



# ACTUARIAL STUDY OF THE PROPOSED SINGLE NATIONAL HEALTH INSURANCE SCHEME IN TANZANIA

A Summary Brief

HP+ POLICY *Brief*

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## Background

Under the draft Health Financing Strategy 2016–2020, the Ministry of Health, Community Development, Gender, Elderly and Children proposed a single national health insurance (SNHI) scheme as a means to end fragmentation of health insurance coverage, increase resources for health, provide a minimum benefits package for all, and increase the efficiency of health spending. The health financing strategy—which was developed by the ministry with support from several development partners including the German Development Cooperation (GIZ) and the Health Policy Plus (HP+) project, funded by the U.S. Agency for International Development—has been reviewed by senior leadership of the government of Tanzania.

While SNHI may be the ultimate goal to progress towards universal health coverage in the country, it is likely that a phased implementation approach will be adopted. This phased implementation could involve first making community health funds (CHF) uniform across the country, in terms of the benefits package offered, contribution rates, and provider payment mechanisms, as well as consolidating management and administration to the national level. Recognizing that scaling up enrolment and retaining members has been an issue with CHFs in the past, more stringent enforcement strategies are being considered. Sources of funds for the government to subsidize CHF enrolment for the poor are under consideration but yet to be finalized. Similarly, prior to the implementation of SNHI, ways to manage solvency between CHF and the National Health Insurance Fund (NHIF) are under consideration. Lastly, institutional arrangements for CHF at the national level are yet to be finalized. These changes, when finalized, will be

## Health Insurance in Tanzania

Tanzania's proposed single national health insurance scheme will build on the existing National Health Insurance Fund's (NHIF's) administrative structures to manage contributions and enroll participants. As of October 2017, NHIF, which primarily provides health insurance for the formal sector, had over 750,000 primary members and an estimated 3.5 million total beneficiaries.

Over 2.1 million rural and informal households currently have access to a community health fund (CHF)—district-level schemes with no set benefits package or uniform contribution rate. Several development partners have supported strengthened CHF schemes in specific regions of the country. Since 2014, PharmAccess has been implementing the improved CHF (iCHF) scheme in the Kilimanjaro, Manyara, and Arusha regions in northern Tanzania. These schemes provide more comprehensive benefits packages and receive managerial and financial support from PharmAccess.

For this actuarial analysis, NHIF and PharmAccess provided access to their enrolment, claims, and contributions data for the NHIF scheme and the iCHF scheme respectively.



operationalized through revisions to the current National Health Insurance Fund Act (1999) and Community Health Fund Act (2001), and will represent important intermediate steps prior to bringing an SNHI bill before Parliament.

In addition, as a requirement for establishing the SNHI scheme, an actuarial feasibility study was requested to project the scheme's initial and ongoing financial viability. The results were used to inform senior decision-makers' preliminary reading of the draft SNHI bill, and will be used in the future to shape the design of the scheme, understand the need for government resources for stabilizing the scheme, and clarify priorities in finalizing the scheme's implementation plan. The actuarial analysis involved:

- Forecasting multi-year revenues and outgoing healthcare claim costs expected to be paid by the SNHI
- Incorporating projected administrative expenses, including enrolment costs, to understand the sustainability of the SNHI fund, given projected resources
- Conducting scenario analysis on the projected revenues and outgoing healthcare claims as a result of varying utilization rates, administrative expenses, and other factors
- Providing an overall summary of the forecasted sustainability of the SNHI and recommendations to reduce the risk of insolvency

This brief summarizes the actuarial feasibility of implementation of SNHI and provides recommendations on how to promote the sustainability of such a single payer scheme as Tanzania advances on its path towards universal health coverage. It should also be informative to other countries in the region considering similar reforms both in terms of the necessary analyses and the process involved.

## Methodology

HP+ contracted Ernst & Young to conduct the actuarial feasibility study, with support from HP+ staff. Additional financial support for a local consultant was provided by GIZ. The study entailed modelling various components relevant to SNHI's operations and then bringing them together to project the solvency of the fund and consider various scenarios from 2017 to 2021. The analyses were informed by initial financial sustainability modeling conducted under the predecessor Health Policy Project, and further refined under HP+. The various components of the actuarial analysis include:

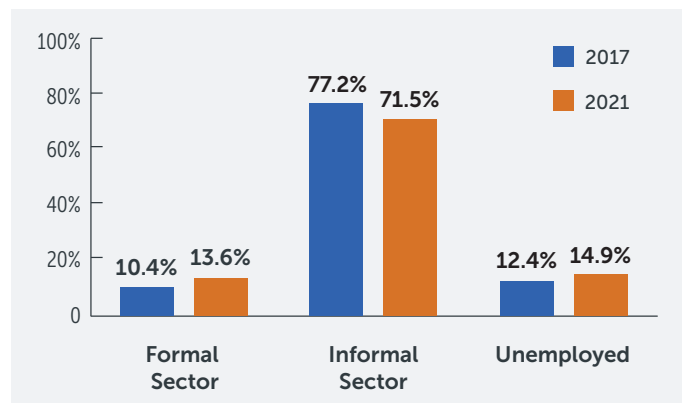
- Estimating the size of relevant population groups
- Projecting the population that can be enrolled in the SNHI scheme
- Estimating contribution income and other revenue
- Estimating total health care costs that would be paid through the SNHI scheme
- Estimating total non-health care costs for the SNHI scheme
- Projecting the future financial solvency of the SNHI fund

It is important to note that there were several limitations to the study related to, but not limited to, lack of clarity on fund design, data availability from the NHIF, and data quality. As a result, several assumptions were necessary to conduct the analysis. Despite these limitations, the study illuminates some of the key risks faced by the fund, and suggests design decisions that need to be supported by further analysis. The results presented in the next section are based on Ernst & Young's "Final Report on the Actuarial Feasibility Study of the Single National Health Insurance Fund for Tanzania," submitted to HP+ in 2017. Figures and tables have been developed based on the findings from that report, unless otherwise noted.

## Population Projections

Population projections for the SNHI from 2017 to 2021 were calculated first by age and gender, and then across employment categories (see Figure 1). A mix of domestic and international data sources were used containing both historical census data and projections. Growth in the population was kept constant at 2.7% per annum based on the average annual intercensal growth rate from 2002 to 2012. Population gender and age distributions were projected to remain relatively consistent over time. Projections on the labour force composition over time were based on the Tanzania National Bureau of Statistic's 2014 Integrated Labour Force Survey and assumptions that the formal sector would continue to grow at 10% per annum and the unemployment rate would remain constant. This implies a gradual formalization of the economy over time, consistent with past experience. Family size estimates were applied to different employment categories based on existing data from the NHIF and improved community health fund (iCHF). The poor/near-poor population were projected to decline over time as Tanzania's economy continues to grow. This is consistent with Household Budget Survey data, which found the food-poor population had declined to 9.7% by 2012, from 11.8% in 2007.<sup>1</sup>

**Figure 1. Projected Employment by Sector**

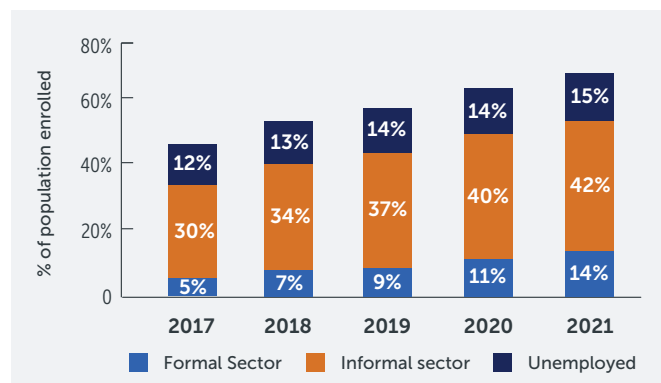


## Enrolled Population

The actuarial study assumed that total annual SNHI enrolment would meet the targets set in the draft health financing strategy. Figure 2 shows the mix of enrolled populations, based on the population projections above. Dependency ratios were used to define the number of beneficiaries associated with each primary member.

The actuarial analysis assumes that all public sector employees and their dependents are enrolled from SNHI's first year onwards, and that all formal sector employees (public and private sector) are enrolled by the fifth year. This will require effective enrolment and enforcement strategies with salaried workers, but should be achievable with proper regulation and sensitization. The majority of enrolment (approximately 64% in the first year) will need to come from the informal sector to meet the ambitious targets set in the strategy. Enrolling the informal sector poses a number of challenges, including: identification, voluntary enrolment of those who are healthy, lack of education on insurance, insufficient communication on the benefits of membership, low premium collectability, and enrolment

**Figure 2. Enrolment Scale-Up Plan**



<sup>1</sup> Food-poor is based on a poverty line of TSh 31,662 monthly per capita consumption, and defines households where food represents a major proportion of consumption and food insecurity is high.

lapses. These are issues that many countries trying to achieve high insurance coverage are faced with.

The poor and near-poor, subsidized by the government, are assumed to be fully enrolled from the first year onwards, though their utilization patterns are assumed to lag behind other population segments at the outset, based on evidence from Tanzania and comparable countries. Identification of the poor will be based on records contained within the Tanzania Social Action Fund (TASAF) database, which adopts a two-stage means testing and community identification process. Based on the economic growth and progress seen in Tanzania over the last several years, the proportion of the population classified as poor is expected to diminish steadily over time (from 7.7% in 2017 to 6.3% in 2021), which is reflective of the results of successive Tanzania Household Budget Surveys.

### Estimated Revenue and Contribution Income

For the formal sector, salary levels were projected using data from existing NHIF members, the 2014 Formal Sector Employment and Earnings Survey, and estimations of salary inflation. Contribution rates are fixed at 6% of total salary, split equally between employer and employee, with 100% collection compliance assumed due to direct payroll deductions. At the time of this actuarial study, the draft health financing strategy had set contribution amounts for the informal sector per household, with a distinction between urban and rural locations based on proposed CHF reforms. Urban households were expected to contribute 180,000 Tanzanian shillings (TSh) (approximately USD 81) per year while rural households were expected to contribute TSh 60,000 (approximately USD 27) per year (Table 1). These rates are assumed to increase with inflation each year. There is an underlying assumption that urbanization will impact the mix of urban and rural households over time (33% of households are urban, increasing to 36% in 2021). Both these factors result in a net increase in the average household contribution rate over time, given the urban contribution rate is three-fold higher than the rural contribution rate. The same contribution rates are expected to apply to the non-poor unemployed. The poor are assumed to have their contributions paid for by the government at the rural household rate (TSh 60,000 per year).

**Table 1. Contribution Rates Used for the Actuarial Study**

Population Segment	Annual Contribution Rate (2016 rates, subject to inflation)
Formal sector	6% of salary (3% employee/3% employer)
Informal sector/unemployed	TSh 180,000 per household (urban); TSh 60,000 per household (rural)
Poor	TSh 60,000 per household (paid by government)

Source: Draft Health Financing Strategy 2016–2020

Currently, there is discussion on whether to classify the informal sector based on ability to pay, rather than geographic location, with a proposed range of TSh 30,000 to TSh 90,000 per year per household, using data and criteria set by the Tanzania National Bureau of Statistics. If this approach is developed and adopted, it will have an impact on the solvency of the fund that needs to be explored further. A major simplifying assumption from the study is that there is no lapse in enrolment or costs associated with re-enrolment. This will largely be dependent on the effectiveness of enrolment agents.

Previous analyses completed by HP+ in consultation with the Ministry of Health, Community Development, Gender, Elderly and Children indicated that there was a risk that contribution income on its own may not be sufficient to maintain the solvency of the SNHI scheme, which

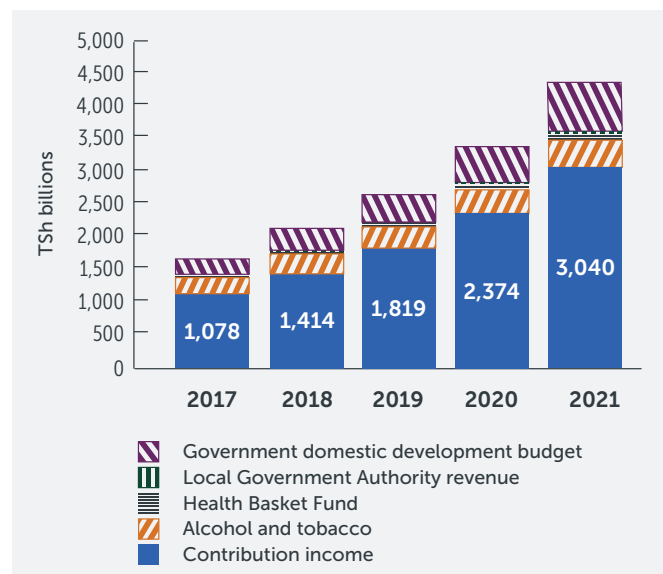
has been the case in several other developing countries. Therefore, it seemed prudent to consider other sources of funding for SNHI from the outset. The potential sources of revenue include commitments from the government's domestic development budget vote for health, revenue from taxes collected by local government authorities, the Health Basket Fund (which represents pooled resources from a set of development partners directed through the ministry to local government authorities and facilities on-budget), and earmarks from alcohol and tobacco product taxes (value-added and excise taxes). These potential other sources of funding could be made accessible based on the number of poor and near-poor enrolled in the scheme, as they represent a government priority. These sources could also be used to cover contributions for other populations, such as the informal sector, as other countries (such as Thailand) have employed as a strategy to reach high enrolment coverage. The size of these potential additional funding streams relative to contribution revenue is estimated in Figure 3 (in 2017 terms), and ranges from 52% of contribution income in 2017 to 42% of contribution income in 2021. Revenue from these different sources could be assigned to the SNHI scheme annually to ensure expenses are covered and fund any deficits. Investment income was assumed to remain consistent with returns achieved by the NHIF in recent years (9.8% per annum).

### Estimated Health Care Costs

Health care expenditure has been projected based on the two benefits packages proposed in the draft health financing strategy: the Minimum Benefits Package (MBP) and the Minimum Benefits Package Plus (MBP+). In the absence of further guidance at the time of this analysis, the MBP package was modelled on the benefits package offered under iCHF operated by PharmAccess Foundation, and the MBP+ package was based on the current NHIF package. Specific inclusions and exclusions are listed in Table 2.

Utilization and cost for each package was based on claims data from iCHF and NHIF (see figures 4 and 5), for each of 10 benefit categories (see Box 1) and four facility types (faith-based, public, private, and non-government).

**Figure 3. Additional Potential Sources of Revenue Relative to Contribution Income**



Source: Dutta, "Revised Actuarial & Fiscal Space Model for a Single National Health Insurer in Tanzania"

### Box 1. Benefit Categories

- Inpatient diagnostic examinations
- Outpatient diagnostic examinations
- Inpatient charges
- Medicines and consumables
- Inpatient procedural charges
- Outpatient procedural charges
- Inpatient registration/consultation charges
- Outpatient registration/consultation charges
- Surgical charges
- Other charges



**Table 2. Proposed Benefits Packages under SNHI**

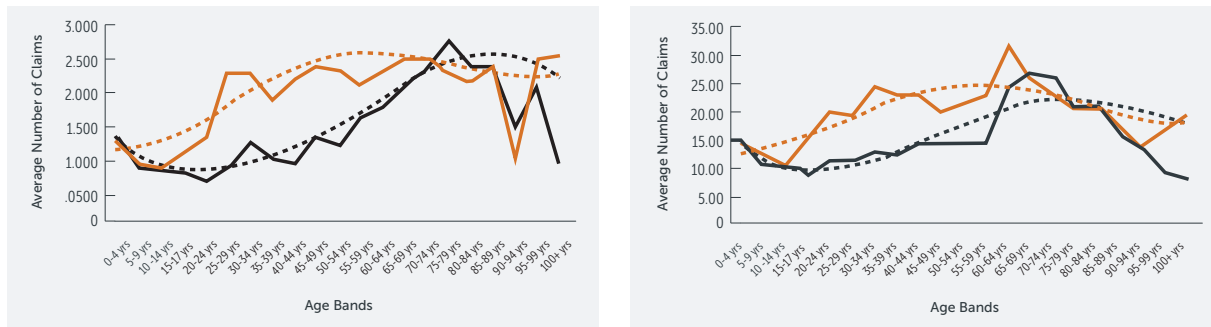
MBP Package	MBP+ Package
<p><b>Inclusions</b></p> <ol style="list-style-type: none"> <li>1. Outpatient services—general and specialist consultations, diagnostics, medicines, and primary surgical operations</li> <li>2. Inpatient services—general and specialist services, diagnostics, medicines, surgical operations, and general ward admission</li> <li>3. Maternity, newborn, and child health</li> <li>4. Dental services limited to fillings and extractions</li> <li>5. Medical emergencies</li> </ol>	<p><b>Inclusions</b></p> <ol style="list-style-type: none"> <li>1. All essential interventions at the primary health care level (except those excluded below)</li> <li>2. Diagnostic tests (investigations)—all MBP investigations, as well as CT scans, ECG, ultrasound, MRI, insulin, urine analyses, etc. (not an exhaustive list)</li> <li>3. Procedures:               <ol style="list-style-type: none"> <li>i. 37 general and 68 specialized procedures, 90 minor and 128 major surgeries, 63 specialized surgeries (based on a full list)</li> <li>ii. ICU stay up to 5 days with specialist consultation (&lt; 4/week)</li> <li>iii. Medical and orthopedic appliances (up to 8), implants (25% co-pay), and ophthalmological services (primary member only, TSh 20,000 per 3-year period)</li> </ol> </li> </ol>
<p><b>Exclusions</b></p> <ol style="list-style-type: none"> <li>1. Expensive specialized investigations (e.g., CT scans) and expensive specialized services (e.g., dialysis and heart surgery)</li> <li>2. Cancer treatment</li> <li>3. All drugs that are not listed in the Essential Drug List</li> <li>4. Aids and prostheses, including eyeglasses</li> <li>5. Mortuary services</li> <li>6. Medical services abroad</li> <li>7. Assisted reproductive services</li> <li>8. Cosmetics and cosmetic surgeries</li> <li>9. Services related to alcoholism, drug abuse, tobacco abuse, criminal abortion, or attempted suicide</li> <li>10. Private ward admission</li> <li>11. Injuries arising from participating in riots, demonstrations, unrest, and civil strife</li> <li>12. Services provided through vertical programs (HIV, tuberculosis, family planning, etc.)</li> </ol>	<p><b>Exclusions</b></p> <ol style="list-style-type: none"> <li>1. HIV first-line and second-line antiretroviral therapy, but not opportunistic infections resultant from HIV disease</li> <li>2. HIV testing (rapid and confirmatory) and CD4, but not viral load</li> <li>3. Tuberculosis treatment</li> <li>4. Family planning and related commodities inclusive of condoms</li> <li>5. Childhood immunizations</li> <li>6. Treatment and prevention for major epidemic conditions, such as cholera, meningitis, etc.</li> <li>7. Mental health, alcohol, and drug dependency conditions</li> <li>8. Cosmetic surgery, ritual circumcision, dentures, and cosmetic implants</li> <li>9. Eyeglasses and certain prosthetic appliances, wheel chairs,</li> <li>10. Injuries related to employment</li> </ol>

Source: Dutta, "Revised Actuarial & Fiscal Space Model for a Single National Health Insurer in Tanzania"

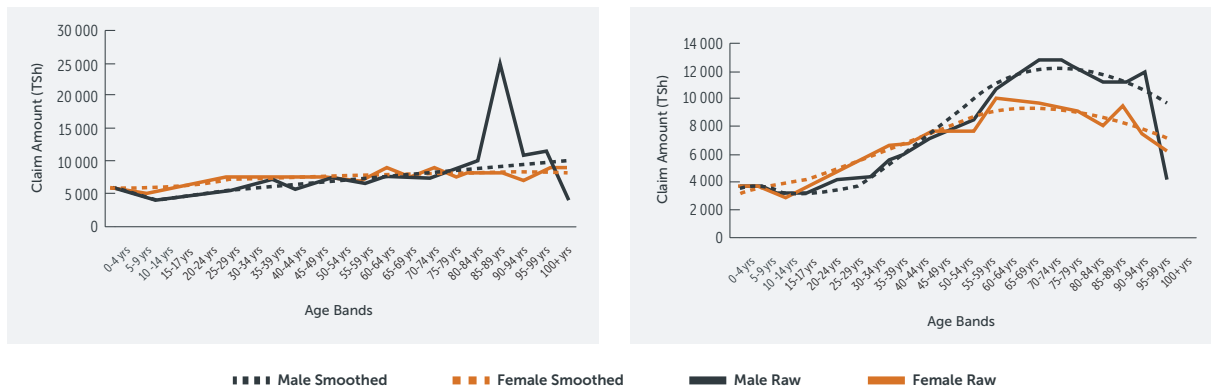
Smoothed utilization and cost curves, by age and gender, were derived to project utilization and cost of the MBP and MBP+ packages. These curves formed the basis for future projections, however, several adjustments were necessary.

While NHIF currently only reimburses for claims under its benefits package using a fee-for-service model, it is envisaged that under SNHI, primary care will be funded through capitation, for both the MBP and MBP+ packages. However, there was insufficient detail from NHIF claims data to accurately determine which services that were currently reimbursed on a fee-for-service basis would in future be appropriately covered under the capitation system. Therefore, an estimation was needed of the proportion of claims from NHIF data that could reasonably be assumed to be serviceable at primary facilities under a capitation model. The 2016 World Health Organization report, *Public Financing for Health in Africa: from Abuja*

**Figure 4. iCHF and NHIF Utilization Data (2016)**



**Figure 5. iCHF and NHIF Average Claim Cost Data (2016)**



to the SDGs, estimated that 40% of Tanzania’s total public spending on health in 2012 was on primary health care. This was assumed to represent the portion of primary care sought by the formal sector, while the poor and unemployed would seek a higher proportion of care (estimated at 55%) from primary facilities for a number of reasons, including access, health literacy, and ability to pay.

These proportions were applied to the outpatient benefit categories in Box 1. Capitation costs were calculated based on the average cost derived from current utilization and claims costs deemed to be provided at primary care facilities under NHIF using the methodology above. These costs have been subject to inflation each year but have not been subject to any other adjustment. This is acknowledged as a major limitation of the model as the total costs under capitation will not vary significantly from the total costs under the fee-for-service model, given the average claims costs under fee-for-service is what is driving the derivation of the capitation payments. In an ideal scenario, capitation agreements would be set with facilities participating in SNHI independently of the actuarial study to ensure they properly align incentives, limit gaming, and reinforce the viability of the scheme.

For the MBP, capitation payments were based on the existing capitation structure used under the iCHF scheme. There was insufficient claims data from the iCHF scheme to project future inpatient claims that would be reimbursed under a fee-for-service model through the MBP package. Comparisons were made to the more mature NHIF claims data, and on this basis, inpatient utilization under the MBP was increased. Average inpatient claims costs for the MBP were taken from the iCHF scheme, with no adjustment based on NHIF claims costs needed.

No adjustments to utilization patterns were made for the formal sector given the NHIF is a long established scheme and implementation of SNHI is unlikely to cause much change to these members’ care seeking behaviour. For the poor and near-poor, experience from other countries that have implemented national health insurance schemes indicates that their

care-seeking behaviour would lag behind wealthier segments at the outset before starting to catch up. The informal sector is expected to see an increase in inpatient and outpatient services once enrolled in SNHI. A preference towards private facilities has been assumed for informal sector populations, based on historical elections made by patients covered by the iCHF scheme. A summary of the key assumptions in projecting health care costs under each package is provided in Table 3.

**Table 3. Summary of Health Care Expenditure and Adjustments for SNHI Benefits Packages**

SNHI Benefits Package	MBP	MBP+
<b>Applicable populations</b>	<ul style="list-style-type: none"> <li>Informal sector</li> <li>Poor/near-poor and unemployed</li> </ul>	<ul style="list-style-type: none"> <li>Formal sector</li> <li>Poor/near-poor and unemployed</li> </ul>
<b>Source of data</b>	<ul style="list-style-type: none"> <li>iCHF scheme implemented by PharmAccess</li> </ul>	<ul style="list-style-type: none"> <li>NHIF formal sector scheme</li> </ul>
<b>Primary Health Care (Capitation)</b>		
<b>Utilization</b>	<ul style="list-style-type: none"> <li>Based on utilization of primary health care from iCHF scheme.</li> <li>Informal sector: Utilization increased by 15% in year 2, no adjustment in year 1.</li> <li>Poor and unemployed: Utilization increased by 15% in year 2, no adjustment in year 1.</li> </ul>	<ul style="list-style-type: none"> <li>Utilization of capitated services based on estimated proportion of four outpatient benefit categories likely to be serviceable at primary health care facilities, based on the proportion of public health spending on primary care in Tanzania (2012).</li> <li>Formal sector: 40% of all claims are expected to be serviceable at primary health care facilities.</li> <li>Poor and unemployed: 55% of all claims are expected to be serviceable at primary health care facilities; utilization reduced by 15% in year 1 to account for slow uptake of insurance and increased by 15% in year 2.</li> </ul>
<b>Cost of Capitation</b>	<ul style="list-style-type: none"> <li>Based on capitation rates, by facility from iCHF scheme</li> </ul>	<ul style="list-style-type: none"> <li>Based on cost of services currently reimbursed on fee-for-service model (assumption that reimbursement rates are fair and past utilization was not supplier induced)</li> </ul>
<b>Hospital-Based Care (Fee-for-Service)</b>		
<b>Utilization</b>	<ul style="list-style-type: none"> <li>Inpatient utilization projected based on the proportion of inpatient claims relative to total claims from the NHIF scheme. Projected to be 50% of inpatient utilization under NHIF.</li> <li>Informal sector: Utilization increased by 40% in year 2, no adjustment in year 1.</li> <li>Poor and unemployed: Utilization increased by 40% in year 2, no adjustment in year 1.</li> </ul>	<ul style="list-style-type: none"> <li>Based on inpatient utilization seen in NHIF claims data.</li> <li>Formal sector: No adjustments were made to utilization rates, as sufficient maturity of the scheme.</li> <li>Poor and unemployed: Utilization by the poor and unemployed reduced by 40% in year 1 to account for slow uptake of insurance and increased by 40% in year 2.</li> </ul>
<b>Cost of services</b>	<ul style="list-style-type: none"> <li>Cost of inpatient claims reflects true cost from iCHF scheme claims data</li> </ul>	<ul style="list-style-type: none"> <li>Cost of inpatient claims reflects true costs from NHIF scheme claims data</li> </ul>

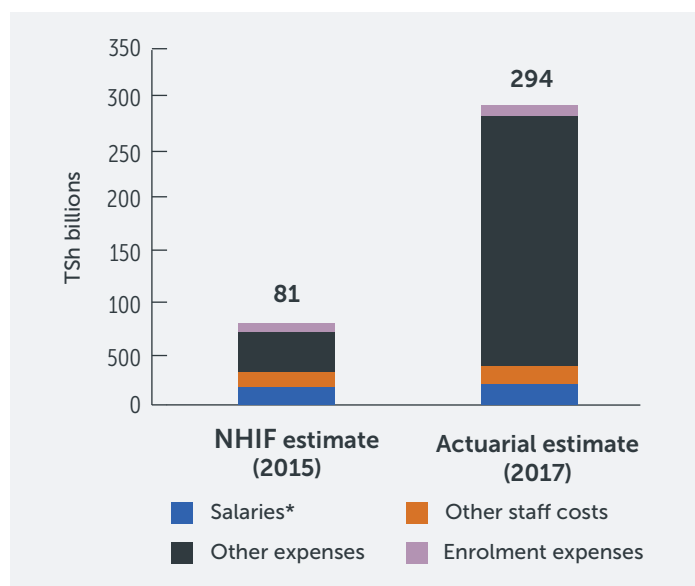


## Estimated Non-Health Care Costs

Non-health expenditure refers to administration, head-office, marketing, and other expenses required to operate the fund. The actuarial study relies on the NHIF's assessment of non-health care costs to be incurred, and the nature of these costs (fixed or variable), before applying these amounts to the first year enrolment target under SNHI. On the basis of the rapid increase in enrolment projected from the implementation of SNHI, the first year start-up costs projected by NHIF seem significantly understated, and have been revised upwards in the actuarial study (see Figure 6). However, they still need to be reviewed extensively and investments in information technology, claims processing, training, marketing, and monitoring and evaluation all need to be considered further.

Experience from other countries suggests that enrolment of the informal sector will require significant active engagement by the health insurance agency. The current model being proposed involves deploying 4,000 enrolment agents throughout the country to acquaint informal sector households (including current CHF members) with the SNHI scheme and secure their enrolment. These agents will be remunerated on a 100% commission basis, earning 5% of the annual contribution rate per household enrolled, consistent with the current iCHF model. It is assumed that successful enrolments per agent will decline each year as the families who are able to afford the contributions and see value in SNHI would have already enrolled, while those who are still unenrolled in subsequent years would have likely already refused membership at the outset of SNHI implementation.

**Figure 6. SNHI Year 1 Non-health Expenditure Projections (NHIF and Actuarial Estimates)**



\* Salaries exclude enrolment agent commissions.

## Projected Future Financial Solvency and Feasibility of the Fund

The actuarial study considers four scenarios. A baseline scenario, which reflects the recalibrated enrolment targets for each population, and three additional scenarios (summarized in Table 4):

- Scenario 1: The poor receive the MBP+ package along with the formal sector
- Scenario 2: Increased utilization (10% higher each year) by the formally enrolled population under a fee-for-service MBP+ package
- Scenario 3: Reduced enrolment among the informal sector and poor, 65% contribution compliance for the informal sector, increased utilization (30% higher in year 1 and 10% higher each subsequent year) for all enrolled populations, and capitation rates reduced by 10% to reflect savings through volume for providers and moving away from fee-for-service for primary health services.

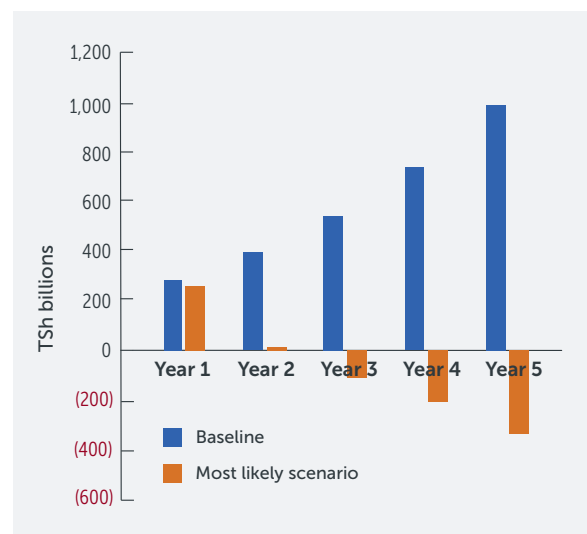
**Table 4. Scenarios Considered for SNHI Financial Projections**

SNHI Component	Baseline	Scenario 1	Scenario 2	Scenario 3
<b>Enrolment scale-up</b>	Recalibrated (as shown in Figure 2B)	Recalibrated (as shown in Figure 2B)	Recalibrated (as shown in Figure 2B)	Recalibrated—reduced among informal sector and poor
<b>Benefits package</b>				
Formal sector	MBP+	MBP+	MBP+	MBP+
Informal sector	MBP	MBP	MBP	MBP
Poor and unemployed	MBP	MBP+	MBP	MBP
<b>Healthcare utilization</b>	Baseline	Baseline	10% higher each year for formal sector	30% higher in Year 1 (all enrollees); 10% higher in subsequent years (all enrollees)
<b>Capitation cost</b>	Baseline	Baseline	Baseline	10% lower to reflect change from fee-for-service model
<b>Contribution compliance</b>	100%	100%	100%	65% among informal sector (100% formal sector and poor)
<b>Impact of Adjustments</b>				
<b>Revenue</b>	N/A	No impact	No impact	Decreased
<b>Expenditure</b>	N/A	Increased	Increased	Increased
<b>Solvency</b>	Surplus	Deficit (years 1–4)	Reduced surplus	Deficit (year 3 and onwards)

Scenario 1 demonstrates that the impact of providing the poor and non-poor subsidized populations with MBP+ benefits will render the fund unsustainable unless the government pools additional external funding into the scheme (see options in Figure 3). Sustainability does improve over time due to the proposed capitation agreements helping to control costs. However, these are yet to be formally calculated and set, and any updates to the rates could threaten sustainability.

Scenario 2 demonstrates that higher utilization of services reimbursed under a fee-for-service model can result in a significant increase in cost year on year and, depending on other factors such as collectability of contributions and reimbursement rates, could threaten the solvency of the scheme.

Scenario 3 is considered the most likely scenario. It is based on expectations regarding slower enrolment progress, difficulty in maintaining contribution compliance among the informal sector, and higher utilization than with the existing NHIF and iCHF schemes. As shown in Figure 7, while a surplus is projected for the initial 2 years, the scheme falls into a worsening deficit in years 3 to 5.<sup>2</sup>

**Figure 7. Comparison of Baseline versus Most Likely SNHI Annual Solvency Projections**

<sup>2</sup> Multiple sensitivity analyses were performed on the baseline scenario to demonstrate the impact of stressing different revenue and expense variables. These can be reviewed in the Annex of the full report.

It is clear that the SNHI scheme, like many national health insurance schemes implemented in developing countries, is at significant risk of running a deficit if implemented as currently designed. As such, it is important to ensure critical design elements are carefully reconsidered before implementation, and updates are made on a regular basis in response to the scheme's performance. The findings point to the following recommendations:

- **Set appropriate payment mechanisms for primary health care.** Capitation rates need to be set, by provider type and region, in consultation with providers, actuaries, and clinical risk analysts. Primary care services to be covered under capitation should be explicitly defined. An appropriately funded and functioning primary health care system will prevent excessive referrals and help control expensive hospital care.
- **Define appropriate clinical pathways and treatment protocols.** This will be critical to controlling costs by ensuring that care is sought and received at the appropriate level of the health system. Promotive and preventive care should be emphasized to reduce the burden on secondary and tertiary facilities. Gatekeeping and referral policies will need to be defined and enforced.
- **Prepare for a significant increase in demand for health care services.** Implementation of SNHI will provide access to care and release pent up demand for services. As such, the government needs to ensure that the health system is equipped to respond to increased demand for services prior to roll out. This includes having the proper infrastructure, human resources, equipment, drugs, and supplies in place. This will be key to minimizing dropout rates and promoting compliance with contribution requirements.
- **Promote compliance with contribution requirements by providing good value and employing effective enforcement strategies.** Contributions compliance will likely be a major issue to contend with, especially among the informal sector, but also among the formal private sector. Effective sensitization to the benefits of SNHI membership backed by demonstrable value in terms of health services received is necessary. Of course, effective enforcement is also required. Strategies could include, linking active membership status to access to other public services, instituting waiting periods, and no-claim bonuses.
- **Budget sufficiently for initial investment and administrative expenses.** The start-up and investment needs to implement SNHI should not be underestimated in terms of funding, human resources, information technology, infrastructure, supply chain, and administrative capacity. However, once SNHI is up and running, non-health expenditure should be maintained at 8–10% of total contribution income, and no more than 15%.
- **Phase SNHI implementation to test and refine different aspects of the scheme.** A phased approach to implementation will allow the NHIF to test and refine administrative systems, pricing policies, accreditation requirements, and reimbursement methods. A phased approach will also help to identify service delivery challenges and gaps that need to be addressed before enrolment scales up further. The current proposal to implement a uniform CHF scheme nationally as a first step, alongside the existing NHIF, may help to identify some of these issues and promote administrative capacity and consistency in service delivery across the country before the scheme is eventually merged with the NHIF to form the SNHI.

The recommendations outlined above highlight the significant analyses, decisions, and preparations required to effectively implement SNHI. In the meantime, progress and momentum towards universal health coverage can be maintained through efforts to implement a uniform CHF nationally. In coordination with other development partners, HP+ will continue to provide ongoing support to the Ministry of Health, Community Development, Gender, Elderly and Children on the technical and operational aspects of SNHI implementation in Tanzania. In particular, HP+ will focus on generating evidence to continue informing decision-making processes so that intermediate steps towards this major reform, including those related to a national CHF, can be implemented efficiently, effectively, and sustainably.

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