MAONO PROJECT - SINGIDA REGION

Situational Analysis: Health financing and Challenges for the Sustainability of eye care services

A parth towards financial Sustainability

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TABLE OF CONTENTS

Figures

Tables

ABBREVIATIONS

CCHP	Comprehensive Council Health Plan
CHF	Community Health Fund
CHMT	Council Health Management Team
CHOPs	Comprehensive Hospital Operation Plan
HMIS	Health Management Information System
IPD	Inpatient Department
MTEF	Medium term Expenditure Framework
NHIF	National Health Insurance Fund
OPD	Outpatient Department
RHMT	Regional Health Management Team
RRH	Regional Referral Hospital
SNHI	Single National Health Insurance
TIKKA	Tiba Kwa Kadi (CHF Variant for urban areas)
WHO	World Health Organization

1 BACKGROUND

Tanzania has a population of 55.57 million (2016) and is predominantly rural. It is estimated that more than 71% of the population live in rural areas and primarily depend on subsistence agriculture for a living. The country's estimated GDP per capita is US$879 with approximately 12 million Tanzanians are living in extreme poverty, earning less than US0.6$ a day[1]. Estimated per capita expenditure on health is US$50 with more than half coming out-of-pocket. It is estimated that 65% of the population live within 5KM of a health facility. The country has a very high level of fertility, with a total fertility rate (TFR) of 5.7, crude birth rate (CBR) of 39.15 per 1,000 persons, and an annual population growth rate of 2.7%. As a result the population is very young, with 44.2% estimated to be below 15 years of age. According to the NBS Census 2012, life expectancy is 60 years for men and 63 for women.

The health care delivery system in the country takes on a pyramidal structure with primary health care services sitting at the base of the pyramid. These include, district, regional, zonal and the specialized national level health services at the tip of the pyramid. At the community level, health promotion and prevention activities bring health to the families, along the lines of disease control programmes as well. Council hospitals provide medical and basic surgical services to referred patients including those in need of eye care services. Regional Referral Hospitals (RRH) function as the highest referral centers at regional level which provide specialist medical care. RRH are typically staffed with eye care specialists and offer more specialized ophthalmic services.

There has been an increase in total health expenditure for the past five years, however, the per capita expenditure was 134 US$ per capita, equivalent to 5.6% of the GDP, and 6.6% of the total government expenditure[2],[3] . During the Joint Annual Health Sector Review (JAHSR) 2016, it was reported that, the Proportion of Government budget allocated to health sector was 10.1% in 2015. Total GoT and donor (budget and off-budget) allocation to health per capita Was Tsh. 38,093 against a target of Tsh; 52,800[4]. According to national socio-economic report of 2014, only 5.6% of the

[1] http://www.worldbank.org/en/country/tanzania/overview
[2] Tanzania health financing profile (WHO, may 2016)
[3] Tanzania Health budget brief FY 2011/12 to FY 2015/16, (UNICEF 2016)
[4] JAHSR 2016 minutes

population had enrollment or cover from NHIF/CHF[5]. The sector is still heavily dependent on external resources through Basket funding, programme funding and off-budget donor funding. Based on country health expenditure data, it appears that non-communicable diseases and eye health are not prioritized as a large proportion of health expenditures are for Maternal & Child health, HIV and AIDS, and other communicable diseases.

To address this systemic challenge, the government is undergoing a health financing reform and focusing on establishing a Single National Health Insurance (SNHI) as a resource mobilization strategy for health which is expected to be operational countrywide by year 2020. The SNHI will therefore pay health facilities for the services they provide and cover the cost of procurement of medicines, health products and other supplies, as well as maintenance of infrastructure. It is expected that, at the operational level, the funds will be made available to each departments including eye health for funding their operations.

For planning purposes the Ministry relies on WHO estimates of prevalence of blindness, which currently stands, at 0.7% for Sub-Saharan countries. A Rapid Assessment of Avoidable Blindness (RAAB) was conducted in Rombo, Kilimanjaro region in the year 2009. The Prevalence of Visual impairment, severe visual impairment and blindness in adults 50 years and above were found to be 5.4%, 0.99% and 2.4% respectively. The main causes being cataract, posterior segment diseases and refractive errors. More women suffer from cataracts than men, hence they are disproportionately disadvantaged in terms of eye care and access to care[6]. This is a clarion call for doing other assessments in Tanzania to measure the burden of eye diseases in the population.

Preliminary analysis of eye health data collected over one year (January-December 2015) through the HMIS indicates the following ocular morbidities as reported from the regional and district levels; Allergic and infectious conjunctivitis, Refractive errors & low vision, Cataract, Trachoma (TF & TT), Corneal diseases, eye injuries and foreign bodies, Glaucoma, Retinal conditions (Diabetic Retinopathy, Age related Macular Degeneration, others), other anterior segment and posterior segment eye diseases, Vitamin A deficiency, Aphakia/Pseudophakia. These conditions are also reported in Singida region. No studies were conducted to determine the unit costs of eye care services in terms of costing studies or those focusing on value and quality of life.

[5] Basic demographic, and socio-economic profile report Tanzania Mainland 2014

[6] Rapid assessment of avoidable blindness and vision impairment: Kilimanjaro region 2014

Maono Singida Comprehensive Eye Care Project:

Maono Singida is a four-year project implemented by Sightsavers to support the provision of eye care services in six districts of Singida region in Tanzania (Ikungi, Iramba, Manyoni, Mkalama, Singida Rural and Singida Urban). An initial assessment (Notes from field visit to Tanzania, 14-23 April 2016: Thomas Engels, Health economist, Sightsavers) indicated that there was a lack of specialist eye care equipment at the regional hospital, the operating theatre for cataract surgery was in need of refurbishment and there was not a consistent supply of medicines and consumables. At the district level, there was a shortage of trained staff to deliver primary eye care, resulting in community members travelling up to 200kms to the regional hospital for simple eye health treatments. This project funded by Standard Chartered Bank's "Seeing is believing" initiative started in April 2016 to support Singida Regional Hospital and health facilities in each of the six districts by focusing on demand creation and improvements in current service delivery mechanisms for eye health. One of the key components of this project is dealing with eye health financing and aims at ensuring financial sustainability of eye care services at the regional hospital while at the same time improving access to eye care services for the most vulnerable groups in the population. For this reason, the ministry with support of Sightsavers commissioned Technical assistance to support the eye health financing component of Maono Singida project and facilitation of develop a framework for sustainability financing of eye health.

Health financing System and policies:

Tanzania's health system is complex and pluralistic. It is comprised of public, private, and donor stakeholders operating at several different levels including national, regional, district, and community levels. According to the latest National Health Accounts (NHA) report (2009/10), 8.2% of the GDP is invested in health care and 6.5% of government expenditure is spent on health, well below the Abuja Target of 15%. Donor dependency for health care financing typifies Tanzania's health system[7]. Indeed, NHA findings show that donors contribute a sizeable 40% of total health

[7] United Republic of Tanzania (URT). 2012. National Health Accounts (NHA). Dar es Salaam, Tanzania: Ministry of Health and Social Welfare

expenditures (THE), followed by the private sector (largely household out-of-pocket spending) at 34%, and lastly the government at 26%. Of the total spent on health care, HIV/AIDS programs account for a sizeable 27%, malaria for 19%, reproductive health for 18% and child health services for 9%. The remaining expenditures (27%) are for other communicable and non-communicable diseases including eye health.

Tanzania health financing system is characterized by fragmentation of its government tax-funded health system and health insurance schemes. In the 1980s Tanzania went through a comprehensive decentralization process. This process brought also profound changes to the health system but has not been implemented fully in the health sector yet. The result is a situation where the roles and responsibilities for channeling and managing funds are divided between the central level (MOHCDGEC & PO-RALG), regional health teams, and the LGAs, which is causing some governance, delivery, and monitoring/efficiency challenges. Several health insurance schemes have also been introduced over time but coverage has remained around 15-16% in recent years. This has led to a situation where multiple insurance schemes sub-divide the population insured in terms of contributors and beneficiaries, reducing opportunities for cross-subsidization and risk equalization.

The Government of Tanzania (GOT) introduced user fees in its health sector in the early 1990s. This policy was accompanied by mechanisms designed to exempt the poor and vulnerable groups of the society from paying user charges. Exemptions are automatically granted for specific groups and cover a large proportion of the population, including: pregnant women and children <5yrs; elderly aged >60yrs; and patients with specific conditions (incl. HIV/AIDS, TB, leprosy, meningitis, cholera, cancer, mental illnesses, etc.). In addition, waivers were introduced as temporary exemptions from payments to guarantee access to health services for those unable to pay and who do not belong to the exemption categories. These mechanisms should in principle guarantee access to health care services for the poorest and most vulnerable; however several studies conducted in Tanzania indicate that the implementation of the exemption & waiver policy is largely ineffective, resulting in inequity in terms of access to health care services.

Heath financing reform and renewed commitment to UHC:

In 2007, the Government of Tanzania (GoT) adopted a Health Policy with the policy vision "to improve the health and well-being of all Tanzanians with a focus on those most at risk". This vision remains valid and the GoT is committed to moving towards Universal Health Coverage (UHC) by making sure that everybody has access to required health services of high quality and is protected against financial risks that could arise as a result of paying of health care. To that end Tanzania developed a comprehensive National Health Financing Strategy; focusing on governance, revenue collection, pooling of funds and purchasing[8].

The key elements of the reform are described here below:

Governance

1. Establish National Health Insurance (NHIF) legal and regulatory framework that clarifies and streamlines health financing policies, and provides clear direction for NHIF implementation.

2. Establish and operate the NHIF institutional structure; physical set-up of the health purchaser institution, which will be clearly split from the functions of the provider of health services.

Revenue Collection

3. Increase Government and Private Contributions to the Health Sector; rechanneling and increase of government resources to health, next to the insurance contributions that will be collected from the population. Specific government levies are suggested to be earmarked to the NHIF.

4. Make Health Insurance Mandatory for All in order to reduce financial access barriers to health services to the whole population of Tanzania. All residents will either contribute to or receive subsidies (those classified as poor) for the NHIF without the possibility to opt out of the system.

[8] Tanzania Health Financing Strategy 2016 – 2026; Path towards universal health coverage

Pooling of Funds

5. Create one National Financial and Risk Pool; merging, over time, existing finance pools such as NHIF, NSSF-SHIB, CHF, GoT subsidies for the poor, general revenue budget, parallel funding flows and other funds into the NHIF pool, in order to purchase a standard Minimum Benefit Package for the whole population.

6. Guarantee Health Insurance Coverage for the Poor and Vulnerable; effective identification and inclusion mechanisms, to leave no person behind.

Health Care Purchasing

7. Establishment of a Standard Minimum Benefit Package as legal entitlement to the whole population. This package would evolve over time as available funding increases, and the health system is strengthened.

8. Allocate Health Sector Resources Strategically; particular focus on improving incentives for improved services delivery (e.g. through results-based financing), developing effective provider payment methods with integrated performance structures.

9. Strengthen the Public Financial Management system in the Health Sector, in order to successfully manage the identification and collection of revenue from multiple sources, multiple provider contracts and output-based provider payment systems at all levels, and increasingly manage revenues and expenditures at the health facility level.

10. Develop a Strong Health Information and Data Management System for the NHIF which is interlinked with the health management information system (HMIS). Resultant data will ensure evidence-based policy making through the generation of supportive research in the area of health financing and social health protection.

The proposed health financing reform will have implications for the funding of eye health in Tanzania, representing both opportunities and challenges for the sustainable provision of eye care service.

2 METHODOLOGY

Aim:

The purpose of this study was to conduct an analysis of eye care financing in Singida region including analysis of financial situation and financial management at Singida Regional Hospital and selected district facilities

General approach and methods:

We conducted review of income and expenditure of Singida Regional Hospital and determined cost drivers, existing and potential financing streams, areas of potential saving and efficiency gains. Data was abstracted form

- Hospital administrative records
- Hospital cost data
- Hospital expenditure data
- Hospital income records
- Costed program/facility strategic/action plan and all available records for the past 3 years.

We;

- ✓ Examined the health facilities financial space; We mapped sources of financial and materials related to care provision and determined magnitude of financial and in-kind inflow to health facilities.
- ✓ We reviewed hospital budgets, Disbursements, and expenditure
- ✓ We determined price of different eye care services by reviewing charges data related to eye care services as per different purchase channels
- ✓ We modeled different eye care offered, by estimating their respective care cost

3 RESULTS

3.1 Overview of health priorities and health financing in selected councils in Singida Region

Review of Regional health Plan, Comprehensive Council Health Plans (CCHPs), and Comprehensive Hospital Operational Plans (CHOPs), revealed the key priorities and health systems challenges to be addressed by Regional and district health management teams. Plans refer extensively to Maternal, Neonatal, and Child mortality and provide details of strategies put in place to addressing them. HIV, TB and malaria are the only diseases addressed directly in the plans. While Environmental sanitation is also prioritized.

While all the plans have clearly allocated indicative budgets; the source of funding are often multiple and lumped, making it difficult to disaggregate the contribution of each source into the indicated budgets. Country wide data from PLANREP for 2013 – 2014 indicate that, largest source of funds is from block grant (46.62%), Health Basket Grant (10.8%) Global Fund (11.4%) and others. In terms of share allocation, maternal newborn and child health had the largest share (57.8%). Eye health is categorized into other diseases of local importance, whose share of allocation is 0.6%.[9]

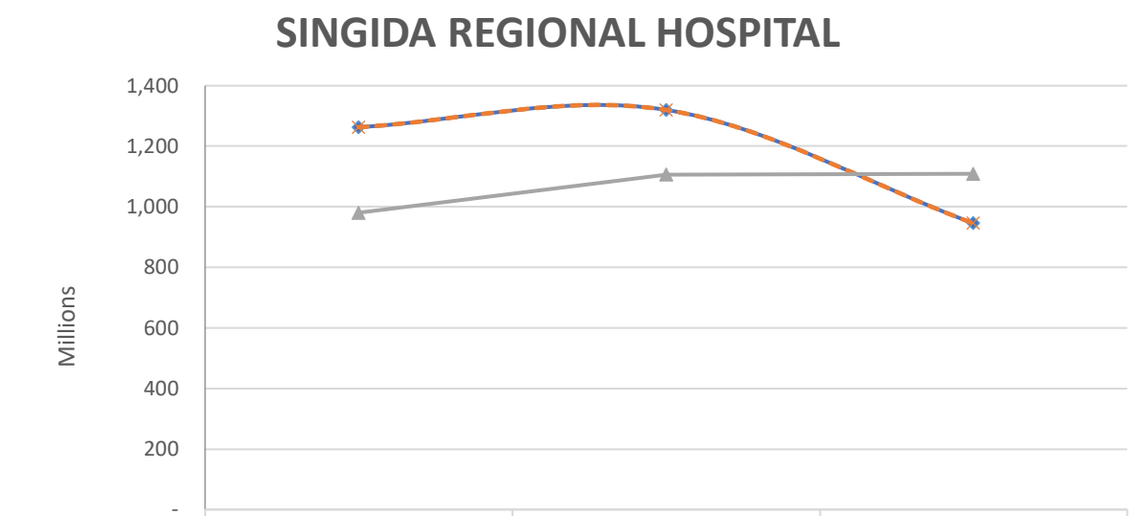
Detailed review of CCHPs for selected district in Singida Region show that there is no reference to eye health and no specific provisions were made in the district health budgets for the delivery of eye health services; at least until recently and the start of the Maono Singida Project. During the fiscal year 2013- 2014 Singida urban district had no specific provisions for the delivery of eye health services. This is due to the fact that, the urban district depends on eye health services provided at the Regional Referral Hospital. Thus they do not allocate funds for eye health services in their CCHPs. (Reference CCHP 2014-2015 Review) For Manyoni district 2013-2014 CCHP review indicated that the district has had no budget allocated for eye care services in the district. For this reason the need to advocate for eye health budget in the coming CCHPs will facilitate sustainability for service provision and also focus on the most vulnerable groups especially the elderly women who have the greatest eye burden.

[9] http://www.tzdpg.or.tz/fileadmin/documents/dpg_internal/dpg_working_groups_clusters/cluster_2/health/JAHSR-2013/Summary_and_Analysis_of_CCHP_2013-2014_Report.pdf)

3.2 Hospitals Budget and financial management analysis

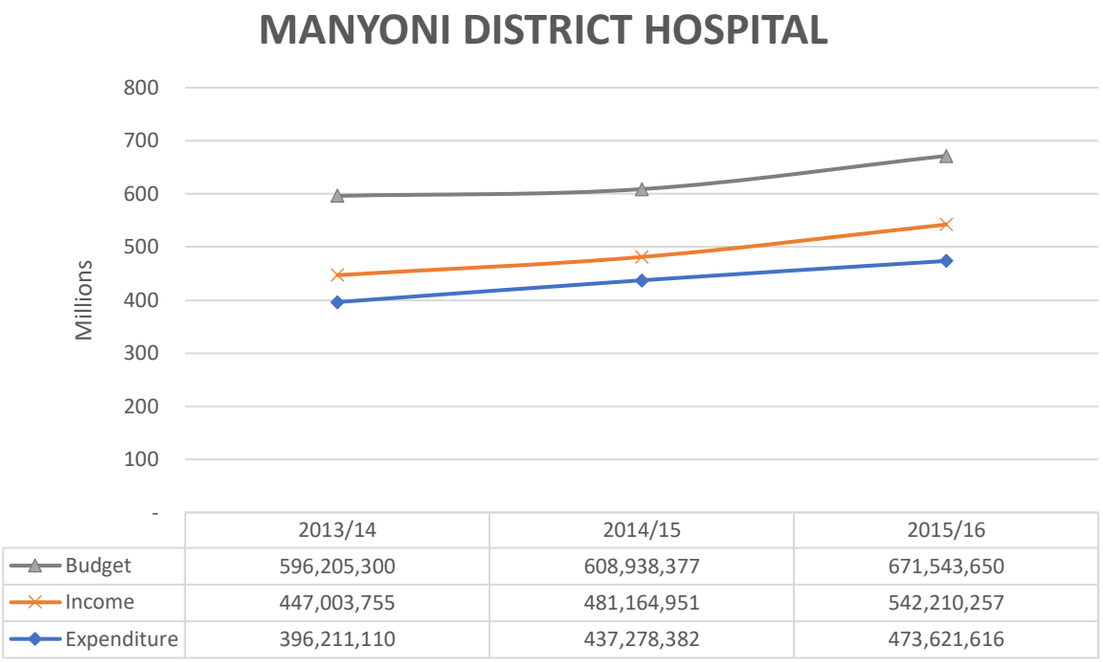
Data on hospital budget, income, and expenditure were collected for two hospitals providing eye care services in Singida Region: Singida Regional Hospital and Manyoni District Hospital. Financial data were obtained from various sources including: CCHPs, Comprehensive Hospital Operational Plans (CHOPs) and hospitals financial records covering the period 2013-2016.

3.2.1 Budget analysis



	2013/14	2014/15	2015/16
Expenditure	1,263,008,728	1,319,997,440	945,268,548
Income	1,263,008,728	1,319,997,439	945,268,420
Budget	980,432,450	1,106,005,000	1,109,000,000

Figure 1: Budget, income and expenditure analysis for Singida Regional Hospital (in TZS)



	2013/14	2014/15	2015/16
Budget	596,205,300	608,938,377	671,543,650
Income	447,003,755	481,164,951	542,210,257
Expenditure	396,211,110	437,278,382	473,621,616

Figure 2; Budget, income and expenditure analysis for Manyoni District Hospital (in TZS)

Overall all health facilities assessed, had higher budget as compared to income, indicating that funding needs are higher than available resources. Of interest however is the financial data from Singida Regional Hospital (Figure 1), where expenditures for years 2013/14 and 2014/15, was more than the budgeted amount. In fact, the expenditure matched the income showing a tendency to spend based on the income generated by the Hospital and not necessarily based on what is indicated in the hospital plan. Manyoni district (Figure 2) indicates that the expenditures were less than the income despite the fact that these figures were below the figures presented in the budget. These results suggest some efficiency and effectiveness issues with budget allocations or budget execution.

3.2.3 Budget, income and expenditure analysis for Singida Regional Hospital

Table 1; Summary of Singida regional Hospital's budget, income and expenditure for the last three financial years

	Financial year		
	2013/14	2014/15	2015/16
Annual budget(Tshs, in nominal terms)	980,432,450	1,106,005,000	1,109,000,000
Proportion of Government income per annum (%)	41.4%	38.5%	12.6%
Proportion of income generated from hospital and other sources relative to the annual budget (% and in TZS)	87.5% (857,436,156)	80.9% (894,557,051)	72.6% (805,563,648)
Total annual income (government plus other sources, in TZS)	1,263,008,728	1,319,997,440	945,268,470
Proportion of total income per year relative to the annual budget	128.8%	119.3%	85.2%
Annual expenditure relative to the annual estimated budget	128.8%	119.3%	85.2%

Financial analysis conducted at Singida regional Hospital show that whilst the annual budget is increasing over the years in nominal terms, the total income generated from all sources is not stable and fluctuates over the years in percentage terms. The government contribution is less than half of Singida Regional Hospital budget over the study period, and the government contribution is decreasing from 41% in 2013/14 to about 13% in the year 2015/16. Money for running the regional hospital is reflected in regional administration general budget and it is not easy to spot what really was happening. Secondly the budget approved by the parliament was not being fully released due to cash budget system. Some of the funds especially for medicines are at MSD. The goods are received in kind. As we move ahead, the government has decided to send funds directly to the health facilities. This may address the declining trend. This observation calls for immediate actions in developing sustainable income generation measures apart from the government. Other sources of income such as income from hospital services (user fees) and donor funding contributes greatly to the annual budget. However, the trend shows that this category remains steady, it is declining relative to the overall budgetary needs, and this is alarming as far as financial sustainability is concerned.

CCHP guidelines do mention a number of sources of funding against which council need to report financial expenditure:

(i) Cost Sharing Funds: These are funds collected at the health facility from the users of the health services.

(ii) Basket Funds: These are funds contributed by donors to the health sector basket. The allocation of these funds to the district is based on a specific formula which is based on the population of the district (70%), poverty rate (10%), burden of disease (10%) and geographical size (10%). Further, there are specific ceilings for allocation of these funds to district departments.

(iii) Block Grant: This is the contribution from the central government to cover Personal Emoluments (PE) which includes salaries and other allowances and Other Charges (OC) which covers health interventions in the district.

(iv) Receipt in Kind: This include resources that are not necessarily received in monetary terms, mostly drugs.

(v) Other Sources of funds: These are other sources of funds that are not channelled through the government or the basket fund. These include funds from other donors that are not channelled through the government budget.

(vi) Municipal Council Funds: This is contribution from the Municipal/District Council coffer to the district heath sector budget.

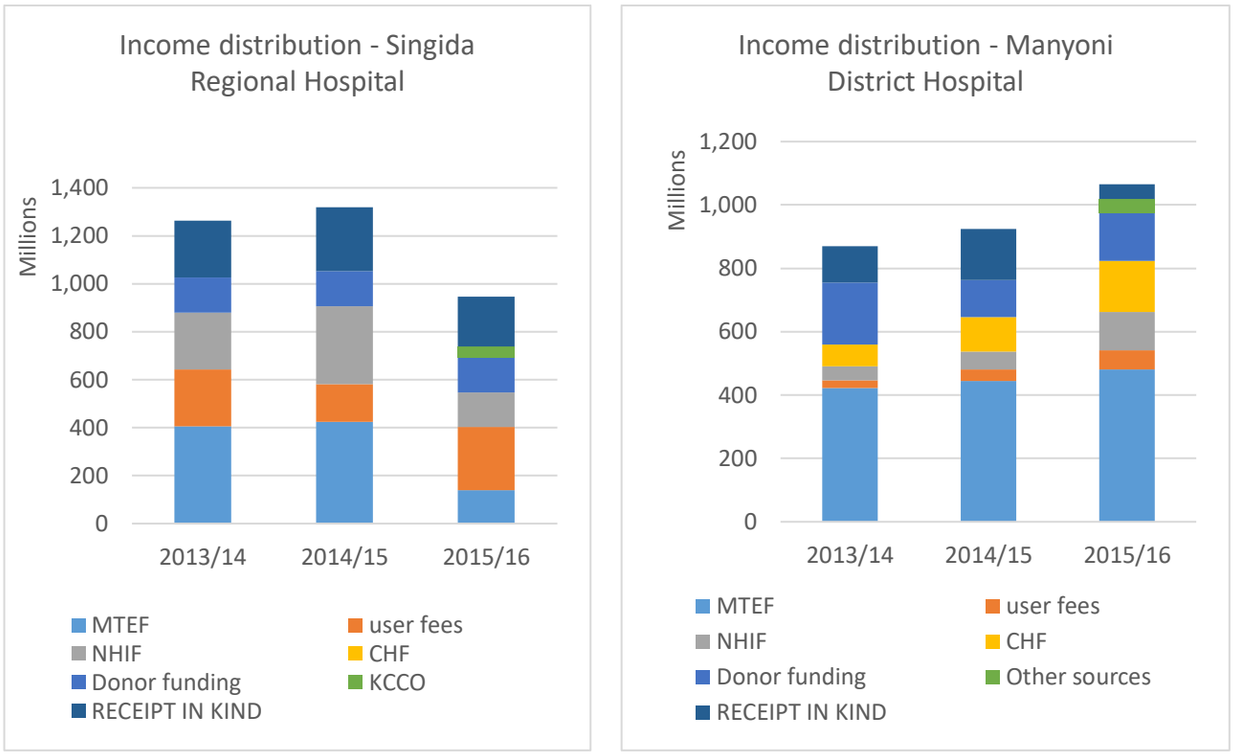


Figure 3; Income sources for selected hospitals; MTEF includes Basket Fund only

There is an increasing trend in income generated in assessed health facilities, except for Singida regional hospital for FY2015/16 when there is a sharp decline in income, especially MTEF disbursements (Figure 3). Yet MTEF disbursements remain steady and the largest source of income for these health facilities; while out of pocket expenditure, insurance funds (NHIF and CHF) are also making a significant contribution.

3.2.4 Evaluation of overall management at selected facilities

Using a procap tool we assessed overall management at selected facilities using 6 dimensions, including mission vision, strategy, governance, financial administration, human resources administration and external relations. Each dimension had a minimum set of five questions, a positive response to each question was assigned a score of 1, and a negative response “zero”. We calculated average scores in each dimension and converted into percentage points. This data complements findings from the budget analysis.

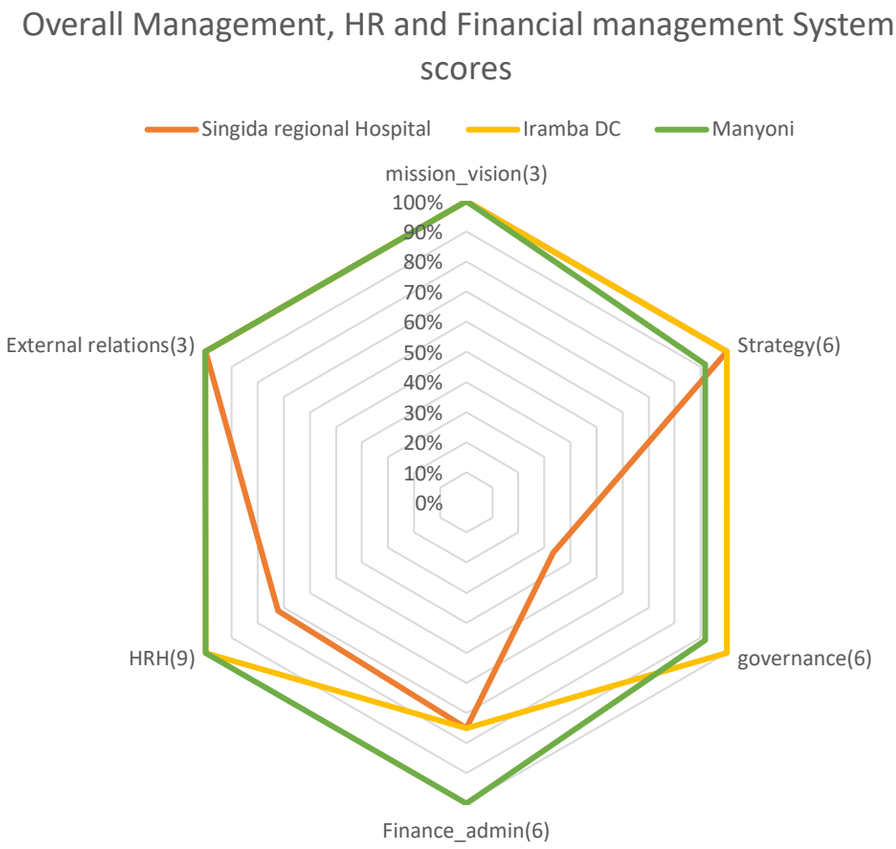


Figure 4; Procap scores from Interview with managers in selected health facilities

Figure 4 shows average scores per each dimension based on interviews of health managers in the selected health facilities. Manyoni district had favorable scores in the six dimensions, while Singida Regional Hospital and Iramba District Hospital had challenges in areas of financial management. Not surprising these data are congruent with the results of the budget and financial analysis conducted in selected hospitals; showing some efficiency and effectiveness challenges with budget allocation and execution.

Below are summary of key findings from the interviews with key informants at selected facilities:

- ✓ The health facilities have their own strategic plan and comply with the planning procedures provided by the Ministry of Health as detailed in the CCHP and CHOPs guidelines.
- ✓ The RHMT/CHMT and HMTs are in charge of overseeing the health facility management while the hospital board mandate has expired and a new board is being appointed.

- ✓ The primary source of revenue is from basket funding. Other sources include hospital revenues from user fees, NHIF, CHF; funding from technical and financial partners such as TUNAJALI, EGPAF etc.
- ✓ All revenues collected from cost sharing (user fees) are pooled into a single account, and later disbursed to various departments within the hospital. Priority is given to maternal and child health and surgical departments. We observed there was no use of patient data to determine proportionate budget allocations from the pooled hospital account.
- ✓ In terms of accounting practices; the finance team used excel sheets to manage cash flow at hospital level, as there was no dedicated accounting systems in all visited hospitals
- ✓ At district level, hospitals were using an electronic software "EPICOR" to manage and track funds provided by the government but the system was not used to track funds from other sources.
- ✓ Financial accountability is assessed through regular audits both internally (auditor from RAS) and externally using the National Audit Organization (Singida branch). There was no mention of data triangulation to check reported and estimated income and expenditure for health care.
- ✓ Petty cash is handled in such a way that a person "spends then retire" while the hospital replenish.
- ✓ Health plans reviewed are well written, however there was no mention of eye care specific activities at regional, district or hospital level.

3.3 Eye care services utilization and income generated in Singida Region

We estimated the income generated by eye care services in Singida for FY 2015-16 based on facilities patient records and the price charged by facilities for different eye care interventions and for different categories of patients (insured, paying out-of-pocket or exempted).

3.3.1 Provision of eye care services in Singida region by type of services (OPD & IPD)

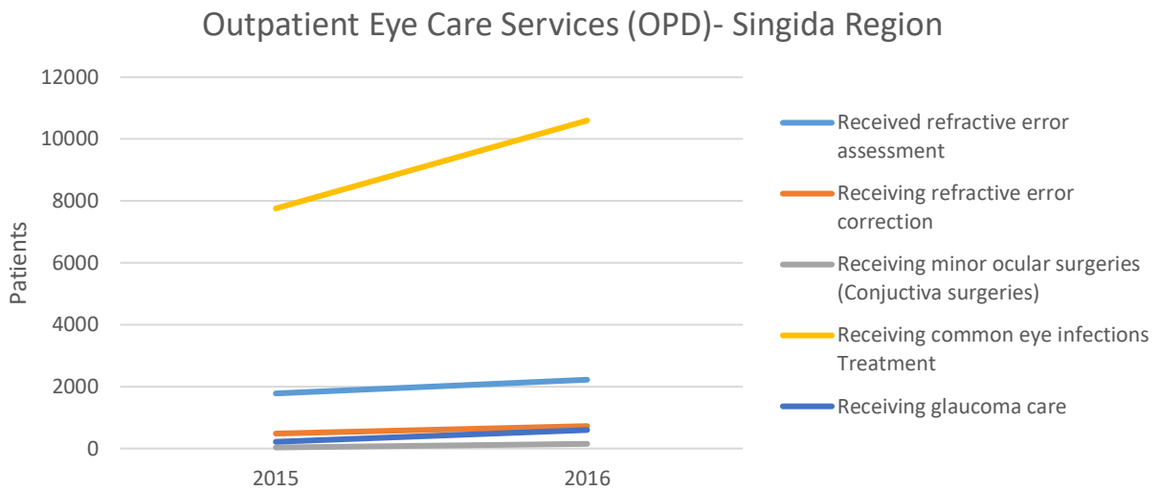


Figure 5; OPD Eye care access in Singida Region

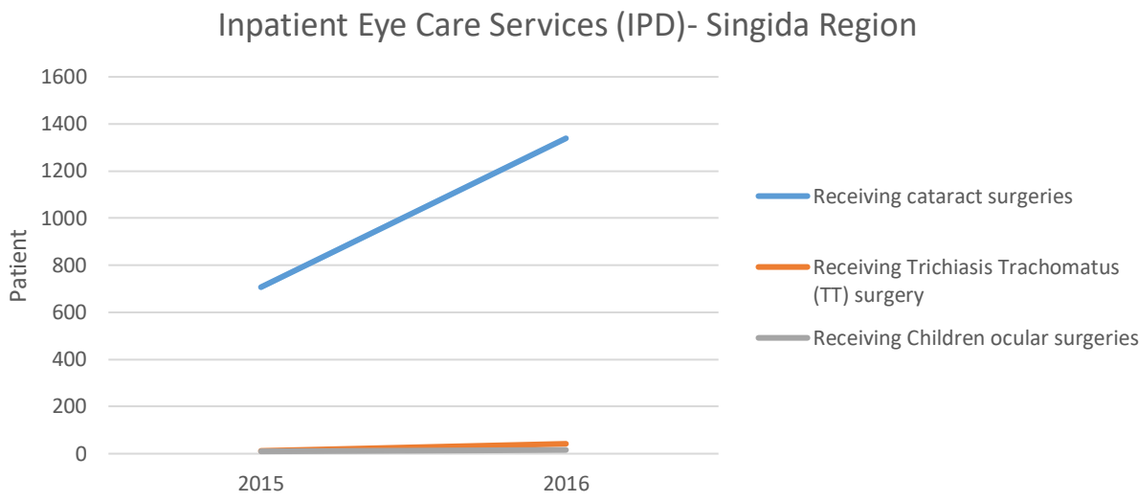


Figure 6; IPD Eye care access in Singida Region

Figures 5 and 6 shows the volume of patients accessing eye care services in Singida Region, there is a clear increasing trend from 2015 to 2016 (Health facility statistics). The most common interventions were treatment of eye infections for OPD patients and cataract surgeries for IPD patients.

3.3.2 Eye care services by purchasing channels

We also investigated how eye care patients were purchasing services and how many of them belonged to each purchasing channels as described here:

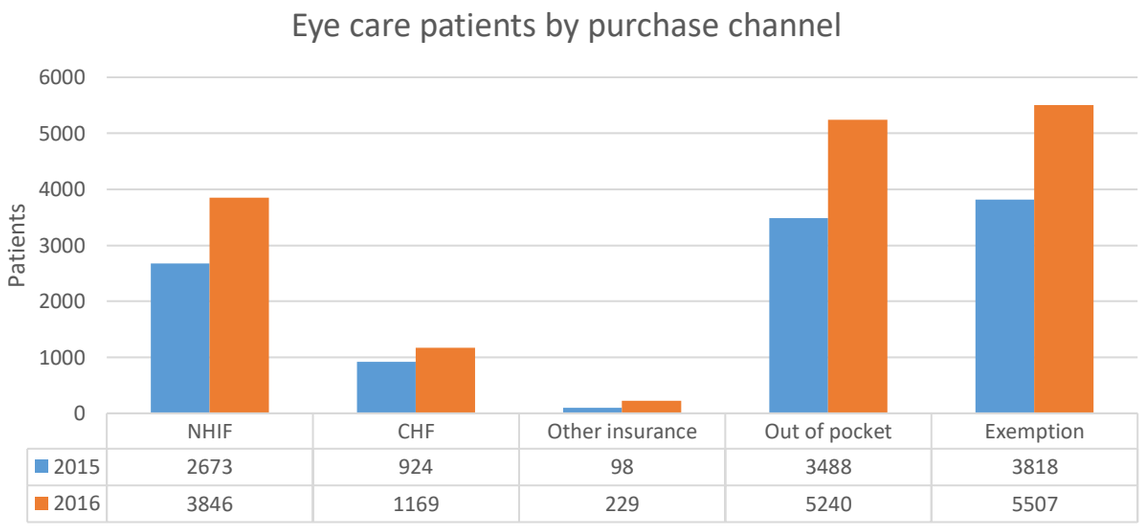
1. National Health Insurance Fund (NHIF); this is a public insurance scheme for employees in the formal public sector. Description of its procedures and benefits are mentioned elsewhere (NHIF manuals) in this report we describe how NHIF funds flows into the hospital; When NHIF clients presents at the hospital with eye care complaints, they will be provided with NHIF claim from, that is filled and left with the hospital at the end of patient care. This form describes the services a client has received, indicating prices charged for consultation fees, medicines and medical devices. Once every week these forms are compiled and submitted to NHIF regional office where they are verified and the hospital is refunded against the verified forms. Once reimbursed; all funds are pooled in a single health facility account. Our review of records and interview with staff at health facilities indicates that there is often delayed disbursements from the NHIF regional office, and rejection of some claims because of improper documentation.

2. Community Health Fund (CHF); This is a public insurance scheme for non-formal rural population. Description of its procedures and benefits are mentioned elsewhere (NHIF manuals) in this report we describe how CHF funds flows into the hospital. CHF is only acceptable at district hospital or lower public health facilities. When a CHF client present to the hospital with an active card. They are provided care free of charge, depending on the approved benefit package. With CHF there is no claim submission, because upon enrollment, the Government matches the enrollment fee, and there after the client pays yearly subscription fee that covers his/her entitled medical care. CHF funds are therefore centralized/pooled at district account, not even in a health facility account. However, there is a new Improved CHF, which will operate under capitation rule, under this new improved scheme, finds will be disbursed in advance to a client's preferred health facility, where a client will then draw against the deposited funds in terms of health care provided. Under this new scheme, funds will be deposited to individual health facility accounts, unlike centralized district account as in the current practice.

3. Out of pocket expenditure/cost sharing; user fees apply to all patients who are not covered by health insurance and do not belong to any of the exemption categories and represent an important source of income for health facilities.

4. Exemption patients; these are patients who meets user fees exemption or waiver criteria, i.e. those who are very old and confirmed to be too poor to afford basic health care. This is verified by the hospital welfare officer, often by triangulating patient information with that from patient's community. These patients therefore draws from resources contributed by other paying patients. Ideally care for these patients should be pre financed by the Government, or claimed by the hospital from the government. Evidence from the hospitals indicates that, the exemption criteria are rarely adhered to, because of cumbersome verification procedures. There were no evidence of pre-financing or reimbursement from the government.

5. Other insurances; these are clients with health insurance other than NHIF and CHF/TIKA, these are often employees from the private sector.



	NHIF	CHF	Other insurance	Out of pocket	Exemption
2015	2673	924	98	3488	3818
2016	3846	1169	229	5240	5507

Figure 7; Eye care patients by purchase channel in Singida Region 2015 – 2016

Figure 7 shows access to eye care by purchase channel in year 2015 and 2016; there is a clear increase in number of patients for all purchasing channels. Patients benefiting from user fees exemptions represented the largest share of patients. Data indicate that few patients needing eye care services enrolled in insurance schemes so that a relatively large share of patients were required to pay out-of-pocket for accessing eye care services.

3.3.3 Fees charged for eye care services

We collected data on the fees charged for eye care services in Singida region, prices are shown for different type of facilities and purchasing channels:

Table 2; Fees charged for eye care interventions at Regional Hospital level, by purchasing channel

	Regional hospital			
Eye care services	**NHIF**	**CHF**	**Other insurances**	**Out of pocket**
Refractive error assessment	11,000	-	11,000	6,000
Provision of spectacles	30,000	-	60,000	25,000
Minor ocular surgeries (Conjunctiva surgeries)	110,000	-	110,000	30,000
Common eye infections Treatment	17,000	-	17,000	7,000
Glaucoma care	25,000	-	125,000	70,000
Cataract surgeries	335,000	-	485,000	80,000
Trichiasis Trachomatus (TT) surgery	112,000	-	112,000	32,000
Children ocular surgeries	112,000	-	112,000	57,000

Table 3: Fees charged for eye care interventions at district hospital level, by purchasing channel

	District Hospitals			
Fees	**NHIF**	**CHF**	**Other insurances**	**Out of pocket**
Refractive error assessment	7,500	1,000	7,500	1,000
Provision of spectacles	30,000	25,000	30,000	25,000
Minor ocular surgeries (Conjunctiva surgeries)	120,000	30,000	120,000	30,000
Common eye infections Treatment	6,500	4,500	6,500	4,500
Glaucoma care	-	-	-	-
Cataract surgeries	135,000	70,000	135,000	70,000
Trichiasis Trachomatus (TT) surgery	120,000	10,000	120,000	10,000
Children ocular surgeries	135,000	25,000	135,000	25,000

Tables 3 and 4 show the prices charged for specific eye care interventions at district and regional hospital levels. Fees charged at regional hospitals tend to be higher than in district hospitals given that they are secondary referral hospitals for the region and have higher structural costs. CHF is currently not a source of income for regional hospitals given that CHF benefit package only covers mainly primary health care services and some referral services available at district hospitals.

3.3.4 Comparison of reported vs estimated income from eye care services

Table 4: Comparison of reported v/s estimated income from eye care services - Singida Regional Hospital 2015-2016

	2015				2016			
Comparison of estimated income versus reported income (2016)	**Reported Income**	**Estimated Income**	**Potential gains from improved Fiduciary procedures**	**Potential gains from reducing Exemptions**	**Reported Income**	**Estimated Income**	**Expected Gains from improved Fiduciary procedures**	**Gains from reducing Exemptions**
NHIF	3,420,000	21,517,000	18,097,000		1,780,000	117,421,000	115,641,000	13,020,000
Other insurances	-	1,019,300	1,019,300	-	-	3,426,000	3,426,000	-
Out of Pocket expenditure	9,185,000	55,455,400	46,270,400	7,298,000	14,136,000	95,347,000	81,211,000	-
Donor contribution	-	-	-	-	44,300,000	44,300,000	44,300,000	-
Total	**12,605,000**	**77,991,700**	**65,386,700**	**7,298,000**	**60,216,000**	**260,494,000**	**244,578,000**	**13,020,000**

Table 5: Comparison of reported v/s estimated income from eye care services – Manyoni District Hospital 2015-2016

	2015				2016			
Comparison of estimated income versus reported income (2016)	**Reported Income**	**Estimated Income**	**Expected Gains from improved Fiduciary procedures**	**Gains from reducing Exemptions**	**Reported Income**	**Estimated Income**	**Expected Gains from improved Fiduciary procedures**	**Gains from reducing Exemptions**
NHIF	5,412,054	5,626,500	214,446	(49,500)	6,019,000	12,578,000	6,559,000	4,154,000
CHF	10,700,000	716,000*	(9,984,000)		11,980,000	2,152,000		
Other insurances	-	49,500	49,500	-	-	7,500	7,500	-
Out of Pocket expenditure	-	6,871,500	6,871,500	-	-	19,403,000	19,403,000	-
Donor contribution	12,826,323	12,826,323	-	-	9,544,650	9,544,650	-	-
Total	**28,938,377**	**26,089,823**	**(2,848,554)**	**(49,500)**	**27,543,650**	**43,685,150**	**25,969,500**	**4,154,000**

*Estimated income for CHF patients is a product of unit price per eye care times number of reported CHF patients, the estimated income is lower than the reported income due to lower number of patients reported (Data issues)

Reported revenues from eye care services were obtained from health facility records, while estimated revenues were calculated for each intervention by multiplying the number of patients for each intervention by the fees charged by hospitals for patients in each purchasing channel (i.e. with insurance, exempted and paying out-of-pocket). We considered that provision of care for patients in the exemption category represents a direct loss of revenue for health facilities in the absence of specific reimbursement mechanisms.

Tables 5 and 6 compares the reported revenues and estimated revenues generated from eye care in Singida region. There is a clear large gap between reported and estimated revenues/income by more than three folds even after adjusting for cost of treating patients in exempted patients at regional hospital (table 5).

Even if data quality issues and delayed reimbursements or rejected claims from insurance funds (year 2016), may partly explain this discrepancy, the magnitude of disparity however suggest that financial mismanagement is an issue at Singida Regional Hospital, whether it is deliberate or not. Data from Manyoni District, indicates consistency between reported and estimated revenues for eye care in year 2015; even if some substantial gains could be achieved through better fiduciary/financial management practices.

3.3.5 Analysis of estimated costs vs income for eye care interventions

We could not conduct a costing study of eye care services in Singida region, however we estimated the cost of consumables used for delivering the services (incl. medicines and medical devices) based on key stakeholders interviews and compared this amount with the fees charged for each type of eye care provided. These costs do not represent the full cost of providing these services as they do not include personnel or equipment costs. For example while refractive error assessment cost for consumables is indicated as zero, it does not include the salary paid to the optometrist/ophthalmic assistant or the equipment required for the assessment. Although more comprehensive and rigorous costing data are required; it appears that payments from health insurance schemes and user fees are adequate to cover the cost of consumable used for delivering these services and generate some profits.

Table 6; Estimated cost, as derived from fees charged for different eye care services

Out-patient services	Average cost by care purchase category 2016 (in TZS)					
	NHIF		CHF		Out of pocket expenditure	
	consumables (Medicines and medical devices)	fees	consumables (Medicines and medical devices)	fees	consumables (Medicines and medical devices)	fees
1 Refractive error assessment	0	7,500	0	1,000	0	1,000
2 Provision of spectacles	10,000	20,000	10,000	15,000	10,000	15,000
3 Minor ocular surgeries (Conjuctiva surgeries)	10,000	110,000	10,000	20,000	10,000	20,000
4 Common eye infections Treatment	1,500	5,000	1,500	3,000	1,500	3,000
5 Glaucoma care						
6 Provision of tactile tools for the blind	0	0	0	0	0	0
Inpatient services	**consumables (Medicines and medical devices)**	**fees**	**consumables (Medicines and medical devices)**	**fees**	**consumables (Medicines and medical devices)**	**fees**
7 Cataract surgeries	35,000	300,000	0	0	35,000	45,000
8 Trichiasis Trachomatus (TT) surgery	12,000	100,000	0	0	12,000	20,000
9 Children ocular surgeries	12,000	100,000	0	0	12,000	45,000

Outpatient cost excluding fees ranged between 1,500 and 10,000 Tsh, while surgical procedures costs between 12,000 and 35,000 Tsh.

4 IDENTIFIED CHALLENGES FOR FUNDING AND SUSTAINABILITY OF EYE CARE SERVICES

Planning and budgeting process:

- ✓ Lack of data available on the cost and income generated from eye care services in Singida Region, and in Tanzania more generally, which limits the ability for planners to plan and establish budget for provision of eye health.

- ✓ Low priority given to eye health in terms of budget allocation and distribution of revenues. There is currently no reference to eye health in the regional & district health plans or hospital operational plans. It is important for eye health to be incorporated in CHOPs and CCHPs as these documents set health priorities and inform resource allocations.

Financial management:

- ✓ Evidence suggest poor fiduciary and financial management procedures and practices in health facilities, resulting in a loss of income and resources available for eye health.

- ✓ Lack of data on patient volume and expenditure/income by department lead to inefficiencies in allocation of income from user fees between departments. Expenditure are not informed by data but mainly driven by urgency (sensitive areas like maternal and child health, surgical care are given priority and largest share, drawing income generated from other services such as eye care services which has an impact on service delivery and capacity to generate future income.

- ✓ Patients with health insurance are not systematically identified when they are seeking care and insurance claims are either not filled or incorrectly completed; resulting in loss of income for health facilities.

Funding constraints:

- ✓ Singida Regional Hospital funding is facing severe financial constraints: it is not entitled automatically to health basket fund (which typically represents ~35% of government funding for district facilities) and Municipal Council funds are not always available. Singida Regional Hospital is not entitled to collecting CHF/TIKKA contributions although it is expected to also deliver primary care services to patients in Singida municipality.

- ✓ Reliability of funding is also a challenge as MTEF funds or NHIF reimbursements can be either delayed or the full amount not released, having repercussions on health facilities cash flow and operations. As a result, patient fees represent a critical source of income despite the fact that a high proportion of patients (~70%) fall into one of the exemption category.

- ✓ The eye care unit in Singida Regional Hospital has some financial autonomy and has setup its own bank account (separate from the general hospital account). However, it appears that the hospital budget and income currently generated from user fees remain insufficient to ensure sustainable provision of eye care services without donor support A large proportion of eye care patients are above 60 years and thus in one of the exemption category, thus drawing form revenue from paying patients. This is particularly true for cataract patients where it is estimated that ~80% of patients are >60yrs.

- ✓ The lack of resources for eye care is further exacerbated by the fact that only anti-infective, anti-inflammatory and anti-allergy eye drops/ointments are available from the Central Medical Store[10]. The result is that most of the specialized eye care drugs/supplies used in eye care unit have to be purchased from private sector following government procurement rules (using the income generated from patient

[10] For more details on available eye care medicine, see National Essential List of Medicine for Tanzania (2007), pp207: http://apps.who.int/medicinedocs/documents/s16199e/s16199e.pdf

fees). For example cataract kits are not provided by government and have to be purchased from private providers using income generated from eye care departments.

5 RECOMMENDATIONS

1. Increasing funding/improving efficient use of resources available for eye health

✓ Explore opportunities to generate additional income from eye care services through increasing profits from sales of spectacles (by broadening the range of glasses and tiered pricing), increasing demand for services (through community outreach and school screening programs), developing private services for cataract surgeries within hospital, improving process for identifying patient with insurance and effectively claiming reimbursement from insurance schemes.

✓ Work with regional and district health authorities to ensure that eye health is mentioned in CCHPs and CHOPs and track/report on resources allocated for eye care services in Singida districts.

✓ Further explore and strengthen collaboration with existing community insurance schemes (CHF & TIKKA). Review processes and investigate innovative mechanisms to increase enrollment of general and eye care patients (seed funding available to enroll patient in need of surgery, etc.). This will contribute to both increasing income from eye care services and improving access for vulnerable groups of the population.

2. Generating evidence

✓ There is a need for more evidence on the cost of delivering eye care services in Singida region to estimate the resources needed and current funding gap for ensuring universal eye health coverage. This information is important to inform the budgeting and planning process at regional/district level and help develop a comprehensive approach for funding eye care service in Singida Region.

- ✓ Data on the cost effectiveness and economic impact of eye care services in the context of Tanzania would be also very useful for advocacy activities at regional and national level as there are very little evidence available from low- and middle-income countries.

3. Capacity Building

- ✓ Strengthen fiduciary and financial management capacity and system in health facilities with an emphasis on budgeting process, income and expenditures tracking, and review of mechanisms for prevention of misuse or abuse of public resources to increase efficiency and financial resources available for health care delivery including eye care services.

4. Policy & advocacy

- ✓ Explore synergies with regional and district authorities to enforce government policies with regard to road safety or occupational health. For example, vision screening is recommended targeting commercial drivers to improve their visions and prevent potential vision related accidents. To increase income, all public and formal sector employees should undertake annual medical examinations including eye screening as per government guidelines. This will increase the revenue from the NHIF channel and the CHF channels as well.

- ✓ Review of National Essential List of Medicine (NEMLIT) for Tanzania and advocacy activities for the inclusion of a wider choice of specialist eye care drugs and medical supplies are made available through Central Medical Stores, in particular cataract surgical kits.

- ✓ Explore further synergies with non-communicable diseases and ensure that eye health is embedded in the national system response and strategic/policy document for non-communicable diseases in Tanzania.

- ✓ Ensure that eye care services are part of the service package covered by the future Single National health Insurer (SNHI)

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