

The role of private providers in maternal and child health and family planning services in developing countries

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This paper uses data from the Demographic and Health Surveys program (DHS) in 11 countries in Asia, Africa, and Latin America to explore the contribution of private health care providers to population coverage with a variety of maternal and child health and family planning services. The choice of countries and services assessed was mainly determined by the availability of data in the different surveys. Private providers contribute significantly to family planning services and treatment of children's infectious diseases in a number of the countries studied. This is as expected from the predictions of economic theory, since these goods are less subject to market failures. For the more 'public goods' type services, such as immunization and ante-natal care, their role is much more circumscribed. Two groups of countries were identified: those with a higher private provision role across many different types of services and those where private provision was limited to only one or two types of the services studied. The analysis identified the lack of consistent or systematic definitions of private providers across countries as well as the absence of data on many key services in most of the DHS surveys. Given the significance of private provision of public health goods in many countries, the authors propose much more systematic efforts to measure these variables in the future. This could be included in future DHS surveys without too much difficulty.

Introduction

The role of the private sector in providing health care services in developing countries is of great interest to both international donors and national ministries of health. It is often assumed that private providers will be a more efficient and higher quality alternative to public sector providers and a way to increase overall resources available in the health sector (Griffin 1989). However, even descriptive data about the private sector in most developing countries is lacking. Because the private sector is not regulated, there are few official data sources on its size and composition. Research in this area is nascent and encountering numerous methodological problems in defining and characterizing the private sector.¹

In addition to the paucity of descriptive data about the size and composition of private health care

providers, we know little about the demand for and utilization of the services they provide. A handful of health care demand studies have been completed using data from developing countries, however, these studies have usually estimated the demand for curative health services. Recent exceptions are Schwartz et al. (1988) and Alderman and Gertler (1989).

The purpose of this paper is to describe and analyze the utilization of the private sector for maternal and child health and family planning services in developing countries. Given that these services are considered to be priorities by many countries, is there potential to increase their utilization through the private sector? These questions are best answered by household surveys that can determine the availability of different types of providers and the consumer's choice of

provider. National household surveys are, however, costly undertakings. Therefore, a practical first step is to analyze existing survey data.

This paper uses data from the Demographic and Health Surveys program (DHS) to describe and analyze the role of private health care providers in meeting the public health needs of women and children in developing countries. Using DHS data from 11 developing countries, we compare the utilization of the private sector with that of the public sector for tetanus toxoid vaccination, deliveries, treatment of diarrhoeal disease, treatment of acute respiratory infections, and family planning services.

The paper is organized as follows. First, we begin with a description of the DHS data and the methods used to categorize providers and to analyze the utilization rates. Next, we provide an overview of the health sector in each country, including what is currently known about the size and composition of the private sector. The results are then presented, organized by type of health service. We conclude with some general observations on the variations in utilization of the private sector for public health services between countries and types of service.

Data and methods

The Demographic and Health Surveys program (DHS), funded by the United States Agency for International Development, has assisted more than 30 countries to implement surveys on population and maternal and child health since 1985. Data from the DHS surveys include information on fertility and childhood mortality levels, the use of family planning, attitudes towards fertility and family planning, marital status, breastfeeding, various maternal and child health indicators, anthropometry, and socio-economic characteristics.

The surveys have large national samples of women of childbearing age. Generally, these are valid probability samples of the national population, using strata for rural and urban areas and different regions of a country (see, for example, Institute for Resource Development 1987 and 1989). Data on child health were collected from all children under the age of five. Table 1 summarizes the characteristics of the 11 DHS surveys included in this analysis. These countries were chosen because the data were sufficiently detailed to allow comparisons between the public and the private sector.

However, as seen in Table 2, even in those countries with the best data, the range of data available was limited. In general, the detail found in the family planning questions was not found in the questions for other types of services. Even within the same country survey, 10 providers might be listed as options for family planning while for diarrhoea, only three were listed.² We were unable to use much of the DHS data for this analysis because many countries only defined the level of services utilized (pharmacy, doctor, hospital) and not whether the provider was in the public or private sector.

The basis for classifying providers into public, private, or other was not always obvious or consistent. We relied primarily on the classification adopted by each country when they analyzed the data.³ For consistency, we included traditional providers in the 'other' category. In only a few cases were traditional providers used more than 5% of the time. Schools, churches, family and friends, and others are also included in the 'other' category. Pharmacies, unless otherwise specified in the survey, were classified as private sector. It was also not possible to distinguish between for-profit and not-for-profit private providers.

Other variable definitions also raise questions of comparability between countries. The DHS surveys were derived from a common core questionnaire, modified to reflect the specific environment of each country. Some terms such as 'diarrhoea' were left to the respondent to define. Earlier analysis of the DHS surveys has shown that the accuracy and completeness of reporting diarrhoea varies considerably between countries and between socioeconomic groups (Boerma et al. 1991). Systematic differences between countries in the probability of reporting an illness, could, of course, affect the reported pattern of service use as well. Unfortunately, there is no way to know the direction of such biases, if they exist, on this analysis.

In order to make our analysis comparable between countries, we limited the sample to ever married women (EMW). Unless otherwise specified, the subsamples for each type of service analyzed in this paper are defined as follows:

1. TT vaccination: currently pregnant women who received at least one dose of TT during the current pregnancy;
2. Delivery: all live births in the last five years;

Table 1. Summary of DHS surveys[#] included in analysis

Region/Country	Code	Year	Respondents	Sample Size
Latin America and Caribbean Region*				
Bolivia	BOL	1989	All women, 15–49 years	7923
Colombia	COL	1990	All women, 15–49 years	8644
Guatemala	GUT	1987	All women, 15–44 years	5160
Paraguay	PAR	1990	All women, 15–49 years	6262
African Region				
Botswana	BOT	1988	All women, 15–49 years	4368
Kenya	KEN	1988/89	All women, 15–49 years	7150
Sudan	SUD	1989/90	Ever-married women, 15–49 years	5860
Uganda	UGA	1988/89	All women, 15–49 years	4730
Asia and Near East Region				
Indonesia	IND	1991	Ever-married women, 14–49 years	22 909
Morocco	MOR	1987	Ever-married women, 15–49 years	5982
Tunisia	TUN	1988	Ever-married women, 15–49 years	4184

* Regions as defined by USAID.

[#] See References for publication citations for DHS surveys.

Table 2. Data available by country and type of health service

Country	Tetanus toxoid immunization	Delivery	Treatment of diarrhoea	Treatment of ARI	Family planning
Latin American and Caribbean Region*					
Bolivia	X	X	X	X	X
Colombia					X
Guatemala	X		X		X
Paraguay			X	X	X
African Region					
Botswana	X		X	X	X
Kenya					X
Sudan	X		X	X	X
Uganda	X				X
Asia and Near East Region					
Indonesia		X	X	X	X
Morocco		X	X		X
Tunisia		X	X		X

* Regions as defined by USAID.

3. Treatment of diarrhoea: all live children under the age of five who had diarrhoea in the last two weeks and were taken for treatment;
4. Treatment of acute respiratory infections: all live children under the age of five who had cough and/or fever in the last two (or four) weeks and were taken for treatment;
5. Family planning: women currently not pregnant who are currently using modern contraceptive methods (in Indonesia, Tunisia, and Morocco for currently married women only).

A major limitation of the DHS data is the absence of substantive indicators of family income. Additionally, there are no data on price or quality of health care services, which obviously affect utilization and choice of provider. Therefore, the analysis that can be done is primarily descriptive. When possible, the samples were weighted in order to be representative of the national populations.

Economic and health sector situations in the study countries

The countries included in this analysis vary greatly in both their levels of economic development and the structure and financing of their health care systems. Table 3 compares the size, urbanization, income, and infant mortality rates of the countries. With the exception of Botswana, the African countries are less urbanized and have lower GNPs per capita than the countries in the other regions.

With these characteristics, one might expect that private sector utilization would be lower in the African countries – constrained by both supply (insufficient population concentration for multiple providers) and by demand (insufficient resources to spend on health care). Preliminary research by Hanson and Berman (1996), however, suggests that while income is an important determinant of total quantity of services provided, it is unrelated to the proportion of providers that are private. Data in Table 4 support this finding; while the quantity of physicians and hospital beds per capita is lowest in the African countries and higher in the Latin American countries, the proportion of providers in the private sector is higher in Africa for the few countries (physicians – 1 country, hospital beds – 2 countries) where data are available.

Table 3. Basic country indicators

Country	Population (millions)	Percent urban	GNP per capita (US \$)	Infant mortality rate
Latin America and Caribbean*				
Bolivia	7.3	52	650	83
Colombia	32.8	71	1260	23
Guatemala	9.5	40	930	60
Paraguay	4.4	48	1270	35
African Region				
Botswana	1.3	29	2530	36
Kenya	25.0	24	340	45
Sudan	25.8	22	NA	84
Uganda	16.9	11	170	107
Asia and Near East Region				
Indonesia	181.3	31	610	36
Morocco	25.7	49	1030	43
Tunisia	8.2	55	1500	21

Notes: Data are for 1991

NA = data not available

Source: World Bank 1993

*These are regions as defined by USAID.

The goal of our analysis was to examine the overall level of utilization of the private sector for each of the services described above and to compare the level of use between countries and between services within a country. In addition, we also explored the variation in use of the private sector by selected socioeconomic characteristics. The characteristics we chose were place of residence (urban or rural); mother's age (in 5 year groups); mother's education (non, primary, secondary, and higher); and mother's current employment status (working or not working).

While we have little data on the size of the private sector, Table 5 illustrates that private health expenditure is significant in most of the countries included in this analysis. In the Sudan, 85% of total health expenditure is estimated to be private expenditure. The amount of private expenditure as a percentage of total health expenditure was below 40% in only two countries (Kenya and Tunisia). However, little is known about what types of services people are purchasing in the private sector. While this analysis has no information on expenditure, it does attempt to describe the extent to which the private sector is used for maternal and child health and family planning service.

Table 4. Public and private provision of health care in study countries

Country	Physicians per 1000 pop. (88–92) ^a	Percentage physicians in private sector	Inpatient beds per 1000 pop. (85–90) ^a	Percentage of beds in private sector
Latin America and Caribbean Region				
Bolivia	0.48	NA	1.3	13 ^b
Colombia	0.87	NA	1.5	16 ^c
Guatemala	0.44	NA	1.7	18 ^b
Paraguay	0.62	5 ^c	1.0	11 ^b
African Region				
Botswana	NA	NA	NA	NA
Kenya	0.14	40 ^c	1.7	31 ^c
Sudan	0.09	NA	0.9	NA
Uganda	0.04	NA	0.8	57 ^d
Asia and Near East Region				
Indonesia	0.14	6	0.7	31 ^e
Morocco	0.21	50 ^f	1.2	NA
Tunisia	0.53	36 ^c	2.0	NA

Notes: a: World Bank 1993
 b: PAHO 1990
 c: Hanson and Berman 1996
 d: Delius and Lule 1993
 e: Griffin 1992
 f: World Bank 1985

NA: data not available

Table 5. Health care expenditure in study countries

Country	Total health expenditure per capita (US \$ - 1990)	Private expenditure as a percentage of total
Latin America and Caribbean Region		
Bolivia	25	40
Colombia	50	55
Guatemala	31	43
Paraguay	37	57
African Region		
Botswana	NA	NA
Kenya	16	37
Sudan	12	85
Uganda	6	53
Asia and Near East Region		
Indonesia	12	65
Morocco	26	61
Tunisia	76	33

Source: World Bank 1993

NA: data not available

Levels of private sector use: by intervention and by country

This section summarizes the results of tabulations of usage patterns of private providers for the different interventions covered by the DHS surveys. In addition, we review patterns within countries to determine whether there is a consistent pattern of high or low use for other services and when private use is high or low for some services.

Figures 1–4 present the percentages of respondents reporting service use who received care from public, private, and other types of providers. These utilization probabilities are conditional on a prior decision to use services or seek treatment and may not reflect potential utilization patterns that might occur if financial or informational constraints were removed.

Figure 1 displays the results for source of maternal tetanus toxoid vaccination, which was reported in five countries. In all of them more than three-quarters

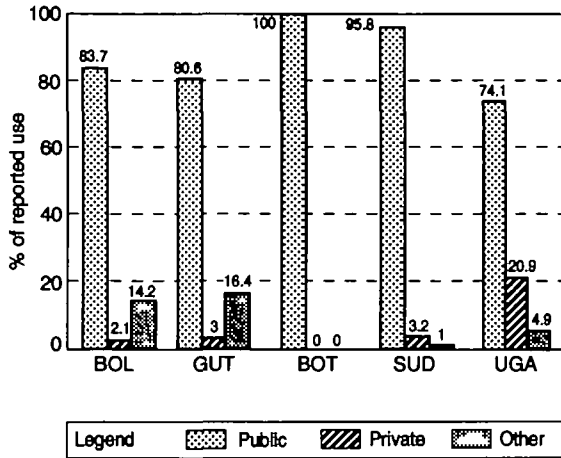


Figure 1. Source of TT vaccination

of vaccinations were obtained from public providers. Only Uganda reported significant private provision of this service, at 20%. This may reflect a lack of public sector provision after the years of civil unrest in that country.

Data on use of pre-natal care was only available for Morocco and Tunisia. They reported 48.2% and 25% use of private providers respectively for that service, not an insignificant level.

The survey questions concerning deliveries mainly identified the location of the delivery in terms of public or private clinics and hospitals or home

delivery. However, this information does not provide a firm indication of who attended the delivery and whether they did so in a public or private capacity. For example, it is possible that a private physician or midwife would attend delivery in a public hospital. A publicly employed provider might also attend in a private facility in a private practice role. A public or a private provider could attend a home birth. Most of the home births were probably attended by traditional birth attendants, who are generally private practitioners although they may receive government-financed training and supplies. In Indonesia, home births might also be attended by publicly employed midwives, though they might frequently do this in a private capacity, receiving fee-for-service payment.

Figure 2 indicates that, in three of the four countries providing data on deliveries, home births accounted for more than 60% of all live births reported in the last five years. Facility-based births dominated only in Tunisia, where public facilities accounted for more than 60% of the total. Thus, it is likely that private providers are the dominant source of birth attendance in these countries.

The data on treatment of diarrhoea vary substantially in detail from country to country. For example, in Indonesia, 12 alternative sources of diarrhoea treatment were noted, including four levels of government provider (village health worker through to hospital), 7 types of private providers ranging from drug shops to private hospitals, and other. In contrast, for Kenya and Uganda, the question listed only private doctor,

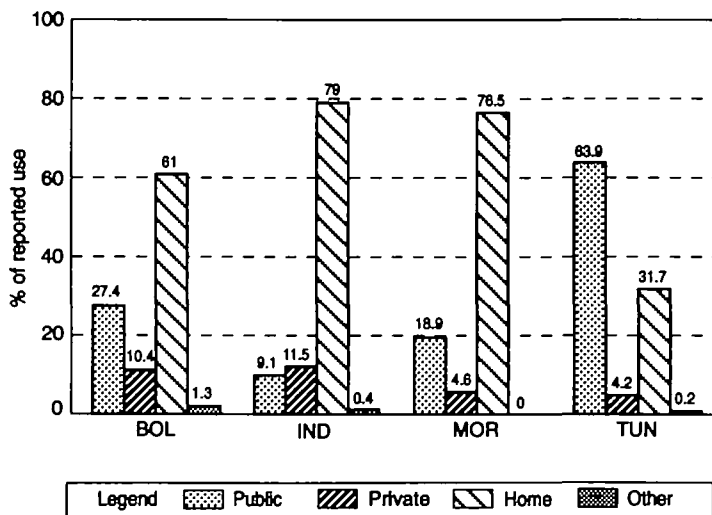


Figure 2. Place of delivery

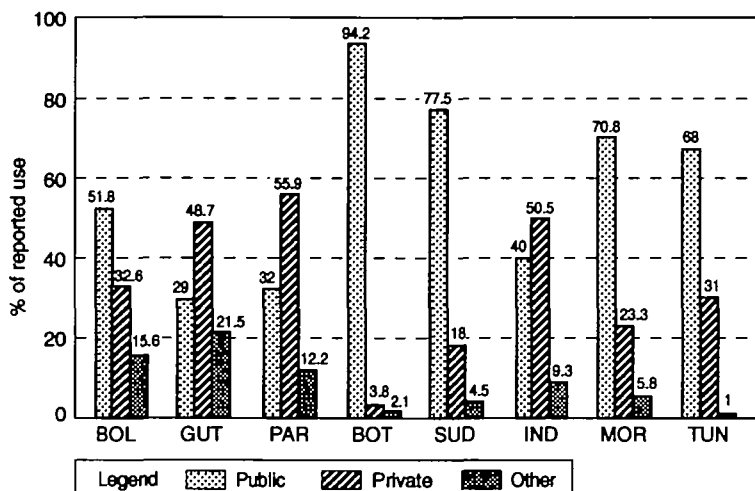


Figure 3a. Source of treatment for diarrhoea

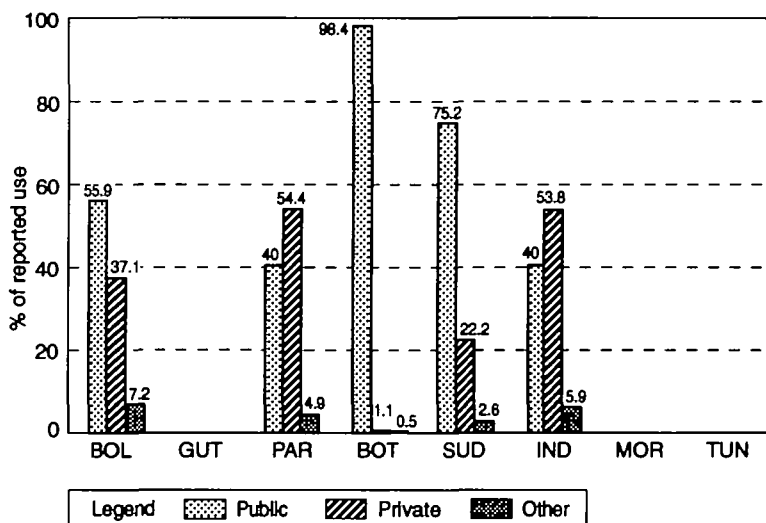


Figure 3b. Source of treatment for ARI

hospital/clinic, and other, making it impossible to identify private providers (these data were not used). Figure 3 shows the breakdown of sources of treatment for diarrhoea in terms of public, private, and other types of providers. It is likely that 'other' includes private providers as well, although probably those with lesser qualifications.

The results from the 8 countries are split. In four countries: Botswana, Sudan, Morocco, and Tunisia, public providers account for more than 60% of the treated diarrhoea cases, with Botswana close to 100%. In Bolivia, public providers account for just

over half the cases, 52%. In the other three countries, Guatemala, Paraguay, and Indonesia, private practitioners and other account for more than 60%.

The questions on source of treatment for childhood acute respiratory infections were similar to those for diarrhoea and are also presented in Figure 3. Data on public and private sector treatments were only available for five countries, all of which had information on diarrhoea as well. The patterns were fairly similar. In Botswana and Sudan public providers were dominant. In Bolivia, just over half (56%) of treated ARI was taken to public providers. In Paraguay and

Indonesia private providers were a more frequent source of treatment.

Figure 4 presents the results for source of family planning services. Since this was one of the core questions of the DHS, data are available for all countries we reviewed. They follow a predictable pattern. For the Latin American countries, non-government providers are the dominant source of family planning services, over 60% in all cases. This may be explained by the fact that many Latin American governments have been reluctant to promote or provide family planning services given the political influence of the Catholic Church, which opposes such programmes. In these countries, it may fall to not-for-profit providers to supply this 'public good'. In contrast, in much of Africa, the Middle East, and Asia family planning has been predominantly a government initiative. In these countries, a large non-government provision role was reported from Uganda and Sudan (47% and 42% of users respectively), with Kenya and Indonesia reporting somewhat less private provision.

Overall, the results support expected patterns. For the more 'public goods' type of service (those with important market failures on the demand side such as immunization), private providers play a minor role in most countries reviewed. These public goods are services for which private demand would be expected to be weak, at least at the advent of making the service or technology available. This corresponds with

limited private supply of such services, hence low reported levels of actual private provision.

In contrast, the treatment of symptomatic and common illness is a major source of private demand for health care – in fact one of the major functions of most private providers, including those without formal medical qualifications. For such services, private provision is more common. We should expect to find similar results for services treating many common diseases, including those which are the focus of intensive public health campaigns, such as tuberculosis and malaria.

Attendance at deliveries presents a more complex case. There is significant private demand for birth attendance, although it may not be for modern clinical skill. There is also significant public provision, in the form of medical and midwife personnel. Government also intervenes to modify private provision in terms of training and supplies for traditional birth attendants. Unfortunately, the DHS data do not permit an assessment of the relative roles of different public and private providers in birth attendance. They do, however, indicate strongly that the main venue of such provision is the home.

Another way of looking at the DHS data would be in terms of patterns within countries. Is a low or high degree of private service provision consistent across different types of services or is the private provision

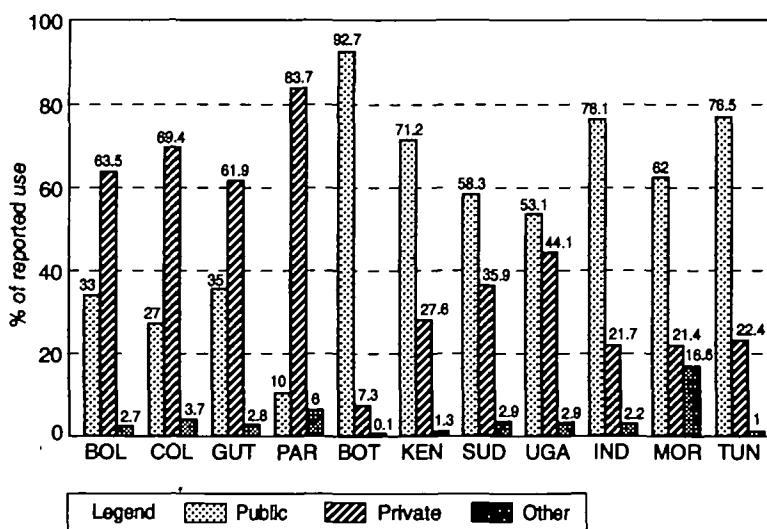


Figure 4. Source of family planning services

role more haphazard? Data were available for 8 countries with at least three different types of services reported: one country had five services, five countries had four services, and two countries had three services. For simplicity, the data were presented as the proportion of service use at all non-government providers, i.e. combining private and 'other'.

Figures 5 and 6 present results for two groups of countries, those with fairly consistent levels of private provision across the different services for which data were available (Group I) and those with substantial variation across services (Group II). In Group I, Botswana and Tunisia both report low levels of non-government service use across all the services

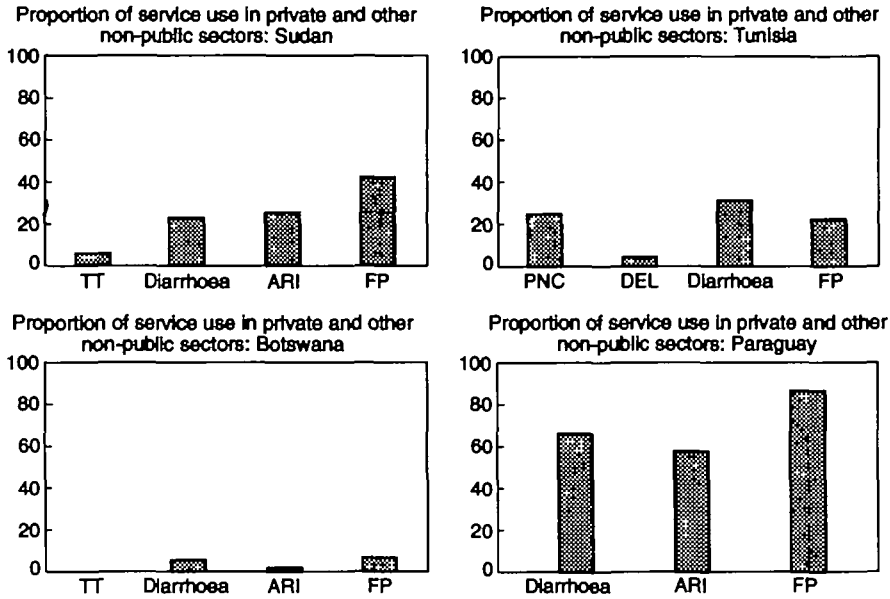


Figure 5. Variation in private provision across countries - Group 1

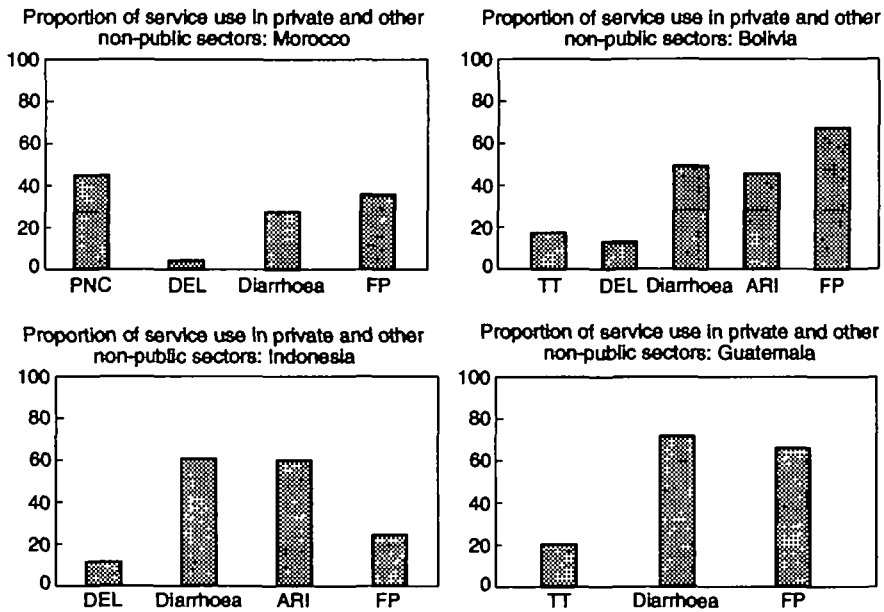


Figure 6. Variation in private provision across countries - Group 2

estimated. In contrast, Paraguay reports fairly high levels of non-government service use.

In Group II (Figure 6) there is substantial variation. Indonesia reports a high level of public provision for family planning, but not for other services (NB: in these figures deliveries are presented for type of location not type of provider, as discussed above). In Bolivia, TT immunization is predominantly government provided, treatment of childhood illness has significant private sector provision, and family planning is largely privately provided. Guatemala also has a high level of public provision for TT immunization, but much lower levels for diarrhoea treatment and family planning services.

These results do not suggest a universal pattern of public and private roles. In some countries public provision dominates the more public goods, while private providers remain important for a wide range of privately demanded services. However, country-specific institutional factors also influence public and private roles, so that public or private providers might step in to fill market gaps left, for various reasons, by the other party.

The role of individual and household factors in preference for private providers

As noted above, the DHS collect data on a variety of individual demographic and socioeconomic

characteristics. Most of these apply to the main DHS respondents, mothers and women of child-bearing ages. Sex of the child is also available for services provided to children. In terms of demographic measures, we analyzed women's age and child's sex. Household socioeconomic status is not well measured in the DHS. No direct measures of economic status are available, such as income, expenditure, or substantial measures of household assets. Socioeconomic factors must therefore be represented by associated measures. We selected women's education, women's reported employment status (a dichotomous variable of working or not), and urban or rural location of residence as those most likely to reflect behavioural and socioeconomic differences, based on experience with other surveys. While we recognize that these are crude measures, particularly on the household economics side, they provide some useful insights.

Table 6 summarizes the association of these variables with the probability of use of private providers for the different interventions. The table indicates whether consistent relationships appear across all the countries reporting results for each type of intervention. Overall, urban residence, higher levels of education, and formal employment are positively associated in varying degrees with use of private sector services for all the interventions reviewed. This corresponds well with the general observation that private service supply is greater in urban areas and more likely to reach those of higher socioeconomic status. These associations, however, do not indicate that private

Table 6. Effect of demographic and socioeconomic individual variables on probability of private provider use

	# of countries reporting	Demographic variables		Socioeconomic	
		Mother's age	Child sex	Mother working	Mother's education
Tetanus Toxoid	4	No effect	NA	Africa (2) + Latin America (2) -	+
Place of delivery (private facility)	4	Higher in mid child-bearing ages	NA	+	+
Diarrhoea treatment	8	No effect	No effect	+	+
ARI treatment	5	No effect	Slightly higher for females in Latin America	+	+
Family planning	11	No effect	NA	+	+

Notes: NA means measure not applicable.

'+' signifies variable positively associated with probability of private provider use.

'No effect' means no systematic effect discernable across countries reporting. Effect might be present in individual countries, see text.

service provision is insignificant in rural areas or for households with women with less schooling, which may make up a large portion of the high-risk groups targeted for interventions like diarrhoeal disease control. As discussed above, the importance of these findings will vary with the overall level of private provision, which is greater for those 'non-public' goods for which there is substantial private demand. This is particularly important for the treatment interventions relating to childhood illnesses: diarrhoea and ARI. Each of the interventions will be discussed in turn in the following paragraphs.

TT immunization is mainly provided by the public sector. The limited non-government provision shows some evidence of bias towards urban households with better educated mothers, although this is probably not of great significance in the overall coverage of high-risk groups with TT vaccine (Berman et al. 1989 provides evidence from Indonesia of how effectiveness of TT immunization may increase with better coverage of rural women with lower levels of education.)

Analysis of delivery services focuses on deliveries done in private facilities, since we cannot identify public or private provision in those reported as home deliveries. Private facility deliveries made up between 4% and 11% of all deliveries reported in the four countries and were biased towards urban areas and better educated mothers. The only association found between private sector use and women's age was for place of delivery, with women in the middle child-bearing ages (25-34) being more likely to use private facilities. This may include associations with income (younger women may be poorer on average) and parity.

The two treatment interventions, diarrhoea and ARI, showed high levels of government provision in the African (Botswana and Sudan) and Middle Eastern (Tunisia and Morocco) countries reporting. The former may reflect lack of supply, while the latter may be better interpreted as the result of more systematic public provision policies. Non-government provision was dominant in Indonesia, Bolivia, Paraguay, and Guatemala. Across all these countries there was a general tendency for private provision to be more prevalent in urban areas and for households with employed and better educated mothers. However, the differences were not that large, as shown in Figures 7 and 8. In other words, private provision of these services is substantial even for rural and lower socioeconomic group households

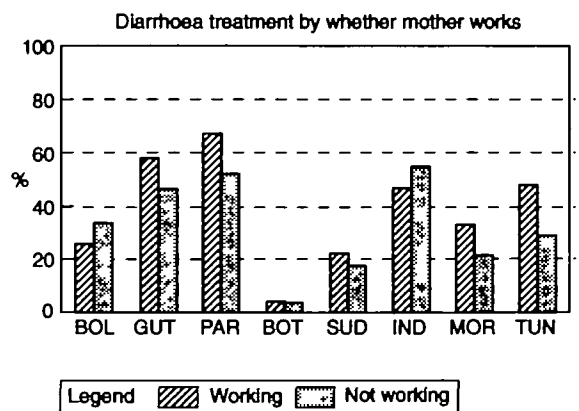
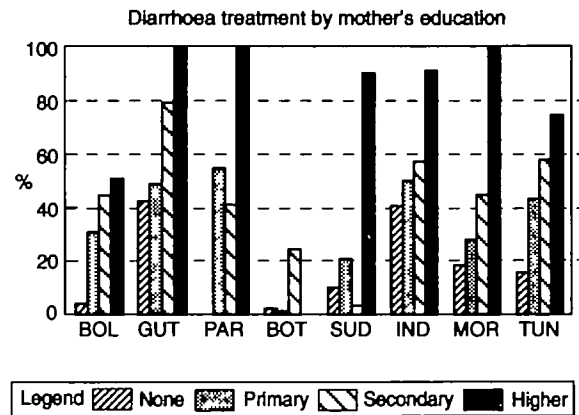
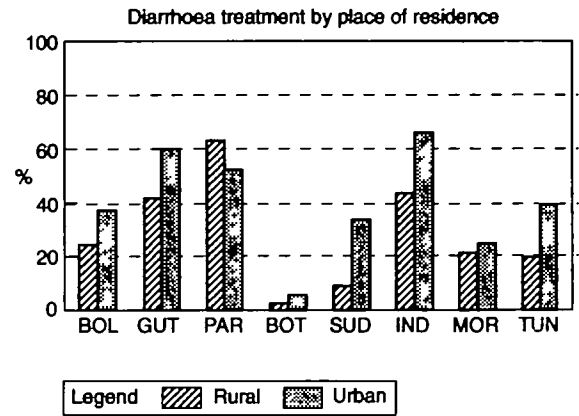


Figure 7. Percentage treatment of diarrhoea in private sector by place of residence, mother's level of education, and mother's work status.

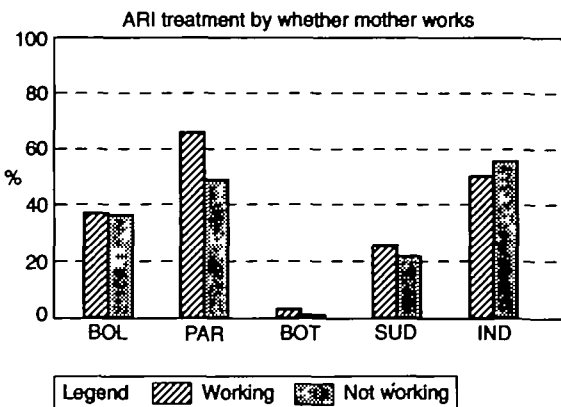
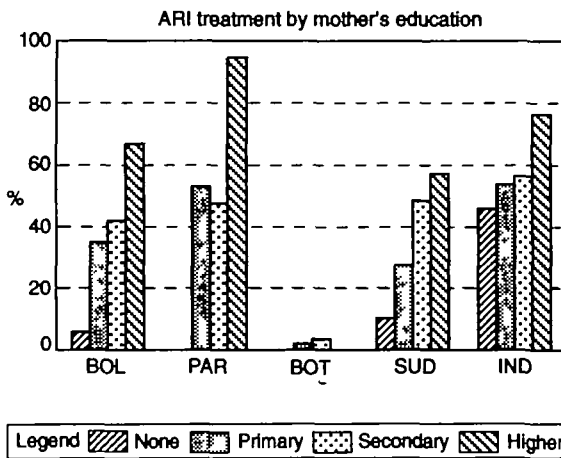
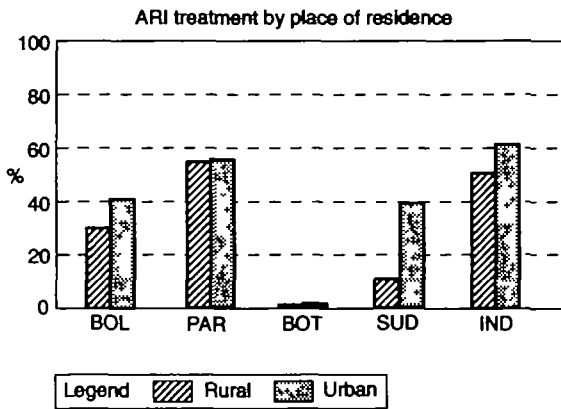


Figure 8. Percentage treatment of ARI in private sector by place of residence, mother's level of education, and mother's work status

and may merit more attention in developing intervention programmes.

For family planning services, the pattern of public and private provision shows strong regional variation, with private provision dominant in Latin America and public provision dominant in the other countries. Although the levels of use differ, the association of private sector use with urban residence, female education, and employment is positive and similar across all the countries. We found no systematic link across countries between private sector use and type of contraceptive provided.

Conclusions

Using the available DHS data from 11 developing countries, we analyzed the role of the private sector in meeting the needs for maternal and child health and family planning. These services are considered to be priorities by most countries, however, little is known about where women seek these services for themselves and for their children. As many countries move toward a larger role for the private sector in the provision of health care services, they must address the realistic potential for the private sector to provide these public health services. A first step in this process is to determine the extent to which these services are currently provided by the private sector.

This analysis has shown that, overall, private sector use reflects expected patterns: lower for the more 'public' goods with significant demand side market failures such as immunization and family planning, and higher for more private goods such as treatment of childhood diseases. In some countries, particularly those in Latin America, and Indonesia, the levels of private sector utilization are quite high; often more than half of the treatments for diarrhoea and ARI are provided in the private sector. In contrast, vaccinations continue to be provided almost entirely by the public sector. An insufficient number of countries had data on deliveries or prenatal care for us to draw many conclusions.

These patterns may be significantly modified by country-specific conditions, affecting both demand and supply. For example, in Latin America, the lower level of state action in family planning has resulted in a dominance of private provision for that service. In Africa, constraints to both private demand and supply related to general economic conditions may

limit private provision, even of illness treatments. Where incomes permit, for example in Botswana, or Tunisia and Morocco, policies to assure public provision of service also significantly affect the public-private mix of provision.

Also, private provision is not monolithic. In many countries it includes a sizeable not-for-profit sector as well as unqualified providers. Not-for-profit private providers may view provision of 'public goods' as part of their mission. Not all private providers may contribute to service provision of high social priority. Unfortunately, the level of detail available in the DHS surveys did not permit analysis of this issue.

Does the evidence suggest private provision may be a significant factor in the priority public sector health and population agenda? The answer from this review is a qualified yes. To the extent that primary curative interventions offer potential for cost-effective health improvements, it is likely that private providers are an important source of services in many countries. However, based on the DHS data we can only describe use patterns for two childhood diseases. More data are needed on significant adult and reproductive and health morbidities. For the more 'public' goods of immunization and antenatal care, the limited evidence suggests the role of private providers remains small. In family planning, private provision is significant in some countries, depending on local conditions.

The analysis that is possible with existing DHS data is very elementary and omits many important variables. For example, without information on the quality of public and private services, one cannot determine whether high levels of private use enhance the overall coverage with priority services or are instead a detriment to health. National data on the overall supply of private services are generally lacking, making it impossible to determine the relative importance of private sector use in national health care systems, and the composition of private providers in terms of qualifications and whether they are for-profit or not-for-profit.

Price variables for providers and important individual and household characteristics such as income and perceptions of quality also limit our ability to explain different patterns of public and private sector use. The descriptive analysis we have done is suggestive of behavioural factors operating on both the supply and

demand side, but is insufficient to evaluate it or to recommend appropriate actions. It would be important in the design of public interventions to understand how health care markets for priority services operate. Are public and private providers mainly substitutes, or are there important complementarities which could be exploited?

A further constraint has been the limited and ad hoc inclusion of health-related questions in the DHS. Although the DHS is the most significant global effort to date to study maternal and child health services cross-nationally, health-related questions have been applied unevenly. This limits the potential for comparative analyses. The difficulty is compounded by inadequate definitions of key terms, such as that for 'public' and 'private' provider and different types of provider within these categories.

There is growing recognition internationally that privately provided health care is widespread and significant in reaching the general population, including the poor and those at risk for many priority problems. Privately provided services should contribute more to national health goals – especially where national resources are limited and private providers already comprise an acceptable source of services to much of the population. Wise policies to derive more benefit from these national resources require better understanding of what private providers provide, to whom, and at what level of quality, price and cost. The DHS can make an important contribution to this knowledge. Further analysis of the existing surveys is certainly needed, along with improvement of future surveys.

Endnotes

¹ Many of these issues are discussed in Berman and Rannan-Eliya (1993).

² The 1989 DHS survey for Kenya, for instance, lists the following providers as family planning options: government hospital, government health centre, Family Planning Association of Kenya, mobile clinic, field educator, pharmacy/shop, private hospital, mission hospital/dispensary, employer's clinic, private doctor, traditional healer, friends/relatives, and other. Four provider options were included for diarrhoea: private doctor, hospital/clinic, traditional healer, and other.

³ In nearly all countries, the data on family planning were recorded into public, private, and other categories. It was possible to work backwards and determine which providers were coded as public, and which were coded as private. We then assumed the same classification for the other types of services. While this gives us consistency within a country, we cannot be sure of the consistency between countries.

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