User fees exemption for children tested in Burkina Faso improved equity

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This note reports on the effects on healthcare seeking behaviours of an intervention carried out in two districts that exempted children under five years of age from user fees in health centres. Studies showed that the intervention promoted equity in that:

i) it had an immediate and significant effect on health-seeking behaviours that benefited all social groups;

ii) even children from poor families living far from health centres benefited from the intervention;

iii) the same proportions of children from the poorest and the least poor households went to a health centre within the first three days after the onset of illness.

INTRODUCTION

A recent simulation showed that child mortality could be reduced by 20% in Burkina Faso if children were more widely and promptly treated for malaria, respiratory infections and diarrhea [1]. Yet the recent Demographic and Health Survey (DHS) showed that in 2010 only half the children who had had one of these three conditions attempted to visit a health centre. In fact, the rate of mortality for children under five years of age is now estimated at 129 per 1000 [2].

Indeed, we know that sick children have difficulty getting treatment at health centres either because they are too poor to pay for services or because they live too far away [3]. The 2003 DHS estimated, for example, that health centres treated 54% of children with fever from well-off families, but only 22% of children with fever from the poorest families [4]. One study showed that the risk of death doubled if the child lived more than six hours’ walking distance from a health centre [5].

Thus, two health districts in the Sahel region (Dori and Sebba) implemented a trial intervention aimed at increasing the use of health services among children under the age of five years. In September 2008, these two districts abolished point-of-service user fees, thanks to the financial support of the NGO HELP, funded by the Humanitarian Aid Department of the European Commission (ECHO). Children were then no longer required to pay for curative services. The health centres were reimbursed for expenses incurred in providing free treatment to children. The promoters of the initiative wanted mothers to bring their children for treatment earlier, as soon as symptoms appeared, and also to have more children attending health centres. Their objective was also to ensure that all children would benefit. In fact, in an earlier publication, we showed that the rates of consultation for children under five years increased very significantly and persistently immediately after the intervention’s implementation [6]. Our aim here is to assess whether these overall effects were the same regardless of the distance between children’s homes and the health centre or families’ income levels.

METHODOLOGY

Two studies were carried out. The first was based on analysis of the information available in the health centres’ consultation registers to capture the distance between the users’ residence and the health centre (<5, 5–9, and ≥10 km). We selected a sample of 12 health centres in Dori district, where children were exempted from fees (intervention district), and six health centres from Djibo district, where there were no exemptions (comparison district). Data was collected on daily consultations between January 2004 and August 2009 (n = 112,724 visits by children). Analyses were based on graphical examination of the evolution of the target population’s monthly usage of health centres and on statistical models to assess the effects using interrupted time series. The second was a population survey carried out in a representative sample of 2,200 households in the two districts where user fees were abolished (Dori and Sebba). The same households were surveyed before the intervention (July-August 2008) and one year after (July-August 2009).
RESULTS

The children living far away benefited from the user fees exemption

In Dori, the implementation of the exemption had an immediate and remarkable effect. There was an upsurge in children’s attendance, whether they lived near or far from the health centres. The rate of utilization of curative services doubled as of the first month of the intervention\(^1\), regardless of how far away the children lived from the health centres. For children living less than 5 km away, the number of new curative consultations per child per year went from 0.9 before the intervention to 2.0 in the first month of the intervention. For those living between 5 and 9 km away, this rate went from 0.8 to 1.9, and for children 10 km or more away, it went from 0.5 to 1.0 new curative consultation per year. On the other hand, in Djibo, where user fees for children’s services were maintained, no change was observed.

Thus, the exemption benefited all children, regardless of their distance from the health centres. Clearly, since the costs of travel increase with distance, children living further away had more constraints in accessing services and therefore, naturally, the exemption measure’s effect on them was less substantial. However, the results showed that even though geographic barriers remained, a large proportion of these children increased their use of health services and were more able to obtain treatment from health workers.

Table 1 confirms this analysis and quantifies the health centres’ increases in monthly curative consultations stimulated by the intervention. In the month immediately following the start of the intervention, health centres experienced, on average, 58 additional new curative consultations, representing, for example, a 76% increase\(^2\) in consultations for children living 10 km or more from the centres. On average, over the 12 months following implementation of the intervention, attendance at health centres by children living 10 km or more away grew by 48%. That immediate effect persisted over time.

Table 1: Net effects of the intervention on monthly curative consultations for children under the age of five years in Dori district

<table>
<thead>
<tr>
<th>Home/health centre distance</th>
<th>The first month of intervention</th>
<th>The first 12 months of intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of additional consultations</td>
<td>Percent of additional consultations</td>
</tr>
<tr>
<td>0 – 4 km</td>
<td>57 [36;75]</td>
<td>65 % [33;106]</td>
</tr>
<tr>
<td>5 – 9 km</td>
<td>58 [43;70]</td>
<td>97 % [57;146]</td>
</tr>
<tr>
<td>&gt; 10 km</td>
<td>58 [39;73]</td>
<td>76 % [41;119]</td>
</tr>
</tbody>
</table>

Sources: Consultation registers

User fees exemptions benefited the poorest

Figure I shows that there was a considerable increase in the use of health centres\(^3\). It also shows that the exemption benefited all children, regardless of whether they were from families that were poor or not, or whether they lived near or far from a health centre. For example, for poor children (in red) living less than 5 km from a health centre, the probability of using health services for an episode of illness was only 26% before the intervention. Twelve months after the exemption, it was 72%.

However, there might be some concern that, in the beginning, least poor would benefit more from this type of intervention than the poor [7]. The data from the household surveys do not confirm this hypothesis. The proportion of children brought to health centres for illnesses increased significantly, even in families that were poorest and lived furthest away: from 19% to 44% after the exemption\(^4\) (the two right-hand red columns in Figure 1).

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\(^1\) This is an annual rate predicted by statistical modelling that takes into account secular trends, seasonal variations in attendance, size of the health centres’ target population, and non-explained characteristics of the health centres. This form of presentation facilitates the interpretation of results by focusing on changes that are specifically related to the intervention.

\(^2\) These data take into account secular trends, seasonal variations in attendance, and the size of the health centres’ target populations. Numbers in brackets represent confidence intervals.

\(^3\) The numbers in the figures are representative averages for the two districts, taking into account the perceived seriousness of the health problem, the differences between the two districts, and the non-measured specificities of the CSPS’s catchment areas and of the households.

\(^4\) The horizontal green bar shows that the difference between the two red bars is statistically significant.
User fees exemptions reduced inequalities and tended to promote equity
The household survey showed that inequalities in healthcare seeking behaviours between the poorest and the least poor diminished considerably (Figure 2). Whatever the distance, the ratio of service utilization (between the poorest and the least poor) in the exemption context compared to that in which children had to pay was greatly reduced. For example, this use of services went from 1.73 times greater (0.45/0.26, see Figure 1) for poor children (Q1) living less than 5 km away to 1.18 (0.85/0.72) in a context where children no longer had to pay. Thus, there is movement toward greater equity.

The children who were poorest and lived furthest away were more rapidly treated
Figure 3 presents the proportion of children living 10 km or more away who used health centres within three days of the onset of illness. Of interest here is the rapidity of treatment, since the earlier a child is brought to a health centre, the greater that child’s chances are a priori of being restored to health and, ultimately, of surviving in good health. Despite resource and transportation constraints that weigh more heavily on the poorest families living furthest away, the children of these families were able to benefit from the user fees exemption in the same way as the least poor.

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1 There is movement in all cases toward equity (which would be 1), as needs were taken into account in calculating proportions.
Today, in this context of user fees exemption, 80% of children are treated within three days of the appearance of the first symptoms of illness, according to the reports of their parents or guardians. These are encouraging results for child survival.

**CONCLUSION**

Combining the data from health centre registers with data from a household survey showed that user fees exemptions were truly effective and equitable in encouraging the use of health centres for sick children.

The increase in the use of health centres is a sign of the success of the user fees exemption experiment as a strategy for improving health care coverage. As well, other studies carried out in Dori have shown that this increase was not achieved at the expense of medical prescription quality [8]. Moreover, despite the geographic barrier, children living far from health centres, just like those living in the poorest households, also benefited greatly from this intervention. The disparities in service utilization that existed when parents had to pay for services for their sick children have largely faded away, which is encouraging in terms of equity.

This study shows that user fees exemptions should be pursued and extended in order to encourage the use of services for children, and especially for the poorest children. The next challenge—while always maintaining the quality of care—is to also address the other major impediment to service access: the geographic barrier.

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This note and other documents on the financial accessibility of healthcare services in West Africa are available on the websites of the University of Montreal ([http://www.medsp.umontreal.ca/vesa-tc/ressrc.htm](http://www.medsp.umontreal.ca/vesa-tc/ressrc.htm)), the HHA’s “Financing Communities of Practice” ([see http://www.hha-online.org/hso/financing/knowledge](http://www.hha-online.org/hso/financing/knowledge)), and the NGO HELP ([www.help-ev.de](http://www.help-ev.de)).

References:


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**Figure 3** : Proportion of children living 10 km or more away who used a health centre within three days of onset of illness

![Figure 3: Proportion of children living 10 km or more away who used a health centre within three days of onset of illness](source: Household survey)