



## Investigating the affordability of key health services in South Africa

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### ARTICLE INFO

#### Article history:

Available online 12 December 2012

#### Keywords:

Affordability  
Access  
Obstetric services  
Tuberculosis  
Anti-retroviral treatment  
Service costs  
Ability-to-pay

### ABSTRACT

This paper considers the affordability of using public sector health services for three tracer conditions (obstetric care, tuberculosis treatment and antiretroviral treatment for HIV-positive people), based on research undertaken in two urban and two rural sites in South Africa. We understand affordability as the 'degree of fit' between the costs of seeking health care and a household's ability-to-pay. Exit interviews were conducted with over 300 patients for each of the three tracer conditions in each of the four sites (i.e. a total sample of over 3600). Total direct costs for the service used at the time of the interview, as well as other health related costs incurred during the preceding month either for self-care or the use of plural providers were assessed, as were a range of indicators of ability-to-pay. The percentage of households incurring direct costs exceeding 10% of household consumption expenditure and those borrowing money or selling assets as a mechanism for coping with the burden of direct costs were calculated. Logistic regressions were also conducted to identify factors that were significantly associated with these indicators of affordability. There were significant differences in affordability between rural and urban sites; costs were higher, ability-to-pay was lower and there was a greater proportion of households selling assets or borrowing money in rural areas. There were also significant differences across tracers, with a higher percentage of households receiving tuberculosis and antiretroviral treatment borrowing money or selling assets than those using obstetric services. As these conditions require expenses to be incurred on an ongoing basis, the sustainability of such coping strategies is questionable. Policy makers need to explore how to reduce direct costs for users of these key health services in the context of the particular characteristics of different treatment types. Affordability needs to be considered in relation to the dynamic aspects of the costs of treating different conditions and the timing of treatment in relation to diagnosis. The frequently high transport costs associated with treatments involving multiple consultations can be addressed by initiatives that provide close-to-client services and subsidised patient transport for referrals.

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### Introduction

The issue of affordability of health services has received increasing attention over the past two decades. Initially the focus was on what are termed 'cost of illness' studies. These studies quantified the direct, and sometimes also the indirect, costs related to health service use, usually focussing on specific diseases such as malaria, lymphatic filariasis and HIV/AIDS. These studies were often used for advocacy purposes to highlight the sometimes considerable cost burden placed on households by certain diseases,

and were used to motivate for increased public and global spending on preventing and treating these diseases.

More recently, there has been a growing literature comparing the direct costs of health care to households' ability-to-pay through assessing catastrophic levels of health care spending. These studies use a reference point of either 10% of household income consumed by health care expenditure (Prescott, 1999; Ranson, 2002) or health care costs exceeding 40% of *non-food* household expenditure (Xu et al., 2003) as being considered catastrophic. A related set of studies (that assess direct costs relative to ability-to-pay) has focused on estimating the number of households that have been impoverished (or pushed below the poverty line) due to incurring the direct costs of health care (Van Doorslaer et al., 2006; Wagstaff & van Doorslaer, 2003). The studies on catastrophic spending levels and impoverishment impact have been extensively used in arguing

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for moving away from out-of-pocket payments for health care towards pre-payment funding mechanisms (Xu, Evans, Carrin, & Aguilar-Rivera, 2005; Xu et al., 2006).

A key limitation with many of these studies is that they have either not evaluated the direct costs of health care relative to households' ability-to-pay in the case of the 'cost of illness' studies or have used what are essentially arbitrary reference points for determining whether or not health care expenditure is catastrophic for a household. More recent longitudinal studies have highlighted that some households that incur health care expenditure that is a relatively high proportion of total household income (as high as 28%) manage to cope with this cost burden, including some households with relatively low socio-economic status, while others with direct health care costs as low as 4% of household consumption expenditure become impoverished (Goudge et al., 2009). There is a growing awareness that it is important to be more explicit about the conceptualisation of ability-to-pay, catastrophic spending levels and affordability (Russell, 1996, 2004).

Russell has particularly contributed in this regard, highlighting that in order to mobilise resources to meet the direct costs of health care, households "... may sacrifice other basic needs such as food and education with serious consequences for the household or individuals within it. The opportunity costs of payment make the payment 'unaffordable' because other basic needs are sacrificed" (Russell, 1996). This highlights the need to consider a household's ability-to-pay in the context of not only the level of a household's income but also other demands on that household's budget. Linked to this understanding of ability-to-pay, the term catastrophic has been defined as expenditure levels that are "likely to force households to cut their consumption of other minimum needs, trigger productive asset sales or high levels of debt, and lead to impoverishment" (Russell, 2004).

These conceptual observations stimulated research on how households mobilise resources to cover health care costs. While some households are able to use savings, others face the need to reduce consumption, particularly food (Rugalema, 1998; Tibajuka, 1997). Other frequent coping strategies are the sale of assets (Kabir, Rahman, Salway, & Pryer, 2000; Sauerborn, Adams, & Hien, 1996; Wilkes, Hao, Bloom, & Xingyuan, 1997) and borrowing, either from family and friends or from a money lender (McPake, Hanson, & Mills, 1993; Nahar & Costello, 1998).

One could regard the two different approaches to assessing affordability of health care costs respectively as being:

- Normative in the case of the thresholds for determining catastrophic expenditure, as they imply that household ought to be able to find the costs affordable if they are below the percentage of household expenditure threshold (or unaffordable if above the threshold); and
- Positive in the case of households that have to borrow or sell assets in order to cope with service costs and hence, face serious affordability constraints.

Another constraint of many of the earlier studies is that they have often focused on a single disease category. From a review of studies focussing on individual diseases, Russell (2004) concluded that different diseases impose different direct and indirect cost burdens and have different risks for household livelihood sustainability. However, there are very few instances where affordability issues for different diseases have been evaluated within a single study (Perera & Gunatilleke, 2004). A recent longitudinal study indicated that persistent conditions requiring frequent health service visits (such as TB and HIV) impose particularly high cost burdens (Goudge et al., 2009).

This paper considers the issue of affordability in relation to the use of public sector health services for three tracer conditions (obstetric care, tuberculosis (TB) treatment and antiretroviral treatment (ART) for HIV-positive people), based on research undertaken in two urban and two rural sites in South Africa. We understand affordability to relate to the interaction, or 'degree of fit', between the costs of seeking health care and household's ability to pay (Penchansky, 1977). These tracer conditions are particularly problematic for South African policy makers in their attempts to achieve the Millennium Development Goals. In addition, although all of these services should be provided with no service fees at public facilities in South Africa, the nature of the conditions differ in ways that may involve different impacts on affordability. An important focus of this paper is the comparison of three services that have different characteristics, particularly in terms of the period over which costs will be incurred. Obstetric care represents once-off, or at least very infrequent, costs with the major costs occurring well after the time of diagnosis – hence providing an opportunity to plan for meeting the costs of the delivery. TB requires frequent service use, but this is generally over a limited period of time (usually 6–9 months, or longer in the case of drug resistant TB) with the expectation of recovery. ART not only requires frequent service use, but is also lifelong. Hence the tracer conditions present different types of affordability challenges to individual and households and provide a basis for gaining insights into how the 'fit' between health care costs and households' ability-to-pay varies according to the type of health service needed. We seek to explore whether these differences result in different impacts on individuals' and households' affordability of using care. If so, policies aimed at improving affordability may need to be customised to the nature of the particular conditions. We are particularly interested in identifying the characteristics of households that experience difficulties in affording health care. As highlighted in the literature on household coping strategies, the clearest indicator of affordability difficulties is borrowing and/or sale of assets to cover the direct costs of using health services. We also explore the factors that make health service use affordable for some households, i.e. able to avoid borrowing or asset sales. We recognise that this is at the extreme end of the spectrum of affordability, but our data do not allow consideration of the impact of health care spending on other household budget items. Another important feature of our analysis is the comparison of affordability across rural and urban sites.

## Methods

### Sampling

Four health sub-districts in different provinces were selected as sites for this research, two in urban areas (Mitchells Plain in the Western Cape province and Soweto in Gauteng) and two in rural areas (Bushbuckridge in Mpumalanga and Hlabisa in KwaZulu-Natal). The sampling of these sites was designed to reflect different geographic locations (rural–urban mix) and to allow for differences in governance contexts, given that provinces in South Africa have considerable decision-making autonomy in the provision of health services. Sampled sub-districts also needed to have at least one hospital providing comprehensive essential obstetric care (CEOC), including caesarean sections, at least two facilities providing ART and at least two facilities providing TB treatment. Key officials in the national and provincial health departments were consulted in finalising the selection of sub-districts.

A two-stage sampling approach was used in each sub-district, first selecting a representative sample of health facilities, then within these facilities, a representative sample of users. All facilities

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