Government policies and national programs have prioritized maternal healthcare in Tanzania since the 1970s, and more recently, improving access to maternal health services is a high priority within the National Road Map Strategic Plan to Improve Reproductive, Maternal, Newborn, Child & Adolescent Health in Tanzania (One Plan II, 2016-2020). Evidence from Tanzania’s Demographic and Health Surveys (TDHS) indicates some improvement in maternal health service utilization over the last 10 years, with use of facility-based delivery increasing by 34% from 2005 to 2016 and use of postnatal care increasing by 165% for the same period (see Figure 1). Despite this policy focus, maternal health outcomes remain poor in Tanzania, indicating that increases in access may not be sufficient if quality of care remains low. The TDHS indicates limited progress in decreasing the maternal mortality ratio, which has stagnated in Tanzania since 2004, with the latest estimate at 556 deaths per 100,000 live births (2015-16) (see Figure 2).

Several factors influence healthcare utilization and may contribute to the limited progress in improving access to maternal healthcare services in Tanzania. Provider professionalism and healthcare quality strongly influence women’s use of healthcare services, particularly in rural Tanzania (Kruk et al., 2009). Distance to and time required to reach health facilities may serve as a barrier to healthcare access, particularly in rural areas compared to urban areas. Evidence has showed that women in

Figure 1. Reported Use of Key Maternal Healthcare Services in Tanzania

Figure 2. Maternal Mortality Ratio in Tanzania

rural areas were only half as likely as women in urban areas to deliver in a health facility (Tey and Lai, 2013). Evidence from settings similar to Tanzania suggests that cultural factors, such as religious beliefs and fear of stigma, as well as other factors such as household characteristics and household size can also influence healthcare utilization (Rutaremwa et al., 2015; Ononokpono and Odimegwu, 2014).

It is also well documented that socioeconomic factors, such as wealth status and income, and demographic factors, such as age and education, affect maternal healthcare utilization (Rutaremwa et al., 2015; Ononokpono and Odimegwu, 2014; Kidist et al., 2013). Financial barriers related to the cost of health services and transportation to the health facility also influence whether a woman will seek maternal services and may be relevant in the context of user fees in Tanzania (Tey and Lai, 2013; Fagbamigbe and Idemudia, 2015; Vidler et al., 2016). One study in Tanzania found that high cost was a reason for not delivering at a health facility for 6.6% of non-users, while location of facility and limited transportation was a concern for 33.7% of non-users, possibly due to financial reasons (Tey and Lai, 2013). Other literature in Nigeria found that the most predominant reason for not using antenatal care services was due to a financial barrier, reported by 56.4% of non-users (Fagbamigbe and Idemudia, 2015).

In the 1990s, several sub-Saharan African countries, including Tanzania, introduced user fees as part of cost-sharing policies for the health sector to limit the use of unnecessary health services and excessive use of healthcare.

Tanzania gradually introduced exemption and waiver directives for user fees in various forms thereafter, starting with a health reform paper in 1994 and further elaborated in ministerial declarations, such as the 1999 declaration made in Parliament (Mubyazi, 2004). Despite widespread reference to a “policy,” no formal policy on exemptions and waivers is available, contributing to the lack of legal weight for effective implementation. Descriptions of the intent of “exemptions and waivers” and conclusions on their implementation are based on secondary sources.

Exemptions from paying user fees cover maternal health services, healthcare for children under 5 and patients over 60, and certain diseases, including HIV, tuberculosis, and some chronic diseases. Waivers that are governed locally and granted by local leaders and health workers are need-based and granted to those who do not automatically qualify for exemptions. They target the poor, offering free health services based on ability to pay. Exemptions and waivers from user fee payment can be implemented at the point of service delivery.

Financial protection can also be achieved through a prepayment mechanism, such as subsidized insurance for poor households. Under the Community Health Fund (CHF), introduced in 2002, local government authorities could waive certain poor households from premium payments to enroll in the scheme (CHF Act 2001, article III (7)). Enrollment in CHF offers access to basic preventive and curative health services at health centers free (or nearly free) of charge at point of care for anyone with a CHF card. In
practice, there are implementation gaps across participating local government authorities, and CHF is currently being reformed. In principle, an effectively implemented CHF program with a provision for the poor and for vulnerable populations could remove the need for any separate exemption or waiver for primary-level services.

Several critical studies have highlighted that exemptions and waivers are not effectively executed in most areas in Tanzania. Implementation is hindered by demand-side issues: whereas health staff at facilities are knowledgeable of general exemptions for maternal health services, community members have low levels of awareness (Burns and Mantel, 2006). Challenges in administration and weak capacity at the local level in managing and budgeting for waivers and exemptions have also been identified.

There is evidence that facilities attempt to implement exemptions and waivers, however insufficient resources for services could compromise quality of care for the exempted or waived cases (Burns and Mantel, 2006). Box 1 highlights these and other challenges surrounding exemption and waiver implementation in Tanzania (Idd et al., 2013; Maluka, 2013; Burns and Mantel, 2006; Mubyazi, 2004).

The deterrent effect of user fees on healthcare utilization is also well documented in a variety of contexts. However, evidence on the impact of exemption and waiver policies on healthcare utilization is less certain. Studies indicate that exemptions are effective in lifting some financial barriers in access to services, however, when organized within unstable health systems, do not function optimally (Ridde et al., 2012). Evidence on exemption and waiver policies particularly for maternal healthcare services is mixed and suffers from weak study design and quality issues (Hatt et al., 2013). One review of 19 published studies found that user fee exemptions increased use of some maternal services in Burkina Faso, Ghana, Mali, and Senegal, but identified no impact on or unintended decrease of maternal service utilization in Afghanistan and South Africa, respectively (Hatt et al., 2013).

Recent evidence on the effect of Kenya’s free maternal healthcare policy showed a significant increase in the number of facility-based deliveries, highlighting that cost may serve as a deterrent to health facility utilization in Kenya (Gitobu et al., 2018). Other evidence from user fee exemptions in Malawi highlighted increases in use of antenatal care and facility-based deliveries, though no effect for postnatal care (Manthalu et al., 2016).

**Box 1. Limitations of Exemption and Waiver Directives in Tanzania**

- **Problems effectively targeting and enrolling poor and vulnerable populations** in certain regions
- **Demand-side challenges**, including lack of awareness of exemptions for maternal healthcare services
- **Administration issues**, including inadequate policy implementation, leading to inappropriate exemptions made at the facility level
- **Insufficient funding** by the national government which leads to resource shortages at the facility level

Sources: Idd et al., 2013; Maluka, 2013; Burns and Mantel, 2006; Mubyazi, 2004
Given the limited evidence on the level of implementation and effectiveness of exemptions and waivers in Tanzania, combined with the mixed results from other countries in the literature, the Health Policy Plus (HP+) project, funded by the U.S. Agency for International Development, aimed to answer the following questions:

1. Are financial barriers associated with use of maternal healthcare services in Tanzania? What other factors are associated with maternal healthcare utilization?

2. What determines whether a Tanzanian woman, especially if poor, pays for maternal healthcare services, and what determines the magnitude of such payments?

3. What is the magnitude of currently paid user fees for maternal healthcare services and what are the projected resource requirements for 2018–2022?

### Methodology

HP+ analyzed household survey data from the 2015–2016 TDHS, with a focus on assessing maternal healthcare service utilization in the sample of 6,071 mothers. Table 1 highlights the measures used in this analysis with accompanying definitions. To measure a household’s wealth status, a wealth index was constructed using principal component analysis, consisting of assets owned by the household such as a refrigerator, utilities that the household reported access to, as well as various characteristics of the dwelling, such as type of flooring or wall material. Asset-based indicators have been widely used in the literature as proxy measures for a household’s long-term socioeconomic status (Montgomery et al., 2000; Filmer and Pritchett, 2001). The specific wealth status categories used in this analysis include “bottom 40% wealth status” and “top 60% wealth status.”

In addition to wealth status, HP+ developed a measure to understand whether women faced a financial barrier to accessing health services. In the TDHS, women who reported that “getting money for treatment” was a big problem were classified as having a financial barrier to accessing healthcare. However, there are limitations with using this question to understand financial barriers. Specifically, this question covers all financial barriers to accessing healthcare, which includes maternal healthcare as well as other health services, and is not limited to user

<table>
<thead>
<tr>
<th>Measure</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Antenatal care (ANC4+)</td>
<td>Use of antenatal care services four times or more</td>
</tr>
<tr>
<td>Postnatal care (PNC)</td>
<td>Use of postnatal care services before or after discharge</td>
</tr>
<tr>
<td>Facility-based delivery (FBD)</td>
<td>Use of delivery services at a health facility</td>
</tr>
<tr>
<td>All deliveries</td>
<td>Includes FBD and at the home</td>
</tr>
<tr>
<td>Location in which care was sought</td>
<td>Use of maternal healthcare services at public and private facilities, and at home</td>
</tr>
<tr>
<td>Financial barrier</td>
<td>Women who self-reported that money was a big problem to access medical care</td>
</tr>
<tr>
<td>Wealth status</td>
<td>Wealth status categories included “bottom 40% wealth status” and “top 60% wealth status”</td>
</tr>
<tr>
<td>Maternal healthcare service payment</td>
<td>Women who paid for ANC4+, FBD, or PNC services</td>
</tr>
<tr>
<td>High maternal healthcare service payment</td>
<td>Women with payment for ANC4+, FBD, or PNC services higher than the median value of all maternal healthcare service payments</td>
</tr>
</tbody>
</table>
fees. Other factors may serve as financial barriers, including cost of transport and inability to afford time off from work. In addition, given that this question does not identify the type of services used or the location in which services were received (for example, a public versus private facility) even the richest women can claim to have financial barriers.

The measure of wealth status is also different from having cash now; women may be classified as “top 60% wealth status” and still report that they experience financial barriers in accessing healthcare, which requires disposable cash. Other differences between the influence of wealth status and financial barriers on utilization are summarized in Box 2.

HP+ conducted multivariate logistic regression analysis to explore the factors that best explain maternal healthcare service utilization specifically for facility-based delivery (FBD), antenatal care (ANC), and postnatal care (PNC) services. Based on theory and evidence in the literature, we included factors known to influence maternal healthcare service utilization, including wealth status, residence type, age, education, health insurance coverage, physical access to a health facility, employment status, household size, and presence of a self-reported financial barrier. Odds ratios are reported for each explanatory variable in order to understand the significance and strength of the association between each factor and each maternal healthcare service (see Boxes 3 and 4). HP+ also estimated the average and median out-of-pocket costs incurred by mothers who used ANC, FBD, and PNC services and projected total out-of-pocket payments for maternal healthcare services nationwide for 2018–2022.

**Box 2. If wealth strongly influences utilization, can we assume “financial barriers” do as well?**

- Wealth is not the same as having cash now.
- Even the richest can self-report financial barriers, given the generalized way that the TDHS question is asked and depending on where services are sought.
- Wealth status links to other long-term inequalities and may be associated with factors unobserved in the TDHS, which strongly links wealth status to maternal healthcare utilization.

**Box 3: Interpreting Odds Ratios**

- Multivariate logistic regression models are employed to identify factors significantly associated with maternal healthcare service utilization.
- A significant odds ratio (OR) indicates that an association exists between the corresponding factor and maternal healthcare service compared to the reference group.
- The closer the OR approaches 1, the weaker the relationship between the factor and maternal healthcare services used.
  - OR < 1 indicates the corresponding factor is negatively associated with use of the maternal healthcare service compared to the reference group.
  - OR > 1 indicates the corresponding factor is positively associated with use of the maternal healthcare service compared to the reference group.
Results

Are financial barriers associated with use of maternal healthcare services? What other factors are associated with maternal healthcare utilization?

Maternal healthcare utilization was lower among women with a self-reported financial barrier compared to those without a self-reported financial barrier (see Figure 3). However, such descriptive analysis may overemphasize any impact that financial barriers have on utilization, as many other factors also influence utilization, such as education and access to a health facility. Multivariate logistic regression analysis can incorporate the impact of other factors in addition to the influence of financial barriers on maternal healthcare utilization. Figure 4 indicates that while having a self-reported financial barrier was significantly associated with reduced utilization of four or more antenatal care visits (ANC4+) (filled circle), this factor did not significantly influence FBD or PNC utilization (outline circles).

Instead, the results in Figure 4 show that several other factors (wealth status, residence type, and age) significantly influence ANC4+, FBD, and PNC utilization among all women. For example, women classified as belonging to households in the bottom 40% for wealth status experienced 72%
lower odds of facility-based delivery compared to women classified in the top 60% for wealth status—a statistically significant difference (see Figure 4). Similarly, women who reside in rural areas were less likely to use maternal healthcare services compared to those residing in urban areas: rural women experienced 53% less likely odds of using facility-based delivery compared to urban women and this effect was also statistically significant (see Figure 4). In addition, educated women and women with health insurance were more likely to use FBD and PNC services compared to their counterparts, and women who indicated distance prevented them from accessing FBD were less likely to deliver in facilities compared to women who did not report this limitation.

Given that wealth status was a significant determinant of maternal healthcare utilization, Figure 5 explores the significant factors that influence use of maternal healthcare services specifically among women classified in the bottom 40% for wealth status. The results indicate that having a self-reported financial barrier did not significantly influence maternal healthcare utilization for any service. By contrast, education and insurance status played a greater role in influencing use of maternal health services among poor women.

Similarly, Figure 6 highlights the significant factors that influence use of maternal healthcare services among rural women only. Notably, having a self-reported financial barrier did not affect use of maternal healthcare utilization among rural women. Instead, wealth status served as the strongest predictor of maternal healthcare service utilization among women who resided in rural areas.

In summary, these results highlight that having a self-reported financial barrier decreases the likelihood of using antenatal care, which may require further policy intervention, but does not influence use of facility-based delivery or postnatal care services. Inherent factors such as wealth status, residence type, and education more strongly influence whether a woman
uses maternal healthcare services. Although the results show that wealth status strongly influences utilization, as described above, we cannot assume that this extends to the influence of financial barriers (see Box 2). Wealth is linked to long-term assets, which cannot be converted to cash. In addition, given the generalized nature of the related TDHS question, even the richest groups can self-report financial barriers to accessing healthcare; for example, better-off individuals may seek more care at private facilities and face financial barriers in doing so. Lastly, wealth status may be linked to other long-term inequalities which are unobservable in the TDHS data. Such a link could mean that statistically, wealth status is significantly associated with utilization even if the variable “financial barriers” is not.

What determines whether a woman pays user fees for maternal healthcare services, and what determines the magnitude of such payments?

Figure 7 highlights the percentage of women who paid for maternal healthcare services at a public facility, faith-based/nongovernmental organization (FBO/NGO) facility, private for-profit facility, or at home. The results highlight that nearly 30% of mothers paid for delivery services at public facilities, and a smaller percentage of mothers paid for ANC and PNC services at public facilities (13% and 9% of mothers, respectively).

Figure 8 highlights the percentage of mothers who made high payments for delivery services at public facilities, with high payments defined as payments higher than the median value of all maternal healthcare payments. Given that under Government of Tanzania policies, mothers should not pay any user fees for delivery services at public facilities, these results highlight implementation issues with the exemption policy. Based on these descriptive results, women were less likely, however, to pay for maternal healthcare services if they received them at a public facility or at the home,

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1 There are limitations with using the TDHS question to understand financial barriers for accessing maternal healthcare care. The TDHS question covers all financial barriers to accessing healthcare, which includes maternal healthcare as well as other health services, and is not limited only to user fees. Other factors may serve as financial barriers, including cost of transport and inability to afford time off from work.
compared to FBO/NGO and private for-profit facilities.

Figure 9 summarizes the multivariate logistic regression results within a conceptual framework to understand the monetary impact of healthcare sought by location. For example, women were more likely to use public facilities over private care for ANC if they resided in rural areas, had low access to adequate roads, and had a financial barrier. By seeking healthcare services at these locations, they were less likely to pay for maternal healthcare services and were less likely to make high payments for maternal healthcare services.

Similarly, women were more likely to use home-based delivery if they were classified in the bottom 40% for wealth status, if they were uninsured and resided in a rural area, and if they were far from facilities and were not educated. Although use of healthcare at these locations indicated that they were less likely to pay for services and less likely to pay high amounts, home-based delivery exposed these women to higher risk of poor maternal outcomes.

What is the magnitude of currently paid user fees for maternal healthcare services and what are the projected resource requirements for 2018–2022?

Tanzanian women incurred the greatest out-of-pocket costs for delivery services (on average TZS 23,091 or USD 10.76 as

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**Figure 9. Understanding Financial Implications of Location Where Care Was Sought Along the Maternal Health Continuum**

<table>
<thead>
<tr>
<th>Antenatal care</th>
<th>Delivery</th>
<th>Postnatal Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women tended to use public sites over private if:</td>
<td>Women tended to use at home over a public facility if:</td>
<td>Women tended to use at home over a public facility if:</td>
</tr>
<tr>
<td>• <strong>Reside in a rural area</strong></td>
<td>• <strong>Bottom 40% for wealth status</strong></td>
<td>• <strong>Bottom 40% for wealth status</strong></td>
</tr>
<tr>
<td>• Have low access to roads</td>
<td>• <strong>Reside in a rural area</strong></td>
<td>• <strong>Reside in a rural area</strong></td>
</tr>
<tr>
<td>• Have a financial barrier</td>
<td>• <strong>No education</strong></td>
<td>• <strong>Unemployed</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Uninsured</strong></td>
<td></td>
</tr>
</tbody>
</table>

If Tanzanian women used services at home or public facilities, they were less likely to pay for maternal healthcare services and they were less likely to pay a relatively high amount for maternal healthcare services. However, *home-based delivery* exposed them to higher risk of poor maternal healthcare outcomes.

Note: Factors in bold signify the strongest predictors (odds ratios are available upon request).

Data source: analysis of TDHS 2015-16
shown in Table 2). Maternal healthcare out-of-pocket fees were higher for the wealthiest quintile compared to the poorest wealth quintile for ANC and delivery services, however, PNC costs were nearly the same for both wealth quintiles (see Figure 10). In addition, although the wealthiest quintile faced higher delivery costs, the poorest wealth quintile still paid a significant amount in user fees, an average of TZS 17,000 (USD 7.92). This evidence further highlights inadequate implementation of the exemption policy in Tanzania. Similar differences were observed for maternal healthcare costs among women who reside in rural areas compared to those in urban areas (see Figure 11).

### Table 2. Average and Median Out-of-Pocket Fees Paid Nationwide for Maternal Healthcare Services in Tanzanian Shillings (USD)

<table>
<thead>
<tr>
<th>Service</th>
<th>Average out-of-pocket fees paid</th>
<th>Median out-of-pocket fees paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenatal care</td>
<td>8,564 (USD 3.99)</td>
<td>4,000 (USD 1.86)</td>
</tr>
<tr>
<td>Delivery</td>
<td>23,091 (USD 10.76)</td>
<td>10,000 (USD 4.66)</td>
</tr>
<tr>
<td>Postnatal care</td>
<td>6,170 (USD 2.88)</td>
<td>3,000 (USD 1.40)</td>
</tr>
</tbody>
</table>

Data source: TDHS 2015-16

HP+ used this data on maternal healthcare out-of-pocket costs in the TDHS 2015-16 to project the total national maternal healthcare out-of-pocket costs in Tanzania for a five-year period (2018–2022) (see Figure 12). The inflation-adjusted costs indicate significant out-of-pocket expenses for mothers in Tanzania, with the expenses ranging from TZS 49 billion in 2018 to 61 billion 2022.
Conclusions

This analysis adds to the limited published literature available in Tanzania on the significant factors that influence use of maternal health services, which include several household-level factors such as wealth status, residence type, health insurance status, and education. Provider professionalism and healthcare quality have also been shown to strongly influence women’s use of healthcare services, particularly in rural Tanzania (Kruk et al., 2009). However, such measures are not available in the TDHS, and as a result, could not be examined in this analysis. Future studies should explore the influence of healthcare quality and provider professionalism on maternal health service utilization, particularly before and after implementation of exemptions and waivers in Tanzania.

Despite these limitations, this analysis finds that the presence of financial barriers—as explored in the TDHS—did not significantly influence mothers’ use of facility-based delivery or postnatal care services. However, women with self-reported financial barriers were less likely to use antenatal care services. Health insurance coverage was associated with greater use of facility-based services, which indicates a need for policies to promote insurance coverage particularly for women in the poorest wealth quintiles and women who reside in rural areas. The results also show that location of health services strongly influences whether mothers are likely to incur maternal healthcare out-of-pocket costs. The poorest women and women who reside in rural areas still face high out-of-pocket costs for delivery services, even at public facilities, which supports known documentation of the challenges surrounding exemption and waiver implementation.

A companion brief, Financial Implications of Paying for Maternal and Neonatal Healthcare Services for Vulnerable Populations in Tanzania, presents several scenarios to estimate the current annual costs of fully subsidizing maternal health services for poor women, with costs ranging from 6.7 million to 10.3 million (USD). The companion brief also projects the future costs of fully subsidizing maternal healthcare services for poor women through 2021.

References


