10

Increasing equity among community-based health insurance members in Rwanda

Joséphine Nyinawankunsi,[i] Thérèse Kunda,[ii] Cédric Ndizeye,[ii] Uzaib Saya[iii]
Corresponding author: Thérèse Kunda, e-mail: tkunda@msh.org

SUMMARY—The community-based health insurance (CBHI) scheme launched by the Government of Rwanda (GoR), reached 91% of the population in 2010, starting from 7% in 2003. Initially, all CBHI members paid the same fees, regardless of their personal income, and the poorest citizens faced challenges in paying premiums (almost US$ 1.50 per person). A mechanism was thus urgently needed to guarantee access to health care for the most vulnerable and promote equity among members. The GoR decided to introduce a stratification system based on the socioeconomic status of the population, referred to as *Ubudehe*. Together with partners, including the Integrated Health Systems Strengthening Project (IHSSP), the GoR developed a national database that stratifies Rwandan citizens by income. To date, more than 10 million residents' records, representing 96% of Rwanda's population, have been entered into the database. This database helped identify the most vulnerable based on socioeconomic status (about 25% of the population). Identification of the poorest among the population has allowed an increase in CBHI funds due to identification of individuals who have a greater capacity to pay. The database thus improved the financial viability and management capacity of the CBHI scheme.

Voir page 72 pour le résumé en version française.
Ver a página 72 para o sumário em versão portuguese.

Central to the Government of Rwanda's strategy to become a middle-income country by 2020, as per Vision 2020 as well as the Economic Development and Poverty Reduction Strategies from 2008 to 2018 (EDPRS and EDPRS 2), is the laudable goal of universal access to health care. The strategy of the Rwanda Ministry of Health (MINISANTE or MoH) to realize this goal is three-pronged within a revamped, decentralized system, and includes performance-based financing (PBF) to incentivize improved service delivery, quality improvement initiatives at the health-care delivery levels, and the implementation of wide-scale national health insurance to defray the cost of care for the poorest. The strategy is engendered through a series of laws covering various aspects of social health protection.[1]

Rwanda's CBHI scheme (commonly known as *mutuelles de santé*) is one of the largest public health insurance schemes in sub-Saharan Africa. CBHI schemes can be broadly defined as voluntary prepayment plans for health care that operate at a community level; in the case of Rwanda, CBHI is a national-level scheme. The Government of Rwanda (GoR) first scaled up its CBHI policy in 2004 after initial pilots in 1999 to cover patient costs for curative services. Today, it is heralded as one of the most successful in Africa, after expanding coverage from less than 7% of the population in 2003 to 91% in 2010.[2,3]

i Ministry of Health, Rwanda
ii Rwanda Integrated Health Systems Strengthening Project, Rwanda
iii Center for Health Services, Management Sciences for Health, United States of America

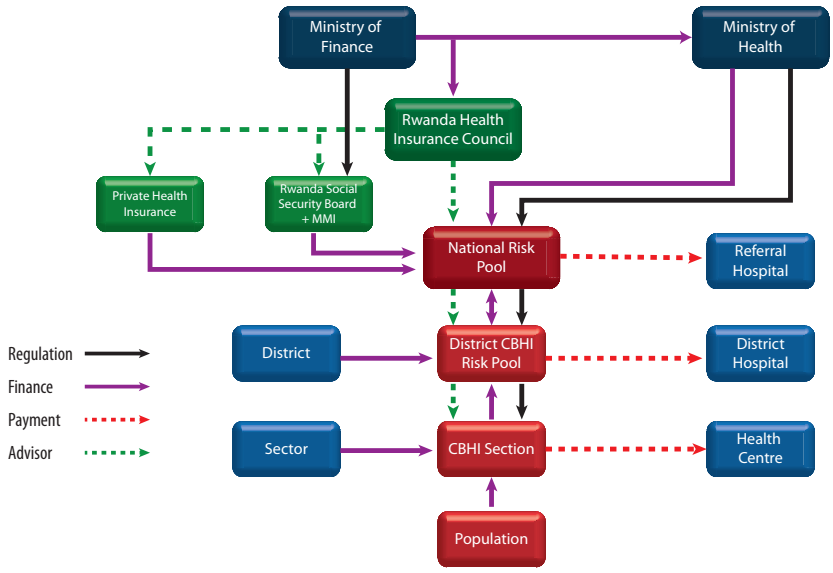
The decentralized health system in Rwanda consists of *mutuelle* sections in nearly all health facilities where members are entitled to a comprehensive list of curative and preventive services; CBHI in Rwanda focuses mostly on provision of services to people in the informal sector and aims at providing them equitable access to quality health services on payment of annual membership fees. Health facilities are then reimbursed for the services they have provided based on fee-for-service upon submission of monthly invoices, which are audited before payment and also by capitation whereby the provider receives a fixed amount for each enrolled member for a given annual reference period.

A change in *mutuelle* policy in April 2010 brought into focus universal and equitable access to quality health services for all, and introduced a new CBHI premium schedule using a system of stratification. To reach this goal, the policy was based on principles of solidarity and equity. Previously, contributions of households to "*mutuelles*" were not based on their ability to pay (they were based on a flat rate premium), and were therefore strongly regressive – considered by the World Health Organization as unfair, and to some degree excluded the poor in the informal sector. The 2010 *mutuelle* policy stated, "CBHI complements other existing social insurance systems, such as RAMA and MMI, in addition to private insurance schemes which target workers from the formal and private sector of the economy. To reach this goal, the development policy is based on principles of solidarity and equity."[4] Even though enrolment and utilization of services had been increasing up to this point at the outpatient level, there was a clear need to improve equity among patients accessing services. In particular, many patients were roaming between health facilities for services – either due to travel or convenience. This made it difficult to verify the membership status of individuals before providing treatment. There was thus a need to differentiate patients based on their ability and capacity to pay premiums into the CBHI scheme.

This article describes the operationalization of national policies that introduced stratified premiums based on Rwandans' ability to pay to better target the poor. Between 2010 and 2011, at the request of the MoH and Rwanda Ministry of Local Government and Internal Affairs (MINALOC) and its Common Development Fund (CDF), the USAID-funded Integrated Health Systems Strengthening Project (IHSSP) designed a national income categorization database (based on *ubudehe* – the deep-rooted Rwandan practice and culture of collective action and mutual support to solve problems within a community) to store information on the population's socioeconomic status.[5] Information on every Rwandan household was collected through the support of the CDF, which is a government-owned fund set up to support the implementation of decentralization policy, and also through the support of MINALOC's *Ubudehe* Programme which is a GoR initiative to help Rwandans "create social capital, nurture citizenship and build a strong civil society". In 2001, *Ubudehe* was reintroduced into Rwandan life by the Rwanda Ministry of Finance and Economic Planning (MINECOFIN) in partnership with MINALOC as a way to better involve communities in their development by setting up participatory problem-solving mechanisms. The *Ubudehe* Programme functions at the level of the decentralized administrative entity nearest to the recipients, at the cell or village level. CBHI is coordinated at the district level, where each of the 30 districts has a pooled-risk fund; each CBHI section has a health centre; and all villages have a CBHI mobilization committee. Monetary contributions from members are received at the community level, and used to reimburse health centres for services rendered. Each section covers a defined area and population, and includes one health centre where CBHI members are entitled to receive services from the minimum package of activities (MPA). Some 55% of premium contributions remain at the section level and 45% of each section's premium contributions are paid into a district risk pool and are used to reimburse district hospitals for services provided to members under the comprehensive package of activities (CPA). Finally, 10% of these contributions into the district risk pool are transferred to a national risk pool to cover services provided at the referral hospital level. For indigent populations (classified as Category 1 in the CBHI system), the Government of Rwanda and development partners pay insurance premiums to the appropriate section risk pool and their co-payments are waived. Service providers at health centres are paid on a fee-for-service basis upon submission of monthly invoices, which are audited before payment.

One of the most important aspects in *Ubudehe* is assigning all Rwandan households into one of six categories, based on income and assets. Results have shown that the *Ubudehe* Programme appears to be largely relevant and consistent with the policies of the Rwandan Government

Figure 1. Structure of CBHI



Source: Rwanda MoH, CBHI Policy, 2010

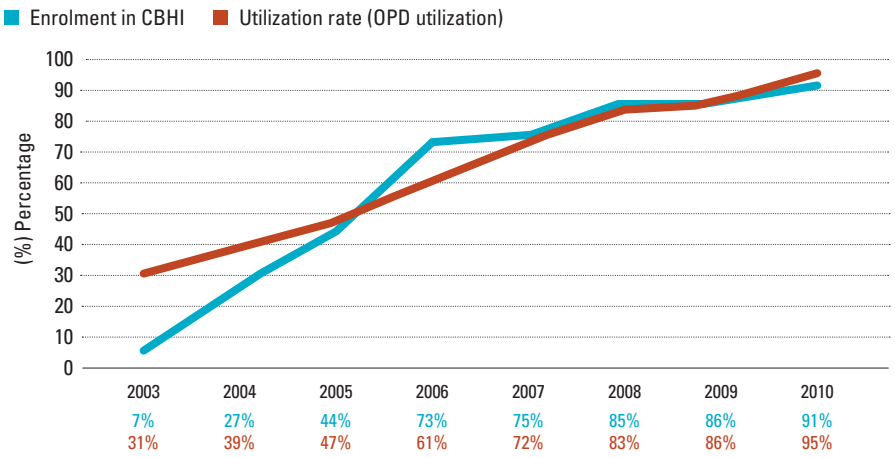
fin fighting poverty and developing the country's economy.[6]

IHSSP supported the stratification and data-entry process for a database containing over nine million records classifying all Rwandan households into socioeconomic categories. These data were subsequently used in CBHI membership management processes and various other government programmes. The *Ubudehe* database was also updated with spreadsheets from each of Rwanda's 14 000 villages. The goal of this exercise was to derive a contribution system for CBHI that assures equity and solidarity among its members, as well as improved financial viability for the CBHI scheme so as to protect the poor from the burden of covering the rich at the same level. Additionally, this database has proved to be a tool that planners and actors in other development programmes could use to increase equity, particularly in targeting the poorest part of the Rwandan population for improved social protection.

The goal of the CBHI scheme is to cover the 95% of the population in the informal sector, with a specific focus on those in rural areas. As mentioned above, a critical element of Rwanda's CBHI structure is the involvement of and linkages between each level of the health system, (see Figure 1). These linkages have facilitated the success of the programme in improving access among citizens, but the 2010 policy change in the *mutuelle* recognized that better targeting of the most vulnerable needed to occur in order to provide equitable care.

Beginning in 2006, each household paid a premium of 1 000 RWF (US$ 1.50) per member of the household.[7] Utilization levels (number of visits per capita per year) increased, as shown in Figure 2, primarily at the outpatient level from 2003 to 2010, and enrolment similarly increased at a steady rate. Previously, findings suggested that CBHI enrolees in the poorest quintiles had two times lower utilization and two times higher catastrophic payments, compared with those in the highest quintiles.[8] As a result, it became all the more vital to improve targeting of CBHI subsidies from the government and development partners to the poorest in the Rwandan population.

Figure 2. Enrolment into CBHI and outpatient utilization, 2003–2010



Source: CBHI Annual Report, MoH, 2011

Methods

To improve equity within the CBHI system, in 2009 the MoH worked closely with the IHSSP to re-design the insurance system's payment structure. In the revised scheme, the population of Rwanda pays into the system on a sliding scale, based on their household assets. The highest and middle groups pay an annual fee by household: 7 000 RWF (US$ 10.50) and 3 000 RWF (US$ 4.50), respectively – plus a small co-payment at health centres and are responsible for 10% of the cost of care at referral facilities. The 25% of Rwandans with the fewest assets do not pay for their insurance and are not charged for health services at any public facility. The government believed that this system would ease the financial burden enough so that all Rwandans could access health services, and at the same time raise sufficient funds to finance quality service delivery throughout Rwandan facilities.

Before the new scheme could be implemented, the ministry had to determine the financial status of each household, a difficult prospect in a country where as much as 90% of the labour force works in subsistence agriculture and the informal economy. MINALOC had data on the assets held by each of the country's 1.8 million households, but records were all on paper. To use the information, it would need to be computerized.

In collaboration with the MoH, IHSSP designed and built a database to house the information and recruited a data entry team of 500 people who worked in shifts, 16 hours a day. The intensive process took just three months, and, by January 2011, 90% of the data had been entered into the system and households were assigned to the lowest, middle or highest economic bracket.

Because the management of the CBHI system is so well decentralized – there is a CBHI office in each health centre in charge of enrolment for the facility's catchment area – Rwandans enrolled in the new system rapidly. By September 2012, 90% of Rwandans eligible for CBHI were enrolled. Soon, Rwandans were not just enrolled in the health insurance plan, they were using it.

The National Income Categorization Database (NICD) was used to enable local government authorities at the sector level to collect data on income categories of Rwandans by household. Data for this exercise were collected in two phases at the village level, during which individuals' identities were confirmed against their official identity cards. These data were subsequently compiled at the sector and cell levels, and entered into online databases at the district levels.

At the request of the MoH, IHSSP also used this database to conduct various data analyses, and supported the upgrade and maintenance of PBF and

CBHI application systems. The Health Management Information System (HMIS) team assisted the ministry in the introduction, customization and rollout of the District Health Information System 2 (DHIS-2), which is the new Rwandan HMIS system, and ensured that it is fully functional and used successfully.

Validations of these data were conducted in 2011 on a sample of one sector per province and also in Kigali City. The main objective of this activity was to corroborate the data and to evaluate if the population agreed with attributed categories in relation to the new policy of "*mutuelle de santé*" scheme of payment. A Delphi method was employed during these validation meetings, during which missing households were identified and attributed to their respective category. Multiple administrative structures were involved in this exercise, including those at the central (such as MoH and MINALOC), district, sector and cell levels. At the village level, community leaders participated in the organization of meetings with community members. In each of the five sectors, all cells were considered for validation, but in each cell, only two villages were taken into account. In total, the validation exercise was conducted in 48 villages. From the *Ubudehe* social stratification database, it was confirmed that these villages comprised 6 224 households and 27 789 individuals. In order to correct and confirm the *Ubudehe* categories, in-person visits were made by the supervising team to households that disagreed with the attributed category.

Once the data were collected at the household level, they were categorized into CBHI categories so as to form the basis of premiums payable to the CBHI system.

Results

Data were entered into a web-accessible social stratification database containing the records of nearly nine million Rwandans. The database was jointly coordinated by MINALOC through the community-based collective action programme (*Ubudehe*), and MoH through the CBHI scheme. Data were gathered across all 30 districts, from almost 14 747 villages (99.3%) – 8.9 million people across Rwanda (86.10% of the total 10.3 million population).9 In recent years, this has increased to almost 96% of the whole population.

As shown in Figure 3, a majority of the population stratified through this exercise in 2010–11, or 42.4% of the total population sampled in the stratification exercise, belonged to *Ubudehe* Category III ("the poor"), followed by 21.9% from Category IV ("resourceful poor") and 19.5% from Category II ("very poor") of the total population.

Consequently, the implementation of the new CBHI policy was made possible with more than 86% of the population that had their socioeconomic information available.

As a result of the categorization of Rwandans according to ability to pay based on their *Ubudehe* categories, citizens began to pay premiums on a sliding scale based on their household assets. From a flat premium of 1 000 RWF person (or 2 500 RWF per household), the pricing of the CBHI premiums evolved to a system based on the household's *Ubudehe* category or their proxy ability to pay (Table 1).

Table 1. *Ubudehe* population and CBHI categories

***Ubudehe* population**	**CBHI**	**Premium per household per year**
Ubudehe I & II	Category 1	2 000 RWF
Ubudehe III & IV	Category 2	3 000 RWF
Ubudehe V & VI	Category 3	7 000 RWF

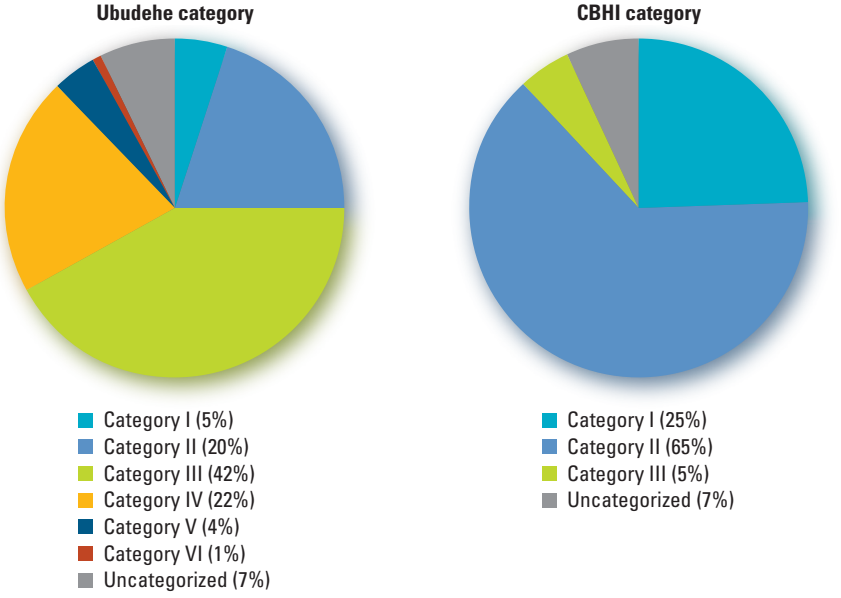
Source: CBHI Annual Report 2012–13

The wealthiest and middle groups (classified as categories 3 and 2 of CBHI, respectively) began to pay an annual fee of 7 000 RWF (US$ 10.50) or 3 000 RWF (US$ 4.50) per person, respectively. As depicted in Figure 3, 65% of the population was categorized into CBHI Category 2 as a result of the *Ubudehe* stratification.

Discussion

This stratification exercise based on the *Ubudehe* system has formed the basis of premiums payable to the CBHI scheme. The premium structures were based on the household's *Ubudehe* category (as the proxy for ability to pay). As a result of this MoH and MINALOC-led process, there now exist *Ubudehe* databases maintained by the local administration officials in each sector, keeping track of the socioeconomic status of every household in Rwanda and their relevant *Ubudehe* categories. Having a better estimate of the total population in the informal

Figure 3. Results for *Ubudehe* and CBHI categorization in Rwanda, 2011



Source: Social Stratification Database, 2011

Conclusion

Using evidence from a decentralized, village-level wealth ranking system or *Ubudehe* has ensured the principles of cross-subsidies from the wealthier to the less wealthy within the national CBHI scheme. In particular, re-organizing the CBHI categories according to these criteria now allows for a more robust examination of income-related inequalities, particularly related to equity in utilization of health services and financial protection across CBHI categories. Forthcoming studies conducted through several partners will discuss the implications of this *Ubudehe*-based categorization of CBHI premiums, and will provide recommendations on how to ensure the financial sustainability of the CBHI scheme. The *mutuelles* have now moved under the Rwanda Social Security Board with the aim of ensuring better management, and to ensure a split in the provider-purchaser role of the MoH to ensure accountability and transparency, as well as a cross-subsidy between the formal and informal sectors. As a result, there is further potential for the *Ubudehe*-based CBHI categories to provide improved evidence in targeting a greater share of the "needy" population.

sector has myriad impacts on the financial sustainability of the CBHI scheme, particularly one that is driven through a prepayment premium mechanism as in Rwanda. Further, validations of the data have allowed administrators to corroborate categories of individuals with the information available in databases, and local sections and cells can easily access these data through an integrated HMIS system. Needless to say, this process has various implications for the financial sustainability of CBHI sections, as well as improved governance for sectors.

The categorization according to the *Ubudehe* system has thus allowed for an equitable redistribution that considers individual capacity to pay. In particular, Rwandans with fewest assets (amounting to 25% of the overall population, or those in CBHI Category 1) are easily identified, as premiums for this group are paid by the government and development partners. These beneficiaries are not supposed to pay the health centre fee or the hospital co-payments. CBHI beneficiaries in other categories also pay a small fixed fee at health centres (which goes towards CBHI administration costs), and contribute a co-payment of 10% of the total CBHI bill to the district and referral hospitals. These individuals are obligated to pay the annual premium and this is primarily enforced through peer sensitization and pressure using *ibimina* – groups of several households led by one inhabitant. They typically collect and deliver premiums to cooperatives or bank accounts on behalf of members. This avoids long queues at the point of payment, and the peer pressure is constructive in reminding members of the benefits of *mutuelles* and the need to pay premiums. In the past, enforcement has been based on requiring a *mutuelle* membership card when accessing other government services, such as a passport. A final enforcement mechanism is that coverage of members has been part of mayors' performance-based contracts with the President of Rwanda, whereby mayors have promised to achieve universal coverage for *mutuelles*.

References

1. Rwiyereka AK et al. Situational Analysis and Feasibility Study of Options for Harmonization of Social Health Protection Schemes Towards Universal Health Coverage in the East African Community Partner States. *East African Community* August 2014.
2. World Bank. Rwanda Country Status Report. Ministry of Health, Rwanda 2009.
3. GoR. Rwanda Demographic and Health Survey. Ministry of Health, Rwanda and Measure DHS 2010.
4. GoR. Rwanda Community Based Health Insurance Policy. Ministry of Health, Government of Rwanda April 2010.
5. *Ubudehe* is a process at the village-level for community decision making. *Ubudehe* incorporates a "poverty-mapping" process, which has a systematic methodology and allocates each household to one of six ordinal income and poverty-related categories differentiated by well-defined qualitative criteria.
6. Niringiye A, Ayebale C. Impact Evaluation of the *Ubudehe* Programme in Rwanda: An Examination of the Sustainability of the *Ubudehe* Programme. *J Sus Dev Afr* 2012; (14)3.
7. GoR. Annual Report: Community-Based Health Insurance. Ministry of Health, Government of Rwanda October 2012.
8. Lu C et al. Towards Universal Health Coverage: An Evaluation of Rwanda Mutuelles in its First Eight Years. *PLoS ONE* 2012; 7(6): e39282. doi:10.1371/journal.pone.0039282.
9. Integrated Health Systems Strengthening Project (IHSSP) and USAID/Rwanda database on social stratification project. *Final report and next steps*. Report submitted to Ministry of Health and Ministry of Local Government, Rwanda June 2011.