



Does Free Public Health Care Increase Utilization and Reduce Spending? Heterogeneity and Long-Term Effects

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Summary. — Zambia removed user fees in publicly supported-government and faith-based-health facilities in 54 out of 72 districts in 2006. This was extended to rural areas of previously unaffected districts in 2007. The natural experiment provided by the step-wise implementation of the removal policy and five waves of nationally representative household survey data enables us to study the impact of the removal policy on utilization and household health expenditure. We find that the policy increased overall use of health services in the short term and the effects were sustained in the long term. The increases were higher for individuals whose household heads were unemployed or had no or less education. The policy also led to a small shift in care seeking from private to publicly supported facilities, an effect driven primarily by individuals whose household heads were either formally employed or engaged in farming. The likelihood of incurring any spending reduced, although this weakened slightly in the long term. At the same time, there was an upward pressure on conditional health expenditure, i.e., expenditure was higher after removal of fees for those who incurred any spending. Hence, total (unconditional) household health expenditure was not significantly affected.

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Key words — user fees, utilization, medical spending, long term, heterogeneity, Zambia

1. INTRODUCTION

Health care was freely provided in many low- and middle-income countries (LMIC) before the mid 1980s. However, an increasing number of countries started introducing charges at the point of use, known as user fees (Akin, Birdsall, & De Ferranti, 1987; Yates, 2009), a wave of enthusiasm generated by an influential World Bank report (Akin *et al.*, 1987). Importantly, LMIC were facing severe health care financing challenges that affected the quality of health services. The two main arguments for user fees were that they would provide extra resources to the health system and act as a rationing device, preventing the frivolous use of health services. In practice, although user fee revenues accounted for 5–12% of total health system revenue at the central level, they accounted for 50–100% of non-salary operating costs at the facility level in most countries (Gilson, 1997). In Zambia, they constituted 27.6–80.7% of facility non-salary operating costs (Cheelo *et al.*, 2010). These resources were used to supplement salaries, finance community activities such as outreach, hire additional staff, and purchase supplies (Carasso, Lagarde, Cheelo, Chansa, & Palmer, 2012).

Apart from the health financing role, there has been debate on the demand effects of user fees, polarized by two sets of findings. The first set examines the short-term effect of introducing user fees (Asfaw, von Braun, & Klasen, 2004; Blas & Limbambala, 2001; Mwabu, Mwanzia, & Liambila, 1995) or removing them (Masiye, Chitah, & McIntyre, 2010; Xu *et al.*, 2006) and finds that user fees deter access to care. But whether these changes in demand are due to frivolous use remains an open question. The second set of findings however shows that user fees do not necessarily reduce, but increase, the utilization of health care when accompanied by quality improvements (Akashi, Yamada, Huot, Kanal, & Sugimoto, 2004; Barber, Bonnet, & Bekedam, 2004; Litvack & Bodart, 1993; Mataria, Luchini, Daoud, & Moatti, 2007; Soucat

et al., 1997), which are made possible by the extra resources from user fees. Both sets of findings can be justified from a theoretical standpoint; the overall demand effect of changing the price of care, through user fees, depends on the responsiveness of demand to changes in price on one hand, and changes in quality on the other hand, and these pull in different directions.

However, no study has shown reductions in utilization when fees are removed to complement studies that find increases in utilization when fees are introduced. This is despite indications that removal of user fees was accompanied by reduction in quality measures, e.g., drug availability, health worker motivation, etc., in most countries (Masiye *et al.*, 2010; Meessen *et al.*, 2011). A possible explanation is that although these quality measures reduced, they did not reduce enough to dilute the positive demand effects of user fee removal, chiefly because some commitments were made to compensate health facility revenue loss. However, these commitments were either delayed, not met, or if met, they were not sustained (Meessen *et al.*, 2011), underscoring the importance of studying long-term policy effects. An alternative explanation is that individuals in these contexts, at least in the short-term, are more sensitive to price reductions than they are to reductions in quality. In markets where price is more important than quality, health services are generally of poor quality (Das, Hammer, & Leonard, 2008).

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There are calls to move away from user fees toward health care financing systems based on pooling, such as social health insurance- or tax-based systems (World Health Organization, 2010), so as to achieve universal health coverage (UHC).¹ Yet others contend that LMIC have limited capacity to implement such systems because of a high informal sector share which makes it hard to collect tax or insurance contributions (Bitran, 2014; Wagstaff, 2010). Although policies exempting the poor from user fees have been historically unsuccessful, the Cambodian experience shows that a successful user fee policy can be implemented alongside a well-targeted equity fund (Bigdeli & Ir, 2010; Meessen, Damme, Tashobya, & Tibouti, 2007). The challenge again is that governance structures are weak in most LMIC (Leonard, Bloom, Hanson, O'Farrell, & Spicer, 2013) and for equity reasons, the solution boils down to removing user fees for all. However, there is doubt on whether removing user fees would enable the provision of care that improves health, even when demand rises, if no compensating supply side measures are taken to maintain or improve quality (Campbell, Oulton, McPake, & Buchan, 2011). Evidence shows that following user fee removals, individuals visiting public facilities had to rely on the private market for things such as drugs (Hadley, 2011; Nabyonga Orem, Mugisha, Kirunga, Macq, & Criel, 2011).

Under such supply side constraints, financial risk may remain high even with user fee removal. Additionally, a market for informal payments may be created. These payments could make up for the loss in incentives provided by user fees (Meessen *et al.*, 2007), worsening financial risk (Barber *et al.*, 2004). At the same time, individuals with higher ability to pay, wanting to get, now relatively scarce resources — e.g., drugs — would be willing to pay bribes or under the table payments. The widespread incidence of informal payments in low-income countries is well documented (Barber *et al.*, 2004; Falkingham, 2004; Lindkvist, 2013). In Zambia, there is anecdotal evidence of the existence of informal payments (Hadley, 2011). Hence, whether the removal of user fees reduces medical spending is an empirical issue.

This study seeks to contribute to the literature examining the demand consequences of free health care, specifically, removal of user fees. Although the existing literature is rich and informative, it is plagued with a number of limitations (Dzakpasu, Powell-Jackson, & Campbell, 2014; Lagarde & Palmer, 2008). First, the widespread use of facility/administrative data possess severe limitations bordering on poor quality of this type of data in LMIC (Ashraf, Fink, & Weil, 2014; Lim, Stein, Charrow, & Murray, 2008; Sandefur & Glassman, 2015), and lack of detailed socioeconomic variables for examining heterogeneities (Masiye *et al.*, 2010). Second most of the studies do not have access to policy changes that permit the separation of the effect of user fees from other concurrent events, see for example Asfaw *et al.* (2004), Mwabu *et al.* (1995) and Xu *et al.* (2006). Some studies which have access to reasonable quasi-experiments face the challenge of having a few sample points—health facilities—threatening reliability as well as generalizability of findings. Although some studies have enlightened us on the effect of user fees in experimental situations (Cohen & Dupas, 2010; Kremer & Miguel, 2007; Powell-Jackson, Hanson, Whitty, & Ansah, 2014; Thornton, 2008), their validity may be limited when one has to imagine large and complex national scale interventions with system wide implications (Acemoglu, 2010). The dearth of evidence on the impact of complex user fee policies implemented at national scale motivated Ridde and Haddad (2009) to conclude that “African public health officials and decision makers are worried about the relationship between

abolishing user fees and health care financing, and much remains to be done to provide them with the evidence they require.”

By combining several waves of huge nationally representative household survey data in Zambia for the period 1998–10 and the natural experiment provided by the step-wise implementation of the removal policy, we overcome some of the methodological and data challenges of the existing literature. Our identification strategy exploits the fact that in April 2006, the government of Zambia removed user fees in all publicly supported health facilities—government and faith-based (mission) facilities—at the primary level in 54 out of 72 districts classified as rural (MoH, 2007). Specifically, the removal policy stipulated that “All services for which clients were paying user/medical fees i.e consultation, treatment, admission, and diagnostic services shall be free” (MoH, 2007). The removal policy was extended to rural areas of the remaining 18 previously unaffected districts in June 2007. Thus, only urban areas of the 18 districts remained unaffected by both waves of the removal policy. We use difference-in-difference (DD) models and carry out a number of robustness checks to assess the validity of our identifying assumption.

This study contributes to the debate on free health care in general, and removal of user fees in particular, in at least four ways. First, our data enable us to examine the effect of the removal policy on overall use of health care. Previous studies in Zambia have only examined the effect of the first wave of removals on utilization of publicly supported health facilities (Lagarde, Barroy, & Palmer, 2012; Masiye *et al.*, 2010; Onde, 2009), but have not been able to determine whether this could have been due to an increase in overall use of health care (uptake effect) or shift in care seeking from private facilities (switching effect), or indeed both. Switching may not improve health if quality of care in publicly supported and private facilities is the same, which appears to be the case (Basu, Andrews, Kishore, Panjabi, & Stuckler, 2012; Das *et al.*, 2008; Powell-Jackson, Macleod, Benova, Lynch, & Campbell, 2015).² However, even if quality of care is the same but perverse incentives in private facilities unnecessarily increase the cost of care, then switching may improve social welfare by eliminating inefficiencies.

Second, access to rich household survey data permits us to examine heterogeneous effects of the removal policy by socioeconomic status. This is important in assessing whether removal of user fees elicited a higher utilization response from individuals from lower socioeconomic backgrounds as the policy intended.

Third, we provide evidence on the extent to which the removal policy affected household medical spending, an important starting point in discussing financial risk protection. Most of the studies have focused on utilization effects. This is an important gap because, as discussed earlier, user fee removal may not automatically translate into reduced financial risk protection. Descriptive evidence in Uganda, for example found no evidence of reduced household medical spending following removal of user fees (Nabyonga Orem *et al.*, 2011; Xu *et al.*, 2006). Even after the nationwide removal of user fees in Zambia, 10% of the population experienced catastrophic spending in 2013 (Masiye, Kaonga, & Kirigia, 2016). More credible evidence in the health insurance literature suggests that some form of free care, or subsidized care, while increasing utilization, may not reduce health spending (Ataguba & Goudge, 2012; Fink, Robyn, Sié, & Sauerborn, 2013; Liu & Zhao, 2014; Nguyen, 2012; Wagstaff, Lindelow, Jun, Ling, & Juncheng, 2009) and may actually increase financial risk (Wagstaff & Lindelow, 2008).

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