HP+ POLICY *Brief*
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Analysis of Cost Escalation at the National Health Insurance Fund in Tanzania

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Introduction

Since 2015, the U.S. Agency for International Development (USAID)- funded Health Policy Plus (HP+) project has provided technical assistance to inform health financing reforms in Tanzania, including the scale-up of health insurance. Universal health coverage, one of the Sustainable Development Goals, has become a major policy priority in Tanzania. To meet this goal, the country is seeking to pass legislation to establish a single national health insurer (SNHI). In the interim, two insurance schemes—the National Health Insurance Fund (NHIF) and an improved Community Health Fund (iCHF)—are providing coverage to Tanzania's population.

A sustainable NHIF, the largest health insurance scheme in Tanzania in terms of revenue, is vital for laying a strong foundation for future implementation of a SNHI (see Table 1). The NHIF, however, has faced a 333 percent increase in healthcare expenditure costs for the benefits it provides since fiscal year (FY) 2011/12 and the average cost per health facility visit has also increased substantially (NHIF, 2018). In addition, the claims ratio—defined as the ratio of claims paid by the insurer to the premiums earned for a one-year period—has worsened by 16 percentage points over the same timeframe (NHIF, 2018).

This increase in expenditure has occurred even though the NHIF covers mostly urban Tanzanians, making up about seven percent of the total population, who typically utilize services at lower rates than their counterparts in countries with comparable health insurance schemes.[1] Overall, increased use of preventative and primary healthcare is desired, so increases to utilization and costs per visit are not in of themselves problematic. But increasing costs need to be monitored in relation to the scheme's revenue, which may be difficult to grow quickly, in order to sustain coverage.

Table 1. NHIF At-a-Glance

Established	1999
Mandatory membership	Formal-public sector workers (civil servants, other government workers, and their dependents); formal-private sector workers
Contribution income from mandatory enrollment	Three percent of employee salary with three percent employer match
Voluntary membership	Informal sector and retirees
Premiums for voluntary enrollment	TZS 1.5 million (US$655) per year per household
Retiree scheme	Retirees who contributed to the NHIF for 15 years qualify for coverage without premium payments (spouses covered as dependents, but not children)
Total membership	3.5 million people as of FY 2016/17

Source: NHIF, 2018

[1] Outpatient service utilization rates per beneficiary are 3.1 visits per year for the National Hospital Insurance Fund in Kenya (Okungu et al., 2017) and 2.7 visits per year for the National Health Insurance Scheme in Ghana ("Status of the NHIS: The Bare Facts," 2016), but only 1.9 visits per year for the NHIF in Tanzania (NHIF, 2018).

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The iCHF, which launched in March 2018, is intended to expand insurance coverage for informal and rural households with some enrollment for the extremely poor, defined as those living on an income below the national poverty line, expected to be subsidized by the government (Lee et al., 2018b). As Tanzania moves toward universal health coverage, the iCHF could be partially subsidized by the NHIF, which has built up sizable reserves to support it. But if the NHIF's claims ratio continues climbing, the scheme will begin to run a deficit and inevitably deplete its reserves and lose the opportunity for cross-subsidization.

If the NHIF and the iCHF are intended as intermediary steps towards the reform objective of a SNHI, the NHIF will need to stabilize its costs. To help reveal potential efficiency improvements prior to any roll-out of the SNHI, HP+ conducted an analysis of the key drivers of the increases in NHIF healthcare expenditure, including the rising average cost per claim. The findings will improve understanding by the NHIF, the Ministry of Health, Community Development, Gender, Equity and Children (MOHCDGEC), public and private providers, and other stakeholders of the avenues that can be pursued to better control NHIF health expenditure levels and manage a more sustainable and efficient scheme. This brief is the first published document to examine these issues in the context of a future SNHI.

Approach

HP+ analyzed the impact of expanding enrollment, changes in the volume and mix of utilization, impact of different levels of the health system being accessed, facility ownership status, population demographics, and regional variations. Expenditure data for these sub-groups were sourced from the NHIF for a five-year period from FYs 2012/13 to 2016/17 to determine trends over time. To account for the effects of inflation, changes in expenditure were calculated in real terms using a base year of FY 2012/13 and adjustments made consistent with the consumer price index in Tanzania (NBS, 2018). HP+ also forecasted a pro-forma NHIF income statement based on recent trends to determine if and when the scheme may begin to run a deficit.

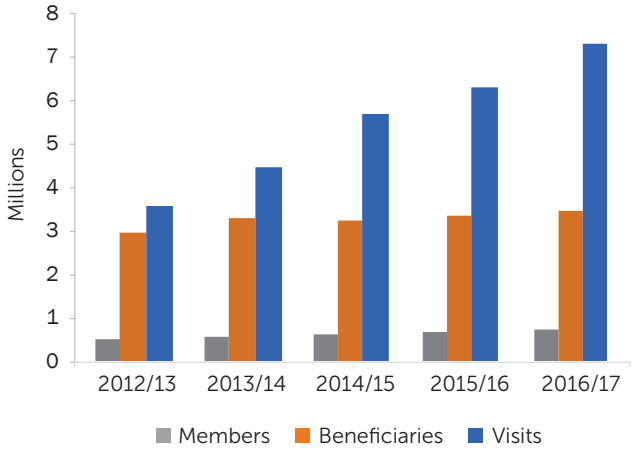
To better understand how to improve reimbursement policies and rates—specifically as they pertain to drugs, commodities, and diagnostics—HP+ tracked the change in the costs of these items over time, relative to the reimbursement rates provided by the NHIF. Lastly, HP+ conducted structured interviews with the NHIF to understand the claims submission and administration processes. HP+ compared claims submitted to claims paid to reveal common errors, make inferences on undesired provider behaviors, and better understand timelines for claims processing to make recommendations on how to increase accuracy and efficiency. We also interviewed public and private facility owners and managers to understand their perspective on contracting with the NHIF and any challenges they face with claims processes and/or reimbursement policies and rates.

Results

Current Financial Position of the Scheme

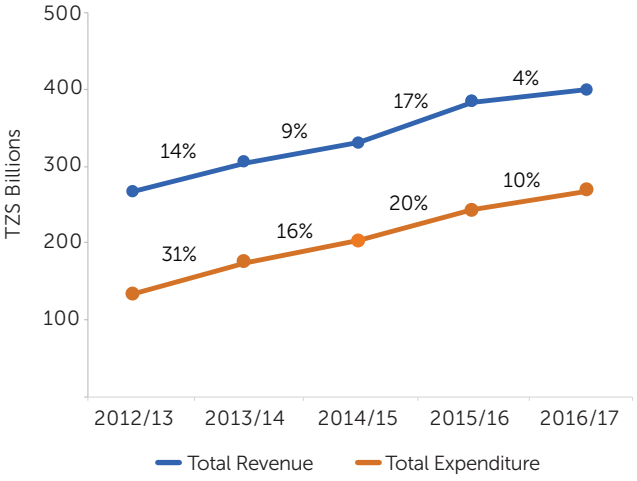
Over the five-year period from FYs 2012/13 to 2016/17, NHIF membership enrollment increased by 40 percent (see Figure 1). Over the same period, the number of beneficiaries covered by the NHIF only increased by 18 percent, as the estimated ratio of dependents to primary members decreased from 5.52 to 4.63. Comparatively, utilization of NHIF-covered services increased much more prominently over the same period with the number of annual visits increasing by 103 percent. Consequently, real annual total expenditure growth has outpaced real annual revenue growth each year from FYs 2012/13 to 2016/17 (see Figure 2).

Figure 1. NHIF Enrollment and Utilization Growth



Source: NHIF, 2018

Figure 2. NHIF Real Total Revenue and Total Expenditure Percentage Growth



Source: NHIF, 2018

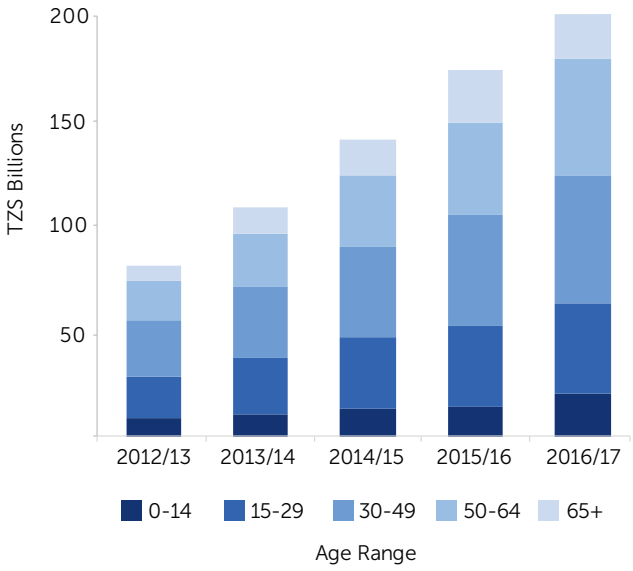
Analysis of historic NHIF income statements since FY 2012/13 revealed that the annual scheme surplus decreased every year, with the exception of FY 2015/16. The annual scheme surplus in FY 2016/17 was two percent lower than in FY 2012/13. The NHIF claims ratio worsened from 47 percent in FY 2012/13 to 63 percent in FY 2016/17. While this trend raises some concerns related to long-term sustainability, the NHIF has carried forward significant after-tax surplus since FY 2007/08, with these assets totaling TZS 1 trillion nominally (US$437 million) as of FY 2016/17, so the short- to medium-term outlook shows no immediate threat to the NHIF in terms of insufficient reserves. Another key sustainability metric is the administrative expense ratio, defined as the ratio of administrative expenses to premiums earned. This ratio has increased from 17 percent in FY 2012/13 to 22 percent in FY 2015/16.

Analysis of Expenditure Growth

From FYs 2012/13 to 2016/17, expenditure growth has been driven by:

- Outpatient services and claims on medicines and consumables
- Beneficiaries seeking services more frequently at hospitals and privately-owned facilities
- Increased utilization in Dar es Salaam and for those ages 55–64. Figure 3 shows expenditure distribution by age range

Figure 3. NHIF Health Expenditure by Age Range

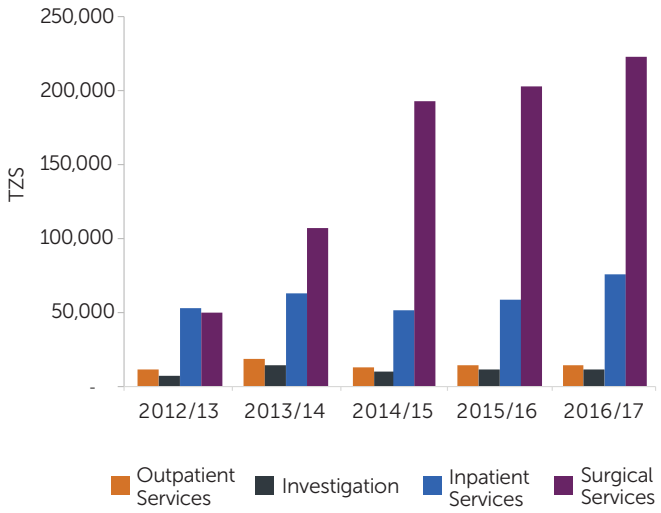


Source: NHIF, 2018

In terms of claims paid per visit, surgical and specialized procedures have increased dramatically in the last five years, up 346 percent (see Figure 4). These expensive procedures represent about nine percent of total claims paid, but their share has declined over time. As a cost control measure, the NHIF could consider a global budget provider payment mechanism that transfers a lump sum amount to providers for specific services, such as surgeries. Meanwhile, procedural charges (e.g., stiches,

wound dressings) and other health charges (e.g., crutches, hearing aids) have been gaining their share of total claims paid, up from two to nine percent, and investigations have also increased from 15 to 21 percent of total claims paid (see Table 2). Claims paid per visit has also increased substantially in higher-level facilities, particularly zonal referral (up 66%) and regional referral hospitals (up 44%). Claims paid per visit at district hospitals, health centers, and dispensaries have not increased significantly over time. The NHIF believes that the increase in expenditure at higher-level facilities is a result of lack of enforcement of the MOHCDGEC referral guidelines (MOHSW, 2013). Clients prefer to go to hospitals even in cases in which they can be treated at lower-level facilities.

Figure 4. Expenditure per Visit by Benefit Type



Source: NHIF, 2018

More NHIF beneficiaries are seeking services at privately-owned facilities now than before but claims paid per visit at these facilities have decreased over time. This contrasts with claims paid per visit increasing significantly at both government- and non-government-owned facilities (up 56% and 85%, respectively), which may imply that privately-owned facilities are operating more efficiently, with less wastage than government and non-government facilities (see Figure 5). The NHIF acknowledged that currently,

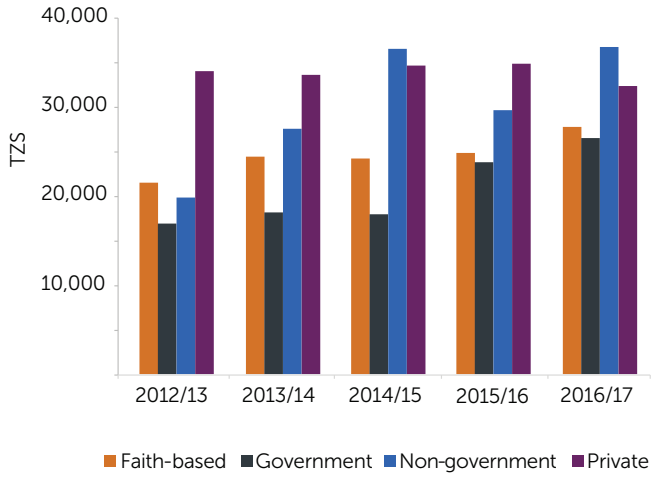
Table 2. Change in Percentage Share of NHIF Expenditure and Expenditure per Visit from FYs 2012/13 to 2016/17

Category	Proportion of NHIF Expenditure		Expenditure per Visit (TZS)	
Benefit	2012/13	2016/17	2012/13	2016/17
Registration Fee	15.7%	16.7%	3,938	5,200
Outpatient Services	47.8%	46.0%	10,772	14,323
Investigation	**15.5%**	**21.2%**	6,679	10,919
Inpatient Services	7.7%	7.4%	52,330	75,024
Surgical Services	13.3%	8.7%	**49,870**	**222,312**
Ownership	2012/13	2016/17	2012/13	2016/17
Faith-based	34.9%	28.8%	21,451	27,707
Government	30.1%	32.5%	**16,960**	**26,373**
Non-government	1.1%	1.0%	**19,805**	**36,616**
Private	33.9%	37.7%	34,002	32,385
Facility	2012/13	2016/17	2012/13	2016/17
Hospital	74.1%	74.5%	**31,531**	**40,557**
Health Center	6.8%	5.5%	9,144	9,754
Dispensary	6.4%	4.7%	7,180	7,552
Pharmacy	12.5%	10.3%	27,444	27,528
Age	2012/13	2016/17	2012/13	2016/17
0–14	11.1%	9.7%	14,174	16,577
15–29	24.3%	20.1%	18,317	21,032
30–49	32.7%	28.6%	24,932	30,208
50–64	22.7%	25.8%	29,618	38,983
65+	**9.2%**	**15.8%**	**34,408**	**47,374**
Region	2012/13	2016/17	2012/13	2016/17
Dar es Salaam	55.4%	59.3%	39,221	48,534
Central	5.0%	4.7%	12,509	17,270
Coastal (non-Dar)	3.9%	4.0%	11,002	12,247
Lake	11.3%	8.5%	15,124	18,204
Northern	12.9%	12.6%	17,752	21,737
Southern Highlands	7.8%	8.1%	12,983	18,095
Western	1.5%	1.0%	11,191	12,864
Zanzibar	2.2%	1.8%	16,638	21,525

Source: NHIF, 2018
Bolded figures indicate a key finding from the analysis.

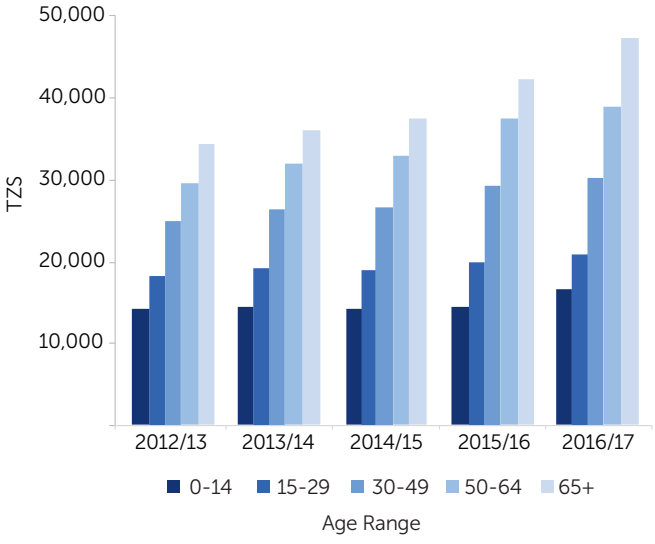
most clients prefer to seek care at private facilities. Strengthening quality of service and efficiency at public facilities should therefore be prioritized.

Figure 5. NHIF Expenditure per Visit by Ownership Type



Source: NHIF, 2018

Figure 6. Expenditure Growth per Visit by Age Range



Source: NHIF, 2018

Geographically, most claims paid and the highest claims paid per visit occur in Dar es Salaam. However, the highest growth in claims paid per visit were found in Dodoma and Mbeya. Claims paid per visit decreased in some regions, such as Simiyu and Shinyanga. More and more claims expenditure are for people older than age 50, which is not surprising as healthcare needs typically increase as a person gets older. Beneficiaries older than age 50 now account for 42 percent of all claims paid, up from 32 percent five years ago. Expenditure per visit is now highest for those ages 70–84, while expenditure per visit for those under age 40 has not increased significantly over time (see Figure 6). The NHIF recognized that voluntary enrollment is highest for the elderly, which contributes to rising expenditures for older population groups.

Claims Submission Process and Lack of Referral Enforcement

At some facilites, as much as 60-90 percent of funding now comes from the NHIF. The NHIF's internal policy requires claims to be processed within 60 days of receipt. Reporting revealed that there is little variation between claims submitted and claims paid. If a claim is rejected, the facility absorbs the loss from the cost of service. The NHIF may reject a claim if it violates standard guidelines or pricing packages, and only claims for drugs and services that are covered by the NHIF minimum benefits packages will be accepted. The NHIF does not enforce the MOHCDGEC referral guidelines, thus beneficiaries may access services at any facility level. The one exception, that will result in a claim being rejected, is if a beneficiary goes to two different facilities during the same day without a referral. Surgery, consultation fees, x-rays, ultrasounds, and admission fees are typically more expensive at higher-level facilities. Requiring a referral from a primary healthcare facility before a beneficiary can seek care at a hospital would be a logical first step toward reducing costs.

Another area that presents an opportunity for improvement is addressing the mismatch between the NHIF e-system and provider systems. Required work-arounds typically involve paper forms that increase the likelihood of introducing manual errors.

Provider Payment Mechanism

The NHIF currently operates an all fee-for-service payment mechanism and determines its reimbursement rate based on market surveys on the price of services and commodities, consultations with providers, and results from actuarial evaluations. HP+ compared NHIF reimbursement rates with Medical Stores Department price lists. While the Medical Stores Department updates its price list every year, the NHIF has only updated its rates three times since it began operating in 2001: FYs 2007/08, 2012/13, and 2016/17. According to some service providers interviewed, the consequence of this infrequency in price resets is that actual costs incurred by providers can often be higher than NHIF reimbursement rates due to the effects of medical inflation. Adjusting NHIF pricing every year would help ensure that providers are more accurately compensated for the services they provide. NHIF recommends establishing a separate governing body to regulate pricing of medical services and to help mediate competing priorities from both sides. When compared with Kenya's National Hospital Insurance Fund rates for the same services, Tanzania's NHIF reimbursement rates were 20 percent lower on average (Kenya NHIF, 2018).

Some at the NHIF believe that a way to increase efficiency is to integrate some capitation, an arrangement that pays providers a set amount that is dependent on the number of beneficiaries they serve. For the iCHF, which is managed by the NHIF, all provider payments will be capitation. Capitating the primary provider level, if the referral system can be more strictly enforced, and outpatient care could ease some administrative burden on claims officers. The NHIF estimated eight million claims were processed last year by 100 officers. Capitation is meant to discourage the provider from delivering more care than necessary or using costly procedures over equally effective inexpensive ones, so should help with cost containment for the NHIF. The facility becomes responsible for covering all service delivery costs incurred, which transfers expenditure risk onto the providers. There are incremental costs associated with setting up a sophisticated system to monitor quality of care and capitation rates to ensure that they remain fair for the package of services covered. An unintended consequence of capitation is that it may incentivize reduction of care to retain surplus funds.

The National Health Insurance Scheme in Ghana is an example in which capitation has been introduced at the primary care level. Introduced in 2012 as a pilot in the Ashanti region—and subsequently expanded to several other regions—results have been mixed, with some studies reporting that capitation has led to more efficient use of resources (Opoku et al., 2014). Others reported opposition from providers and beneficiaries citing under-provision of services and reduced quality, resulting in the discontinuing of capitation in Ashanti in 2017 (Sackey et al., 2017). Meanwhile, the National Hospital Insurance Fund in Kenya made similar reforms in 2015, but providers indicated that capitation rates were inadequate to cover the cost of services and often delayed, which in some cases resulted in the introduction of informal out-of-pocket payments (Munge et al., 2018). The Government of Tanzania should consider these lessons learned from other developing country systems if it decides to move in a similar direction.

Discussion

NHIF Financial Dynamics

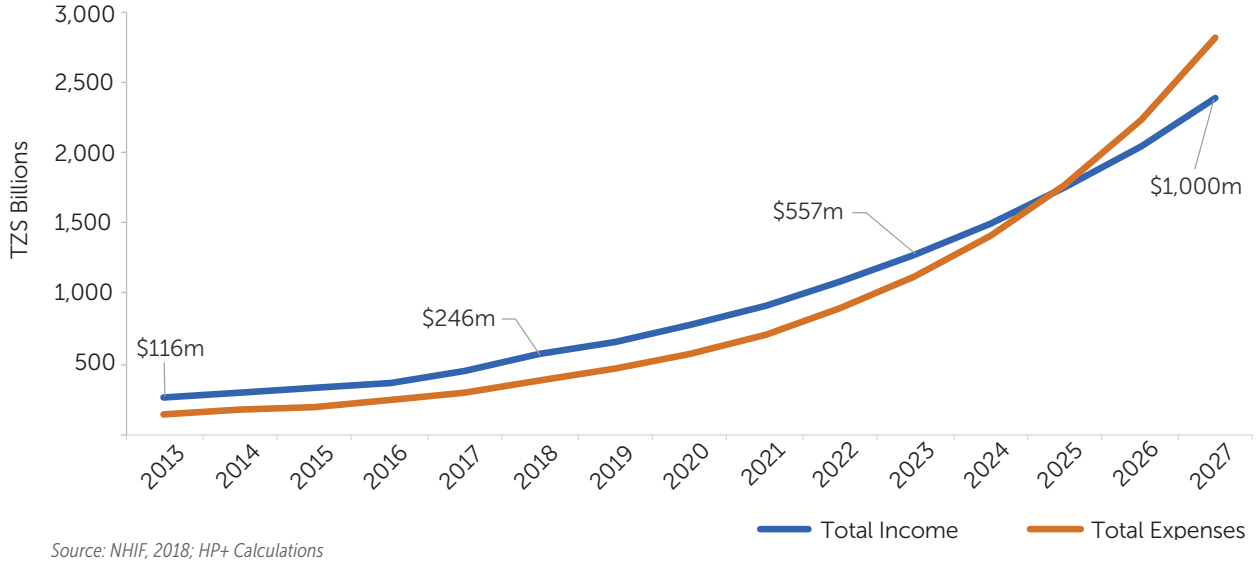
There are legitimate concerns with escalating expenditure and worsening claims ratios at the NHIF over the last five years. Projecting the NHIF's income statement over the next 15 years, based on recent trends in revenue, expenditure, and utilization, reveals that the NHIF will begin to run a

deficit within eight years, in 2025 (see Figure 7). Still, the NHIF is in a stronger financial position than the national schemes of many other countries. It has assets carried forward to remain viable for a few years longer after 2025, but reserves will be depleted within 11 years, by 2029 (see Figure 8).

The good news is that the considerable reserves the NHIF has built up over the last 10 years allows time to introduce a mix of reforms to curb expenditure growth from unnecessary care, raise revenue, and reduce administrative costs per beneficiary and per claim. Reducing future health expenditure by 33 percent from NHIF status quo projections would allow the scheme to maintain a surplus for the next 15 years, through 2032. The NHIF may consider a slight increase to premium rates for middle- to high-income Tanzanians—who make up most formal sector workers—to help curtail claims ratio deterioration. The NHIF could also consider charging a copay to high income individuals for certain services at the point of use, an approach used by the Kyrgyz Republic for its State Guaranteed Benefits Package (Cotlear et al., 2015).

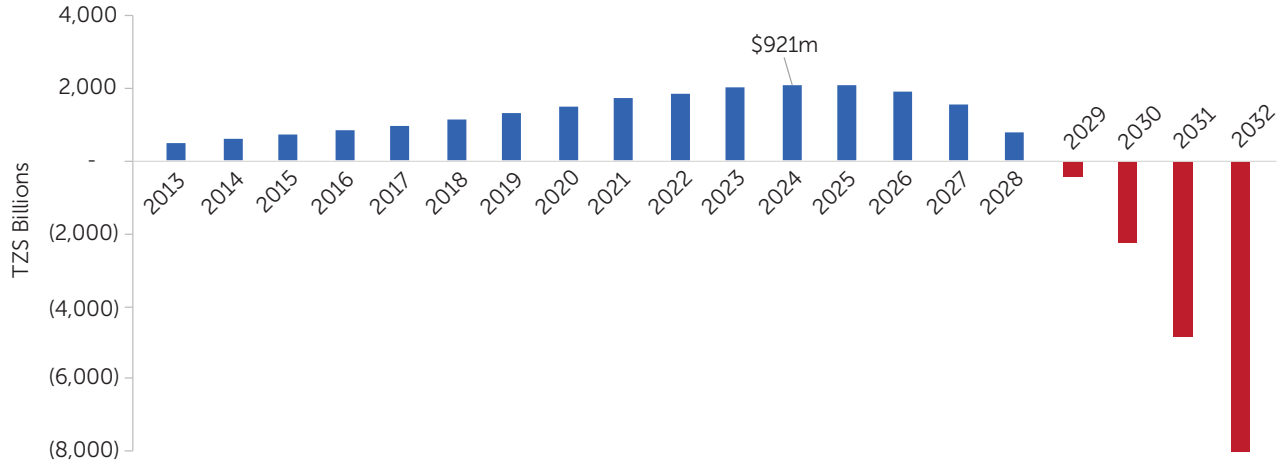
Developing country households from the highest wealth quintiles are expected to be more willing to pay for healthcare, making

Figure 7. NHIF Forecasted Surplus/Deficit based on Recent Trends



Source: NHIF, 2018; HP+ Calculations

Figure 8. NHIF Forecasted Reserves based on Recent Trends



Source: NHIF, 2018; HP+ Calculations

the price-elasticity of demand for health for the wealthy relatively inelastic in these countries (Dupas, 2012). It is possible that due to the anticipated mandatory enrollment provision for the NHIF, some improvement to the claims ratio may be expected organically as those in the formal sector that previously went without insurance may have purposely chose not to enroll because they were healthy and therefore less likely to utilize services.

NHIF as a Vehicle to Drive Universal Health Coverage

If contribution income grows as expected and if escalating health expenditure can be reigned in enough for the scheme to continue with even a slight surplus each year, the NHIF will be positioned to support Tanzania's policy reform objectives of an SNHI and moving toward universal health coverage.

If the NHIF is financially stable, one logical way to support the reform agenda is to financially assist the iCHF in the short- to medium-term through cross-subsidization, during the iCHF's critical scale-up stage. As Tanzania works to establish an SNHI, any future policy discussions on health insurance reforms should consider how decisions will affect and involve both schemes simultaneously.

More specifically, the NHIF could help meet some of the financing needs for subsidizing premium payments for enrollment of the extremely poor in the iCHF. HP+ quantified the full financing implications for the iCHF in terms of Government of Tanzania matching funds and subsidies for the poor in a separate analysis (Lee et al., 2018b). In this analysis, HP+ estimated US$7.4 million is needed for subsidies in 2018 with the figure rising to US$34 million by 2022, as more poor people become enrolled in the iCHF. Currently, it is unclear where the funding for these government obligations will come from, straining the sustainability of the iCHF.

Future discussions related to reform may also include expanding the depth of the NHIF benefits package to cover new areas. HP+ assessed the feasibility of integrating HIV services into the NHIF in a separate analysis, while the Clinton Health Access Initiative and Johns Hopkins University conducted a similar analysis on integrating family planning through the Advance Family Planning project (Lee et al., 2018a). However, if recent trends in cost escalation are not remedied, the NHIF will not have much ability to expand benefits beyond what it currently provides.

Conclusion

Whether the NHIF can be a pathway for outward expansion of health insurance, with the ultimate goal of an SNHI, will depend on whether the provision for mandatory enrollment is passed and properly enforced. More importantly, the NHIF will also need to achieve efficiency gains from reforms, such as implementation of a strict referral system and capitating at the primary provider level, to be successful. The fund must also find the right balance between managed expenditure growth, progressivity in revenue generation, and increases in utilization due to beneficiaries' needs rather than poor provider practices.

Lessons learned from other countries like Ghana and Kenya, which have attempted similar reforms with mixed results, can be studied to identify best practices and to help avoid potential resistance and drawbacks. The NHIF, on its current financial trajectory, is not sustainable–but thankfully, due to its accumulation of reserves, has time to make the needed adjustments to ameliorate some of its cost escalation issues in order to remain viable in the long term.

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