The Impact of Community-Based Health Insurance on Access to Care and Equity in Rwanda

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msh
Management Sciences for Health

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Acknowledgments

This report is prepared by Management Sciences for Health (MSH) based on research reports produced by the University of Rwanda-College of Medicine and Health Sciences-School of Public Health (UR-CMHS-SPH) in collaboration with the Ministry of Health. The authors of this report are David Collins, Uzaib Saya and Therese Kunda of MSH. Dr. Uwaliraye Parfait from the Ministry of Health and Dr. Ina Kalisa from UR-CMHS-SPH provided valuable inputs for this summary report. Overall support for the work was provided by Apolline Uwaitu, MSH's Country representative for Rwanda. Gratitude is also extended to Hena Khan (MSH) for assistance with copy-editing. This report is part of a set of three pieces of work supported by the Rockefeller Foundation to help strengthen the Community Based Health Insurance (CBHI) program in Rwanda:

- The development and implementation of a financial modeling tool to assist the local and national offices to predict and report their revenues and expenses;
- Examination of the effect of the CBHI scheme on access to health care and on equity (this report); and
- An analysis of lessons learned during the development of CBHI in Rwanda.

To access the full research reports contact: ikalisa@nursph.org or smusange@nursph.org

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Acronyms

CBHI	Community Based Health Insurance
CTAMS	*Cellule Technique d'Appui aux Mutuelles de Santé*
DHS	Demographic and Health Survey
EICV	Integrated Household Living Conditions Surveys
MOH	Ministry of Health
MSH	Management Sciences for Health
RWF	Rwandan Francs
UR-CMHS-SPH	University of Rwanda-College of Medicine and Health Sciences-School of Public Health
USAID	US Agency for International Development
USD	US Dollars
WHO	World Health Organization

Executive Summary

Rwanda's Community-Based Health Insurance (CBHI) scheme has been recognized internationally for its success – particularly in terms of expanding coverage from less than 7 percent of the CBHI target population in 2003 to 74 percent in 2013.[1.]

From 2012 to 2015, Management Sciences for Health (MSH) and the University of Rwanda-College of Medicine and Health Sciences-School of Public Health, with support from The Rockefeller Foundation, undertook a study of the impact on access and equity of the scheme. The study aimed to find out if there were any barriers related to enrollment in the scheme and accessing health care services, and if adequate financial protection was provided against health care costs. In July, 2011 changes were made in the CBHI premium structure and rates, and the results of this research reflect those changes to some degree.

Two research components were used in the study:

- a primary analysis involving a major CBHI household survey designed specifically for this study and conducted in 2013; and
- a secondary analysis of Integrated Household Living Conditions Surveys (EICV)[2] data together with a review of previous studies.

These research reports are available separately.

The results of the 2013 household survey indicated that the majority (67%) of Category 2 households felt that the payment of premiums was not easy and a significant portion (22%) said they would not re-enroll in CBHI in the next year, mostly because they could not afford the premiums and/or copayments. Twenty-one percent of Category 2 households said that they had to pay their premiums in instalments and 67 percent of them reported not being able to access services before completing the payments.

[1] The membership target populations used by the districts have reportedly been the estimated total population less the estimated number of people insured under other schemes,
[2] *Enquete Intégrale sur les Conditions de Vie*

Although the introduction of the graduated premiums reduced inequity in general, some persisted among Category 2 members, who comprised around 72 percent of members. Also, the application of a flat copayment is regressive since poorer Category 2 and 3 members pay the same copayment as better-off members in those two groups.

The great majority (90%) of the 230 uninsured households surveyed reported being in CBHI category 2 compared to 9 percent and <1 percent in CBHI categories 1 and 3, respectively. Eighty-nine percent of these uninsured respondents reported that they were previously enrolled in CBHI, and nearly all of them said they stopped because they could not afford the premiums. Most of these uninsured households reported struggling to pay their health care costs and more than half of them had at least once avoided seeking care when it was needed.

CBHI appears to have had a positive impact on health care utilization, with significant increases since 2003. CBHI is only one factor, however, since the Government has also made major improvements in the availability of services, increases in resources such as staffing and medicines, and quality of care. Performance-based financing has contributed significantly to these improvements.

Access to care has become much more equitable across the population in general and is very equitable among CBHI members. CBHI has also resulted in substantially decreased out-of-pocket expenditure for members. Equity of out-of-pocket health expenditure also improved over time and is now almost the same for the rich and poor and the incidence of financial catastrophe resulting from out-of-pocket payments for health services also substantially decreased.

Apart from the issues of access and equity mentioned above, the 2013 CBHI survey indicated that members across all categories felt very positive about the scheme, with respondents stating that the benefits of CBHI membership included lower health care costs (97%) and better access to drugs (73%).

This research has shown some of the successes of CBHI as well as some of its challenges. In summary, CBHI has greatly increased access to health care services and reduced the burden of health care costs, especially for the poor. However, after the changes in premiums many

households felt that the costs of the premiums and copayments were unaffordable. The continued efforts of the Government of Rwanda to ensure access and equity are important so that CBHI can continue to benefit poor Rwandans and build on the impressive achievements made to date.

From its inception through the period of this study CBHI was under the management of the Ministry of Health but in July 2015 it was handed over to the Rwanda Social Security Board. It is hoped that research into the functioning and impact of CBHI will carry on so that Rwanda and other countries can continue to learn from this innovative and important scheme.

Study background

Rwanda is recognized as having one of the most successful community-based health insurance (CBHI) schemes in Africa, providing coverage to the majority of its population. As part of achieving this success, the scheme faced and overcame several challenges during its development and continues to deal with some issues, such as financial viability and sustainability. Studies of the development and implementation of the scheme provide valuable lessons for other countries wishing to embark on CBHI as one of the routes to achieving universal health coverage.

With support from The Rockefeller Foundation's Transforming Health Systems initiative, Management Sciences for Health (MSH) worked with University of Rwanda's College of Medicine and Health Sciences School of Public Health (UR-CMHS-SPH) and the Government of Rwanda's Ministry of Health (MOH) between May 2012 and July 2015 to provide assistance to Rwanda's national CBHI scheme. The assistance had three components:

1. Examination of the effect of the CBHI scheme on access to health care and on equity;
2. Documentation of the history of the CBHI program and identification of key lessons learned; and
3. Strengthening of CBHI financial management through the development and use of a financial management tool.

This report relates to the first component: the examination of the effect of the CBHI program on access and equity.

Introduction

Rwanda is a predominantly rural East African country with a population of 10.5 million people. The country has made good progress since the genocide in 1994 with significant improvements in development and health indicators.

Immediately after 1994 public health services were free of charge and were supported by donors, but in 1996 user fees were re-introduced in public and mission facilities because of dwindling donor support. This resulted in a reduction in health service utilisation and a lack of financial protection. To help address these challenges community-based health insurance (CBHI) was piloted in 1999 and was scaled up nationwide in 2005.

CBHI is one of the key elements identified to achieve the goal of universal access to health care, which is central to the Rwandan government's strategy to become a middle-income country by 2020. Other key elements include performance-based financing to incentivize improved service delivery and quality improvement initiatives. Rwanda's national CBHI scheme (commonly known as mutuelles de santé) is now one of the largest public health insurance schemes in sub-Saharan Africa.

CBHI schemes can be broadly defined as prepayment plans for health care that operate at a community level. In the case of Rwanda, CBHI is based in the communities but is part of a national scheme. The objectives of Rwanda's CBHI scheme are to provide equitable, affordable access to health care and to prevent people from incurring catastrophic health care costs.

The Government of Rwanda scaled up CBHI schemes nationwide in 2005 after initial pilots were conducted in 1999. Today, it is heralded as one of the most successful in Africa, after expanding coverage from less than 7 percent of the population in 2003[3] to 74 percent in 2013.[4,5] More than

[3]World Bank, Rwanda Country Status Report, 2009. Rwanda MOH (www.moh.gov.rw).

a decade of implementation and refinement of CBHI in Rwanda continues to provide an ideal learning opportunity for the development of fair and equitable health financing systems.

One critical element of Rwanda's CBHI structure[6] is the involvement of, and linkages between, each level of the health system, including risk pooling at the national level. CBHI is coordinated at the district level, where each of the 30 districts has a pooled-risk fund; at the sector level each health center has a CBHI branch; and each village has a CBHI mobilization committee. Premiums are collected at the community level by the CBHI branch and are used to reimburse public health care providers for services.

In January 2007, standard premium and copayment rates were introduced for the whole country, replacing the previous rates that varied across the districts. The standard premium was RWF 1,000 per person per year and the whole family had to be covered. Matching contributions of RWF 1,000 and the costs of care for vulnerable groups and the poor were paid by the government and the Global Fund Against AIDS TB and Malaria (Global Fund). Copayments were set at RWF 200 per visit at health centres and 10% of the total bills at hospitals.

In 2010, the Government revised the CBHI policy to strengthen the system's financial viability and reinforce equity in citizens' financial contributions. From July 2011, Rwandans began to pay premiums on a sliding scale based on economic categories determined by the Ministry of Local Government as part of the *Ubudehe*[7] system. The MOH aggregated the six *Ubudehe* categories into three CBHI broad categories. CBHI Category 1 group, which is around 27 percent of the population, is comprised of Ubudehe Groups 1 and 2 (destitute or very poor households). The annual CBHI Category 1 premiums are RWF 2,000 (USD 3.00) per person and are paid by the Government. CBHI Category 2 group, which is around 72 percent of the population, is

[4] CBHI Annual Report 2013/14

[5] These percentages reportedly represent the CBHI coverage of the target population which is approximately 95% of the total population who do not have other health insurance.

[6] This description refers to the CBHI structure prior to its move to Rwandan Social Security Board (RSSB) in July 2015

[7] Ubudehe is a process at the village-level for community decision-making. Ubudehe incorporates what is essentially 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.

comprised of Ubudehe Categories 3 and 4 (poor & resourceful poor).The annual premium for Category 2 members is RWF 3,000 (USD 4.50) per person. CBHI Category 3 members are only around 1 percent of the population and are better-off (food rich & money rich)—they pay an annual premium of 7,000 RWF (USD10.50). Beneficiaries also pay a small fixed fee of RWF 200 per visit at health centers (which goes towards CBHI administration costs), and contribute a copayment of 10 percent of the total CBHI bill to the district and referral hospitals. Government policy is that Category 1 beneficiaries do not pay health center fees or hospital copayments. Membership of CBHI is family-based and compulsory for all people who do not have other health insurance.

Study Objectives

The access and equity study sought answers to three key questions:

- What barriers exist, if any, to enrollment?
- What barriers and inequities exist, if any, for members in seeking care?
- What financial protection does CBHI provide regarding the costs of obtaining health care?

Research Methods

The study had two main components, details of which can be found in the separate reports:

- Primary analysis involving a CBHI household survey designed specifically for this study and conducted in 2013.[8]
- Secondary analysis involving a review of changes in health care utilization and financing using multi-year Integrated Household Living Conditions Surveys (EICV[9]) conducted in

[8]University of Rwanda-College of Medicine and Health Sciences-School of Public Health (UR-CMHS-SPH). November 2014. Household survey of Community Based Health Insurance (CBHI) enrolees and uninsured households in Rwanda conducted in 2013.

[9]*Enquete Intégrale sur les Conditions de Vie*

2000, 2005, and 2010[10], and a literature review of previous studies of the impact of CBHI.[11]

For the primary analysis the household survey involved interviews conducted between June and August 2013 with a representative sample of 1,330 households (6,000 individuals) enrolled in CBHI and a purposive sample of 399 uninsured households. The data collected included health service utilization (inpatient and outpatient) using 4-week and 6-month recall periods for outpatient visits and inpatient admissions, respectively, out-of-pocket expenditures, perceptions related to the CBHI, living standards measures like consumption, and other socio-demographic factors. Analytical methods used included (i) descriptive statistics to explore the barriers to enrolment and use of health services, (ii) indirectly standardized concentration curves and indices to assess inequality in health service use, (iii) decomposition analysis of the concentration index to assess the contributory factors to inequalities in health service use, (iv) Kakwani index of progressivity to assess the progressivity or regressivity of premiums and out-of-pocket payments, (v) financial catastrophe and impoverishment analysis, and (vi) regression analysis to assess significant factors associated with the use and payment for public health services.

For the secondary analysis, the EICV survey results for the years 2000, 2005-06, and 2010 were analyzed to detect changes in utilization and financing through proxies of annual household consumption including households' own production and annual expenditure.[12] The analysis covered the assessment of inequality in health care utilization between the poor and the better-off, the progressivity of out-of-pocket payments (how much larger payments are as a share of income for the poor than for the better-off), the incidence of catastrophic payments (those that exceed a predetermined threshold) and the incidence of impoverishing payments (those that push households into poverty).

[10]UR-CMHS-SPH. July, 2015. Equity in health care utilization and finance in Rwanda: Analysis of trends from Integrated Living Conditions Surveys conducted in 2000, 2005 and 2010.

[11]UR-CMHS-SPH. December 2013. Desk review findings on the impact of community based health insurance on access and equity in Rwanda.

[12] Demographic and Health Service data could not be used for trend analysis as insurance data were not included before the 2010 survey and insurance data from the 2015 survey were not yet available at the time of conducting this study.

The literature review was conducted in 2013-14 and looked at four peer-reviewed studies on the impact of CBHI that were based on household survey data.[13] These articles examined DHS, EICV and other data through 2008 to describe trends in CBHI coverage, child and maternal care coverage, average annual household out-of-pocket (OOP) health expenditures, percentage of household with catastrophic health expenditures, and CBHI enrollment. All the papers tried to highlight the effect of CBHI on access to, or utilization of, modern health services and on out-of-pocket health expenditures.

Results

Enrollment and coverage

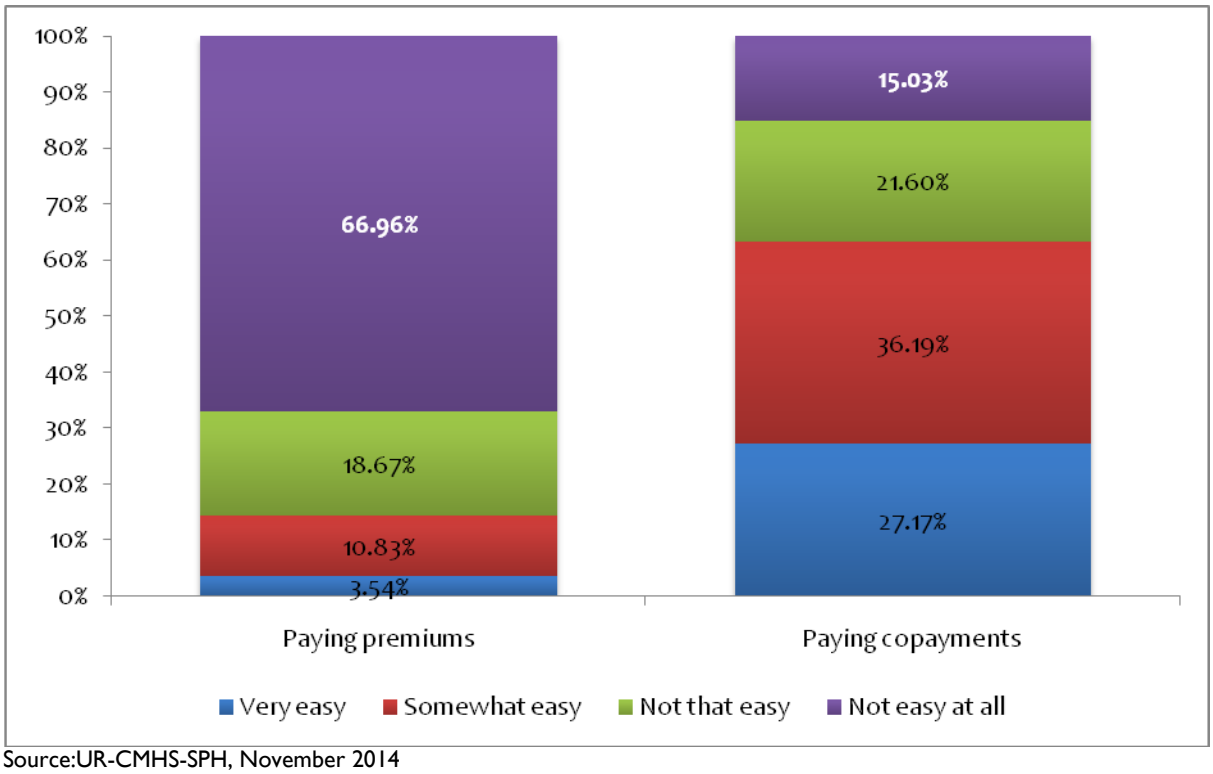
With the national roll-out of CBHI, coverage expanded from less than 7 percent of the CBHI target population in 2003 to 74 percent in 2013.[14] The increase in coverage and the high numbers of households covered illustrates the success of the program but this research has indicated that there are still some barriers to enrolment.

In particular, there has been some reaction to the current premiums that were introduced in July 2011 and this has indicated some possible barriers to enrolment. In the 2013 CBHI household survey, 67 percent of the CBHI Category 2 households surveyed said that the payment of premiums was "not easy at all" (Figure 1) and 22 percent of them said they would not re-enroll in CBHI next year, mostly because they could not afford the premiums (Figure 2). The ability to pay copayments was also identified as an issue, but less so, with 15 percent of CBHI Category 2 households saying payment was "not easy at all" and 21 percent that it was "not that easy" (Figure 1). Sixty-seven percent of these households also reported not being able to access services before completing the payments.

[13] Schneider and Diop, 2001; Saksena et al., 2010; Sekabaraga et al., 2011; Lu et al, 2012.

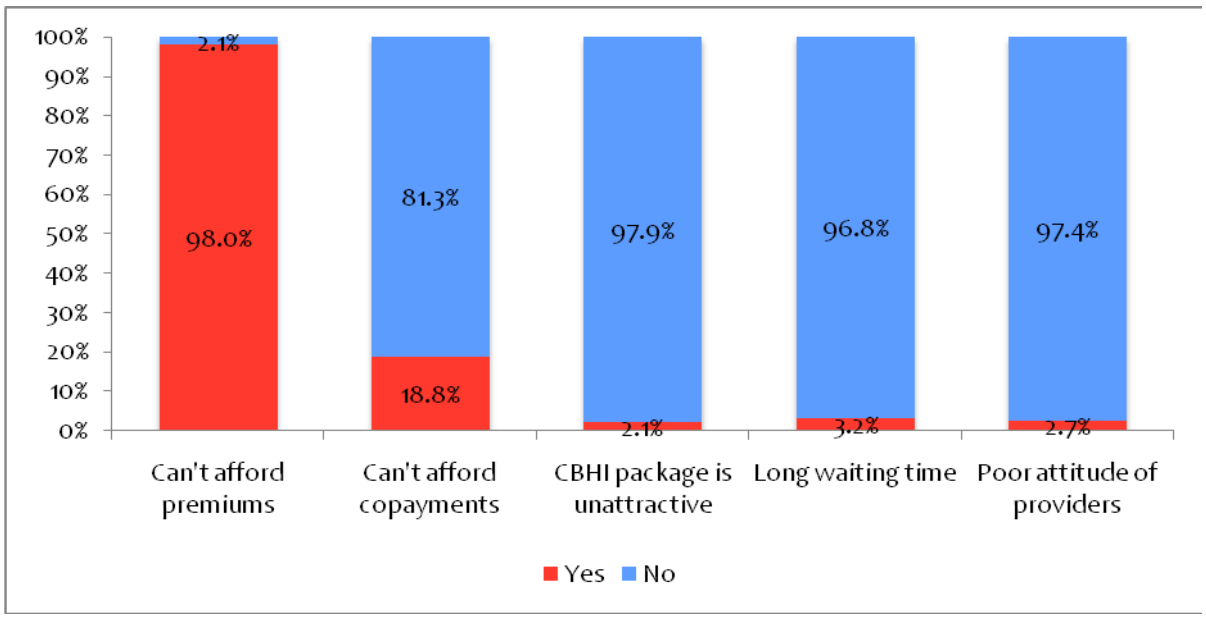
[14] The membership target populations used by the districts have reportedly been the estimated total population less the estimated number of people insured under other schemes,

Figure 1. Ease of paying premiums and copayments for CBHI Category 2 households



Source:UR-CMHS-SPH, November 2014

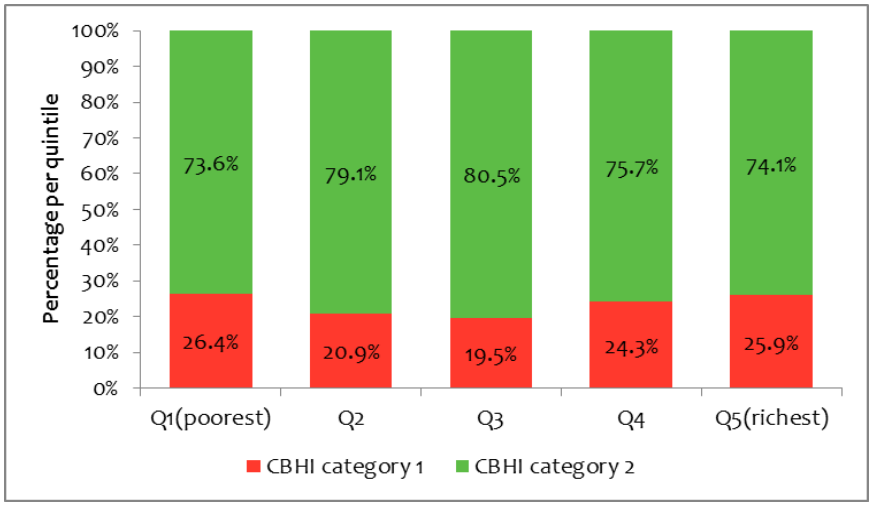
Figure 2 Reasons why households will not re-enrol next year in the CBHI



Note: Only CBHI category 2 households who do not intend to re-enrol next year. *N* = 195; 192; 190; 190; 189 respectively
Source: UR-CMHS-SPH, November 2014

A comparison of the numbers of people in CBHI categories with the per capita income quintiles indicates another variation in enrollment among beneficiaries across income categories (see Figure 3). The comparison shows that CBHI Category 1 members are found in all quintiles, with almost as many in the richest quintile (25.9%) as in the poorest quintile (26.4%). Similarly, Category 2 members are found in all quintiles, with as many in the poorest quintile as in the richest. A re-examination of the Ubudehe categorization, a process already underway by the Government of Rwanda, can assist in improving equity of health utilization and finance among CBHI beneficiaries.

Figure 3. Distribution of CBHI households by CBHI categories and consumption quintiles

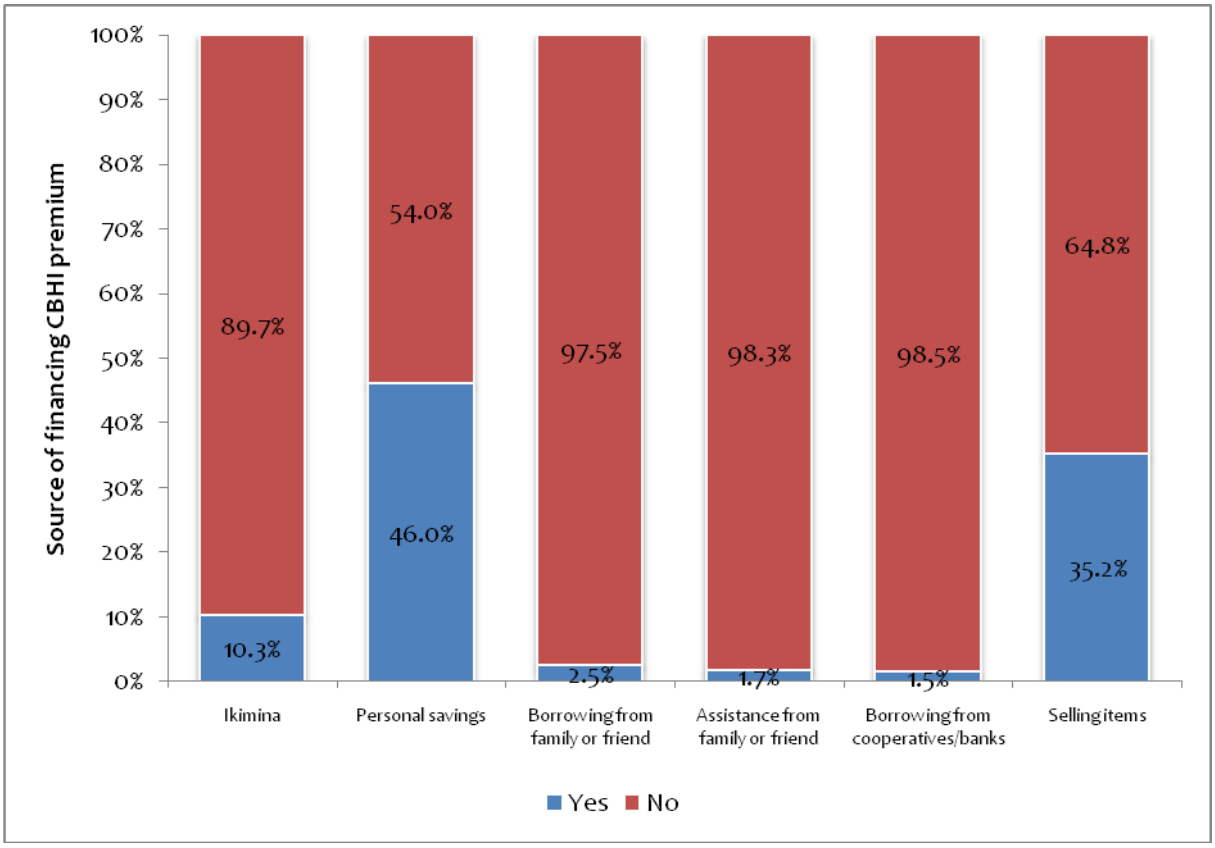


Source: UR-CMHS-SPH, November, 2014

Although the introduction of the graduated premiums has reduced inequity, some still persists among Category 2 members, who comprise around 73 percent of members and range from "poor" to "less poor." Further evidence of some hardship for CBHI Category 2 households is provided in the same household survey, which indicated that 46 percent of households reported that they financed their premiums from personal savings and 35 percent from selling items such as small animals (see Figure 4). A further 10 percent get funds through *Ikimina*[15] and 6 percent from borrowing and assistance.

[15] A community-based loan scheme.

Figure 4. Source of financing CBHI premiums, CBHI Category 2 members



Source: UR-CMHS-SPH, November, 2014

The household survey also included interviews with a non-representative sample of uninsured households. Similar to the results reported for the insured, the great majority (90%) of the uninsured households reported being in CBHI category 2 compared to 9 percent and <1 percent in CBHI categories 1 and 3, respectively. This indicates that the some of the indigent population remains uninsured even though their premium would be fully paid by the Government of Rwanda. Fifty-one percent of these uninsured people were not able to pay all the costs incurred the last time they sought health care with these people reporting problems paying for medicines (72%), laboratory tests (51%), and hospitalization (13%). Fifty-five percent said that they had at least once avoided seeking care when it was needed. Eighty-nine percent of uninsured respondents reported that they were previously enrolled in CBHI, and nearly all of them said they stopped because they could not afford the premiums.

Health care utilization

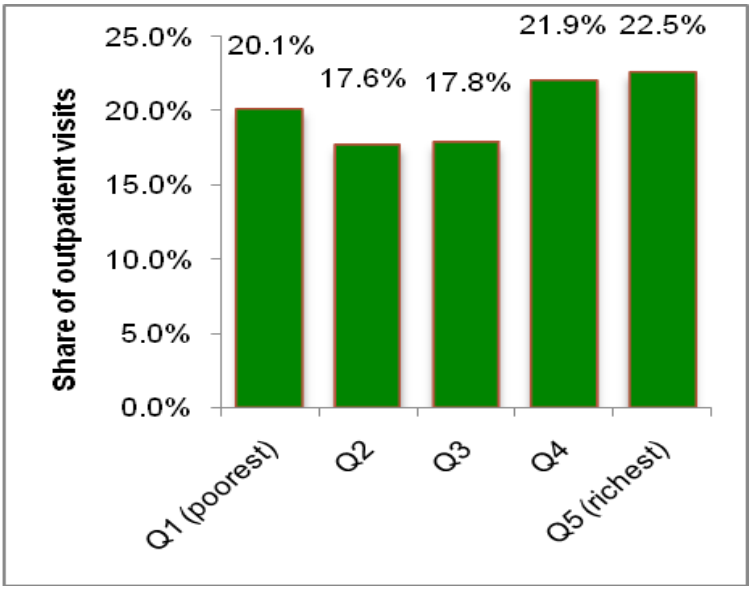
CBHI appears to have had a positive impact on health care utilization, with significant increases since 2003. CBHI is only one factor, however, since the Government has also made major improvements in the availability of services, increases in resources such as staffing and medicines, and quality of care. Performance-based financing has contributed significantly to these improvements.

Findings from the Rwanda literature review (UR-CMHS-SPH, December 2013) indicated that insured persons in Rwanda were much more likely to use modern health care in general, that children whose mothers had a health insurance of any type were twice as likely to use modern health services than other mothers in the event of cough or fever, and that women covered by health insurance were 1.6 times as likely to deliver in a modern health facility as women who did not have health insurance. In addition, children were more likely to use medical care when needed in 2008 compared to 2005.

In terms of the equity of outpatient utilization across the whole population, the EICV trend analysis showed that the situation in 2000 was highly inequitable, with 10% of outpatient visits used by the poorest quintile and 40 percent used by the richest quintile (UR-CMHS-SPH, July 2015). By 2010, however, the situation had improved with 14 percent of outpatient visits made by the poorest quintile and 27 percent made by the richest quintile. The 2013 CBHI household survey shows that among CBHI members, utilization is quite equitable with 20 percent of primary health care outpatient visits made by the poorest quintile which is almost the same as the 22 percent used by the richest quintile (see Figure 5).[16] However, the situation is different for public hospital outpatient visits where the poorest 40 percent of CBHI members account for only 25 percent of visits compared with the wealthiest 40 percent who account for 65 percet of visits. The structure of copayments may be one explanation for this anomaly.

[16] As the proportion of the population covered by CBHI grows one would expect a closer correlation between equity of utilization for the whole population with that for CBHI members.

Figure 5. Percentage share of primary health care outpatient visits, by income quintile, across all CBHI members, 2013

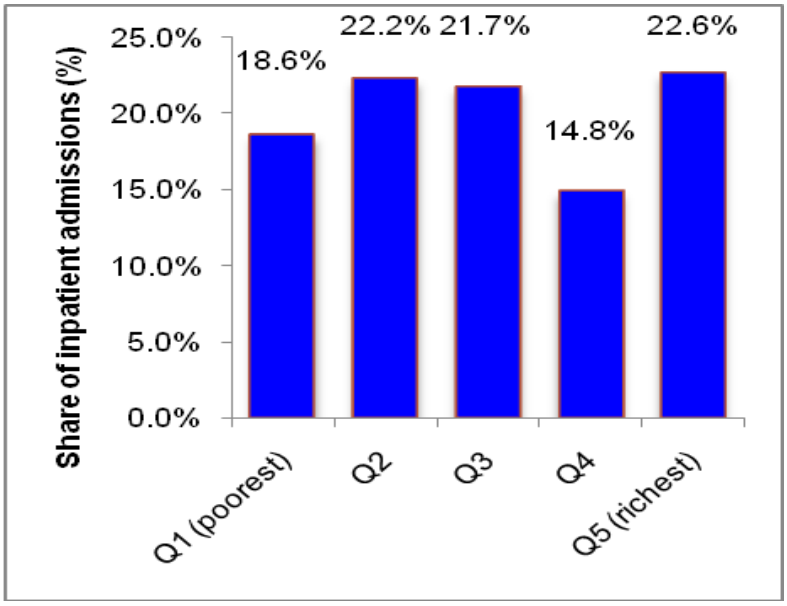


Source: UR-CMHS-SPH, November 2014

Inpatient admissions also became somewhat more equitable across the whole population, changing from 8 percent used by the poorest quintile and 33 percent by the richest quintile in 2005[17] to 18 percent used by the poorest quintile and 30 percent used by the richest quintile in 2010. Among CBHI members, the situation found in 2013 is quite equitable, with 19 percent used by the poorest quintile and 22 percent used by the richest quintile (see Figure 6).

[17] In EICV 2000, inpatient admissions were calculated differently, it was excluded for the comparison with subsequent years.

Figure 6. Percentage share of inpatient admissions, by income quintile, across all CBHI members, 2013



Source: UR-CMHS-SPH, November 2014

Financial risk protection and equity

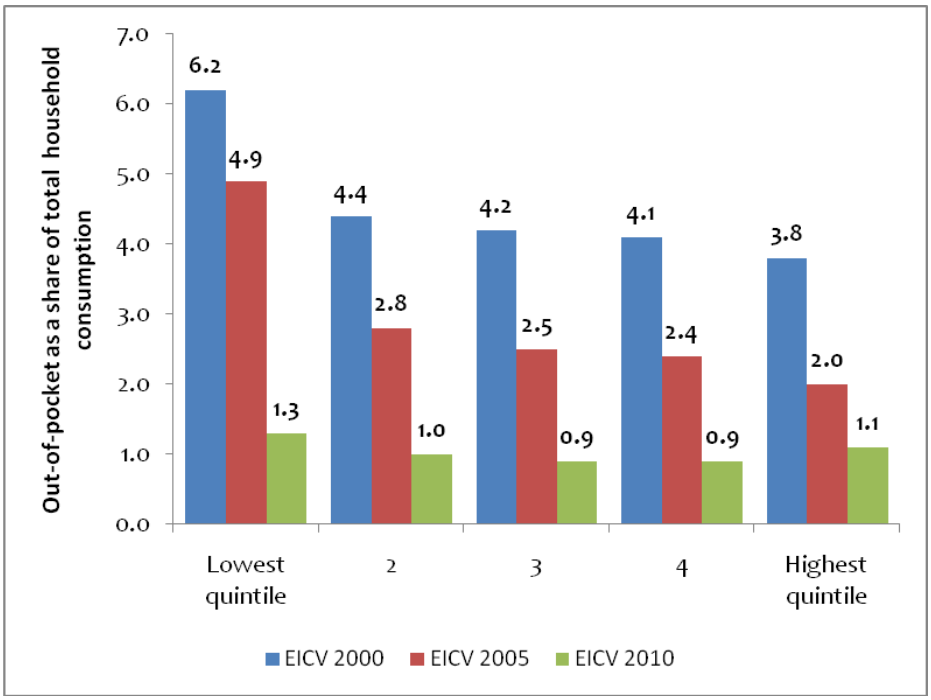
The literature review (RSU-SPH, December 2013) shows clearly that being a CBHI member substantially decreased out-of-pocket expenditure. And that this was consistently observed across all quintiles of households and for most of the categories of health expenditures (including consultation, drugs, and hospitalization).

The incidence of financial catastrophe resulting from out-of-pocket payments for health services substantially decreased between 2000 and 2010, with the proportion of all households (insured and uninsured) spending over 10 percent of household consumption falling from 11 percent in 2000 to 2 percent in 2010 (UR-CMHS-SPH July 2015). And this has been a major conclusion of most studies (UR-CMHS-SPH, December 2013). In terms of CBHI Category 2 members, the proportion of households spending over 10 percent of household consumption was only 0.4 percent according to the 2013 CBHI household survey.

The EICV Trend Report shows that equity of out-of-pocket health expenditure also significantly improved over time (RSU-SPH, July 2015). Between 2000 and 2010, the ratio between rich and

poor of 3.8 to 6.2 flattened considerably to 1.1 to 1.3 (see Figure 7). However, there is still room for improvements. In 2013, among CBHI Category 2 members, out-of-pocket health service payments was still regressive, with the poorest quintile spending slightly over 0.25 percent of their income on out-of-pocket health expenditure compared to the richest quintile that pay about 0.11 percent of their income. And the application of a flat copayment is regressive by nature, and that is also the case here since CBHI Category 2 (less poor) and 3 (well-off) members pay the same copayment.

Figure 7. Out-of-pocket health payments as a share of household income



Source: UR-CMHS-SPH, July 2015

Membership satisfaction

Apart from the issues of access and equity mentioned above, the 2013 CBHI survey indicated that members across all categories felt very positive about the scheme, with respondents stating that the benefits of CBHI membership included lower health care costs (97%) and better access to drugs (73%). However, only 23 percent and 24 percent of surveyed members said there was a benefit in terms of hospital access and free ambulance transfer, respectively.

Conclusions

Despite the overall high level of membership in CBHI, the changes made to the CBHI premium structure and rates in July 2011 appear to have had some impact on members. The results of the 2013 household survey indicated that the majority (67%) of Category 2 households felt that the

payment of premiums was not easy and a significant portion (22%) said they would not re-enroll in CBHI in the next year, mostly because they could not afford the premiums and/or copayments. Twenty-one percent of Category 2 households said that they had to pay their premiums in instalments and 67 percent of them reported not being able to access services before completing the payments.

Although the introduction of the graduated premiums reduced inequity in general, some persisted among Category 2 members, who comprised around 76 percent of members. Also, the application of a flat copayment is regressive since poorer Category 2 and 3 members pay the same copayment as better-off members in those two groups.

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