Pricing of a portable benefit package for cross-border and mobile vulnerable populations, as a rider to the Kenya National Hospital Insurance Fund benefit package

2017
The six partner states of the East African Community (EAC), Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda, are committed to regional integration. The EAC partner states have facilitated movement of people within the EAC, creating a need for cross-border access to health services. However, current health systems are designed to provide services within each country’s territory and not across the region. Therefore, citizens lose health coverage provided in their home country when they cross the border. When they need health care, they incur additional out-of-pocket expenses and face exposure to catastrophic and impoverishing health costs.

The Cross-Border Health Integrated Partnership Project (CB-HIPP) is a regional project funded by the USAID Kenya and East Africa Mission and is implemented by a team of partners led by FHI 360. It is designed to extend quality integrated health services in strategic land and wet cross-border areas and other transport corridor sites in East, Central and Southern Africa. Recognizing the challenge of inadequate financial protection across borders within the EAC region, CB-HIPP, through Abt Associates (Abt), sought to assess the feasibility of extending geographic coverage of public insurance beyond one country, to multiple countries within the EAC. For this analysis, CB-HIPP used data from previous project assessments on costs of health services across the region, and willingness and ability to pay by cross-border and migrant populations.

**APPROACH TO PRICING PORTABLE BENEFITS**

At the time of this analysis, public insurers did not offer portable benefits to a large proportion of their members. For those that do, portable benefits are generally limited to civil servants requiring high cost treatment abroad that is usually beyond the capacity of the EAC region. This analysis sought to define the costs for offering a package of services to cross-border and transiting populations. Abt modeled these costs using Kenya’s National Hospital Insurance Fund (NHIF) because of the relatively large size of the NHIF’s membership and amount of publicly available information about the program. However, the methodology we used can be applied to other financing programs with the requisite data. Indeed, we believe that additional analysis should be done using data from organizations operating in other partner states in the EAC.

Currently, the majority of NHIF members receive services at facilities within Kenya but not across the East Africa region. The scope of this analysis was to develop an actuarially-derived pricing estimate for a potential rider to NHIF benefits that allows portable benefits. That is, benefits that can be accessed at accredited NHIF facilities outside Kenya but within the EAC, for populations living in, and transiting cross-border areas. Specifically, the analysis considered two target populations: cross-border and mobile populations in three counties in Kenya: Busia, Migori and Taita Taveta. It should be noted that this report was independently prepared; it has not been reviewed or qualified by Kenya’s NHIF.

The portable benefits included in the analysis comprise seven service components included in the EAC’s Minimum Package for HIV and AIDS and Other Health Services along the East African Community (EAC) Land Transport Corridors and Wet Border Areas. These seven components comprise HIV testing, antiretroviral treatment, tuberculosis treatment, family planning services and screening services among others. The analysis modeled the cost of these portable benefits expected to be accessed by NHIF members at accredited health facilities across the EAC partner states. These additional portable benefits were modeled as a rider to current benefits and assumed that members were offered three enrollment options as described further down in this brief. Abt estimated the pricing for the portable benefits for two target population groups – households living in the cross-border areas and mobile vulnerable populations (MVP) living or transiting cross-border areas. The MVP included long distance truck drivers, fisherfolk, and clearing and forwarding agents.

The analysis followed actuarial principles and adjusted all costs to a base year of 2018. Total service costs were a function of projected enrolled members, their rate of utilization of the service components, and the unit cost of these services as summarized below (Figure 1):
Figure 1. Formula to derive estimated total service costs

Estimated Total Service Costs

- Population
- Uptake
- Utilization
- HCF Usage
- Cost per HCF

Where:

- Insured members = eligible population × percentage of eligible population enrolled in insurance (i.e., uptake).
- Utilization is calculated for each service component as the number of services used per projected insured members per year. Utilization rates vary by service component, population group, gender, and service component.
- Healthcare facility (HCF) usage is the percentage of services by service component delivered by healthcare facilities by level of care (e.g., primary, secondary, tertiary); it differs by service component and by country.
- Cost per HCF level of care is the cost for each service component by HCF level and was generated by the CB-HIPP costing study.
- Average service cost = average cost per service × usage percentage per HCF level of care.
- Estimated total service costs = insured members × utilization rate × average service cost.

Figure 2 summarizes the three key components used to derive the estimated annual premium: estimated service cost, a 10% contingency margin to allow for uncertainties in the service cost estimate; and estimated administrative costs of KES 214 (approximately USD 2.14) per member, based on the NHIF average administrative costs.

Figure 2. Summary of actuarial analysis

The analysis included pricing three enrollment options (compulsory, opt-in and opt-out) for a portable benefit package offered as a rider to the current NHIF benefit package for the target populations/ cross-border areas:

- Compulsory enrollment: the benefit package for NHIF members in Busia, Migori and Taita Taveta counties includes the portable benefits rider; the premium for the rider is borne by all NHIF members in the target areas.
- Opt-out enrollment option: permits targeted NHIF members to opt-out of the portable benefits rider; they may choose to opt-out because they are not interested in the portable benefits and/or they are unable/unwilling to pay the associated additional premium.
- Opt-in enrollment option: assumes that there is additional enrollment in the NHIF by people who were not currently enrolled but want to become members and also enroll in the portable benefits rider; they would also be willing to pay the core NHIF premium, plus the premium for the rider. This is in addition to existing NHIF members who can also enroll in the portable benefits rider.
PREMIUM ESTIMATES

The premium estimates are summarized in Table 1 below.

**Table 1. Premium calculation – USD, year 2018**

<table>
<thead>
<tr>
<th>Cost constituent</th>
<th>Enrollment option</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Compulsory</td>
</tr>
<tr>
<td>Service cost</td>
<td>0.602</td>
</tr>
<tr>
<td>Contingency margin (10%)</td>
<td>0.06</td>
</tr>
<tr>
<td>Administrative expense</td>
<td>0.123</td>
</tr>
<tr>
<td>Total cost (USD millions)</td>
<td>0.786</td>
</tr>
<tr>
<td>Projected NHIF members from households and MVP in the three counties</td>
<td>57,453</td>
</tr>
<tr>
<td>Premium per member per annum (USD)</td>
<td>13.67</td>
</tr>
</tbody>
</table>

The estimated premium per member for the rider is largely the same for each enrollment option at approximately KES 1370 (USD 13.7) per member per annum. For a household with four members, this would translate to KES 5,480 (USD 54.8) per annum and approximately KES 457 (USD 4.57) per month. This is a 90% increase to the current monthly NHIF premium of KES 500 (USD 5) for informal sector members who enroll in the NHIF. An increase of this magnitude is not likely to be feasible, especially noting that the last premium increase by the NHIF occurred in 2015, after a four-year delay due to public opposition and multiple court cases.

Expanding the risk pool by making the portable benefits mandatory for all NHIF members would spread the cost of the rider across NHIF’s estimated 6.5 million members, many of whom would be projected to use portable benefits at a much lower rate than the target populations residing in the three countries. In this case, the estimated premium for the rider would be markedly lower at KES 11.4 (USD 0.11) per principal member per annum, representing a much more modest increase of 0.19% to the existing premium for informal sector members. The NHIF could also consider absorbing this much lower expected cost in lieu of attempting to implement a minor premium increase, given the historical challenges for the NHIF to effect increases.

**UNCERTAINTY OF UNDERLYING ASSUMPTIONS**

Given certain data limitations and the fact that this is a newly proposed rider, for which there is no historical experience, there are a number of uncertainties to estimate the premium of the rider, including:

*Behavioral Aspects*: the behavior of different stakeholders such as members, clinicians, and health facility managers can have a profound impact (higher or lower) on utilization, and thus the cost to provide covered services. This variation can be mitigated through close monitoring of behaviors and through use of quality and cost controls, alternative payment mechanisms such as capitation, and incentives and disincentives for the different stakeholders to deliver good quality care efficiently.

*Antiretroviral (ARV) treatment utilization and cost*: ARV treatment is one of the most significant cost drivers for the HIV prevention, care and treatment service component, at 37% of the total service cost. Utilization and unit costs (and inflation), and amount of first- or second-line ARV treatment will have a significant impact on cost.

*Level of enrollment in a portable benefits rider*: enrollment in a voluntary rider is very uncertain. However, this analysis shows we can broadly expect that the overall cost per member would be relatively stable under different levels of uptake. A significant risk could be adverse selection where people with greater than average health risks knowingly enroll and stay enrolled in the rider, thereby disproportionately increasing the average cost per person of the rider. This can be mitigated through selecting a compulsory enrollment option, enrolling groups or households as opposed to individuals, imposing a waiting period, effecting limits for high cost services, or achieving high levels of population coverage to improve cross-subsidization across the healthier and sicker members. Close monitoring focused on monthly claims experience during the first two years that the rider is in effect is recommended to evaluate the need to adjust the premium or institute the above mitigating measures.
Administration expenses are higher than expected: we have used an average administration expense per member per year based on NHIF historical costs. This assumes that costs remain constant regardless of the number of members and the time that the rider has been in use. Typically, new products and riders incur product development and launch costs that diminish over time and as membership grows. To reduce admin expenses, NHIF may choose to simplify and automate administration functions such as enrollment, renewal, premium collection and claims processing to reduce manual intervention and tedious processes.

Analysis limited to Kenya: This analysis was based on one country only and does not model utilization and costs for the other five partner states. However, it provides insights on how future work could be modeled to incorporate the experience from all six partner states. This will further inform the financial and other resources needed to make portability of health coverage a reality for the EAC region.

RECOMMENDATIONS

Recommendations from this analysis include the following:

Consider implementing compulsory enrollment: Compulsory enrollment will maximize enrollment and minimize potential adverse selection. By spreading the cost of the rider across a much larger pool of members, the average premium per member will be reduced. The NHIF can augment enrollment by supporting demand creation to increase enrollment overall. In addition, adding the portable rider may be perceived as adding value for all members by expanding their coverage, and not just benefiting the limited target population of cross-border households and MVP.

Discuss the proposed rider and pricing and enrollment options with NHIF management: It is important to get support and critical “buy-in” from the NHIF to ensure early identification of issues, resolution of enrollment option, and premium. The pricing and enrollment approach selected will have a direct impact on affordability, accessibility and attractiveness of this rider to potential members. To this end, the NHIF may consider the compulsory enrollment option thereby spreading the cost of the rider among all NHIF members to improve premium affordability.

Conduct qualitative testing of the rider prior to conducting a pilot: To increase the chance of a successful pilot, first test the appropriateness of the benefit package, pricing, and marketing and communication material associated with the rider in a controlled manner to identify any critical issues. It is cost effective in the long run to conduct preliminary qualitative testing of a product in order to mitigate the impact of potential product and process changes after a pilot is underway.

Run a well-planned pilot of the rider for a minimum of six to twelve months in the cross-border areas: A pilot will generate important lessons about how well the rider meets members’ needs, how the processes work and could be improved, and also how people manage such an exercise. Conducting a pilot could also generate lessons for the NHIF on how to improve future product development and implementation, and for the wider region on how to implement portable benefits.

Widen the scope of analysis to include the remaining partner states: To estimate the costs and therefore the resources needed to make portability a reality, this analysis should be widened to include the other EAC partner states.