaviour can influence the patterning of private sector roles and behaviour. The cases of South Africa and Argentina (Section 3) illustrate the interaction between their particular configuration of the private sector and social stratification, with consequences for inequality. The case of reform in China (Section 4) illustrates the impact of public sector organisational change on the position of the private sector. A reinvigorated and accessible public sector, sometimes alongside major expansion of social insurance, can reshape private sector roles and behaviour within mixed LMIC health care systems to support moves towards universal health coverage.

Authors' contributions

All authors contributed to design of consecutive drafts, read and commented on all drafts, and provided data and ideas for the article as a whole. MM coordinated the paper, with AC; MM drafted the introductory and overview sections and undertook overall editing. AK and SS drafted the section on India. HZ drafted the section on China. EC drafted the material on Sri Lanka and Argentina. AC drafted the section on Tanzania, Nepal, Ghana and Malawi. All authors approved the final draft.

Conflicts of interest

None stated.

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