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Title: Health Sector Financing for Reducing Maternal and Infant Mortality Ratios in Tanzania

Implications for nation-wide coverage of CEmONC

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Abstract

This paper looks at efforts by the Tanzanian government to reduce maternal and neonatal mortality ratios through increased expenditure on comprehensive emergency obstetric and newborn care (CEmONC). Initial results tend to show substantive reduction in MMR and NMR in some regions like Rukwa which significantly increased CEmONC related expenditure to about 4.9% of the regional health expenditure. Results of the Rukwa case study could be used by the government for a national-wide CEmONC coverage in line with expenditure detailed in this paper.

Introduction

Tanzania is one of few developing countries which have managed to reduce maternal and newborn mortality rates significantly in the past ten years in line with the Millennium Development Goals (MDGs) set in year 2000. Maternal mortality rate (MMR) in Tanzania declined from 790 per 100,000 in 2008 to 432 per 100,000 in 2015. In the same period, neonatal mortality rate (NMR) declined from 27 per 1,000 live births to 18.8 in 2015. Indeed, this is a significant achievement; though the current MMR is far below the Millennium Development Goal (MDG 5) target and the National Strategy for Growth and Reduction of Poverty (popularly known as MKUKUTA II) target of reducing MMR in Tanzania from 452 per 100,000 in 2010 to 265 per 100,000 in 2015. The MMR is slightly lower (by 15%) than the level in sub-Saharan MMR of 510 per 100,000 (2013). The target for NMR was on track by 2015 in which 19 per 1,000 live births down from 26 per 1,000 live births in 2010 was recorded. However, both MMR and NMR are still on the high side relative to the available mechanisms and strategies for addressing them. Increased and more targeted budgetary interventions are required to achieve these targets.

According to WHO (2015) estimates, more than 8,500 preventable maternal deaths and over 51,000 newborn deaths occurred in Tanzania in 2014 as a result of continued underfunding of the comprehensive emergency obstetric and newborn care (CEmONC). Thus, besides increased budgetary to the health sector there is also need for more efforts to reprioritize and “ring fencing” of CEmONC budgets at the national and subnational levels.

The objective of this paper is to examine Tanzania’s recent efforts to reduce MMR and NMR and focusses on the budgetary and expenditure trends to the health sector in general and to CEmONC activities in particular. Focus on CEmONC in Tanzania is a recent initiative implemented in few regions including Arusha, Dar es Salaam, Dodoma, Iringa Morogoro Rukwa and Shinyanga. The gist of the paper is however that in region like Rukwa where there is significant financial disbursements and re-prioritization of CEmONC the outcome has been significant a decline in both MMR and NMR. The paper uses the Rukwa region experience to analyze the implications of rolling out across the country

so that policy commitments are matched with CEmONC expenditure realities to eliminate preventable MMR and NMR in Tanzania.

Literature review

Recent literature on MMR and NMR distinguishes between direct and indirect CEmONC services (see for example, Schwarz, 2015, Arin Dutta *et al*. 2015). The three direct services which could address 80% of MMR and NMR ratios in Tanzania aim at treating post-partum hemorrhage, sepsis and abortion related complications (Schwartz, 2015). The indirect CEmONC services include illnesses aggravated by pregnancy, anemia, malaria, tuberculosis and HIV/AIDS (Schwarz, 2015, Arin Dutta *et al*. 2015). Generally, however, CEmONC expenditure includes seven essential medical interventions, or 'signal functions,' that treat the major causes of maternal and newborn morbidity and mortality. These are; antibiotics to prevent puerperal infection, anticonvulsants for treatment of eclampsia and preeclampsia, uterotonic drugs e.g. oxytocic administered for post-partum hemorrhage, manual removal of the placenta, assisted or instrumental vaginal delivery, removal of retained products of conception, neonatal resuscitation, capability for blood transfusion and capability for cesarean section.

Apart from the foregoing introduction, the paper has three other sections. In section two, the paper reviews literature on MMR and NMR focusing mainly on policy framework and leadership commitment with respect to MDGs and MMR and NMR in particular. Section three analyses the budgetary expenditure for health and CEmONC. Conclusions and policy recommendations emerging from the paper are made in sections four.

Methods

The current study uses a slightly modified version of the Arin Dutta *et al*. (2015) methodology which, in turn, uses the cost estimates from the RCH Department of the Ministry of Health Community Development, Gender Seniors and Children. The policy brief states that "Using the One Health Tool, a model for medium- to long-term strategic planning in the health sector, HPP estimated the costs, human resource constraints, and impact of implementing the One Plan II (Improvement of Reproductive, Maternal, Newborn, Child Health and Adolescent Health 2015/16 – 2019/2020). The results of the analysis include program management and commodity costs.

Program management costs are the costs of program-specific human resources; training; supervision; monitoring and evaluation; infrastructure and equipment; transport; communication, media, and outreach; and advocacy. Program management costs are overseen by the Reproductive and Child Health Section in Tanzania's Ministry of Health and Social Welfare and are conducted at national and sub-national levels. RMNCAH commodity costs are the costs of the drugs and supplies

needed to provide clinical RMNCAH interventions and exclude freight, quality assurance, wastage, and other procurement and supply chain management costs".

The analysis shows two major cost components which are programme management and health commodities. The total cost of implementing the One Programme II for the period 2015/16 – 2019/20 is estimated at US$653 million (TZS 1.3 trillion), of which 56% or USD 365.68 million are for health commodities. The estimated costs for health commodities for maternal and new-born services is 34% of the total programme costs of health commodities – i.e. 34% of USD365,68 million, which is USD 124.33 million. The cost of programme management for maternal and new-born health are estimated to be between USD 26 million and 32 million which, on average, is USD 29 million. Thus, by these estimates, the total costs of maternal and new-born health in the implementation of the One Plan is USD 153.33million. The policy brief estimates further that management of normal labor and delivery is the highest-cost intervention, totaling US$52 million from FY 2015/16 to FY 2019/20. By implication, the rest of the costs, about USD 101.33 (TZS 217,859,000,000) are for CEmONC in the period 2015/16 – 2019/20 for implementation of Plan One II.

Included in the RCH's estimates of the cost of implementing the One Plan II is cost per year for the Reproductive, Maternal, Newborn, Child Health and Adolescent Health services. The estimate of CEmONC cost per year, as presented in Figure 2, have been computed by using the same proportion of costs of health commodities and programme management as indicated in the RMNCAH estimates.

Policy environment and commitment for CEmONC in Tanzania

Since the agreement on MDGs in year 2000, world leaders realized that the success of the specified goals would rest on availability of funds and committed national leadership. As a way of accelerating the achievement of the MDGs, a group of the industrialized nations (G8) agreed in 2005 to provide debt relief to highly indebted poor countries like Tanzania to allow them to re-direct their resources to programmes for improving health, education and for alleviating poverty (UNDP, 2015). Tanzania has utilized the debt relief opportunity and directed its resources to improve social service delivery including health and education. (URT, 2015). Indeed, the vision of the Tanzanian government has been to attain a healthy society, with improved social wellbeing that will contribute effectively to personal and national development by 2025. The mission is to provide basic health services in accordance to geographical conditions, which are of acceptable standards, affordable and sustainable. Specifically, however, the current national health policy states that maternal and child mortality will be reduced in line with the MDGs 4&5. To this effect, the government has formulated and adopted several strategy documents for implementing the national health policy.

In Tanzania's political system, it is the ruling party (currently Chama cha Mapinduzi) which provides the overall development vision to the government and, according to its 2015 election Manifesto, the government will be directed to "strengthen maternal and infant care facilities in line with the priorities identified in the development Initiative of Big Results Now (BRN programme). The Manifesto and the BRN aim at (i) building the capacities of hospitals and health centers to enable them to discharge fully the maternal and infant health care services including pregnant women, (ii) establishing blood banks in regions which will implement the maternal and infant health care facilities including pregnant women (iii) building the capacities of dispensaries and health centers so that they can provide basic emergency maternal and infant health care services (iv) providing mobile clinics especially in rural areas and to; continue with the program of preventing HIV/AIDs transmission from mother to child.

With the onset of the MDGs in 2000, Tanzania prepared several policy and strategy documents in which targets and specific interventions for maternal and new-born heath were set. These include revision of the 1990 Health Policy, preparation and adoption of MKUKUTA.

By 2007, it was realized that the pace of the achievement of the targets of the MKUKUTA 1 on the MNCH subsector was not in line with the strategy timeframe and the timeline for the realization of the MDGs 4&5. In response, the then Ministry of Health and Social Welfare (MoHSW) prepared the National Road Map Strategic Plan to Accelerate Reduction of Maternal, New-born and Child Deaths in Tanzania, covering the period 2008 – 2015.

The purpose of the road map was twofold; to put in place 'one integrated maternal, new-born and child health strategic plan' to ensure improved coordination of interventions and delivery of services for the MNCH subsector; and to guide implementation across operational levels of the health system so that policy drawn at national level would be carried out at the district and community levels. The Road Map operationalized the tenets of the New Delhi Declaration reached in year 2005 and aimed at developing one national MNCH plan for accelerating the reduction of maternal, new-born and child deaths in order to improve coordination, align resources and standardize monitoring and evaluation. This was also in line with the voice from the Tanzania Partnership for Maternal, New-born and Child Health (TPMNCH) launched in 2007.

In 2008, the Government updated the 2003 Health Sector Strategic Plan (HSSP II) and prepared and adopted the HSSP III 2009 – 2015, which, among other objectives, sought to increase access to Maternal and Newborn Health services; and strengthening the health systems to provide quality MN services, among others. The strategy also sought to increase access to MN interventions as part of the Primary Health Services Development Programme (MMAM 2007 - 2017) – country wide

programme of expanding basic health services in Tanzania. Provision of CEmONC services is clearly stated in the HSSP III and MAMM.

Objectives of the HSSP III and MAMM on MN were to, increase coverage of primary health care in remote areas, (ii)increase proportion of skilled attended deliveries, (iii) provide Emergency Obstetric Care (CEmONC) and Family Planning, (iv)strengthen the health system to provide quality MN services, (v)view regulations, guidelines and standards, and improve standardized supervision, at all levels of the health services. The central element in implementing the Manifesto and the strategic plans in the health sector hinges around not only the availability of funds but also the prioritization of CEmONC activities at the national, regional and district levels. This aspect is analyzed in detail in the next section.

Expenditure on CEmONC in Tanzania

Budget process

The budgeting process and expenditure of health funds in Tanzania has three major levels of spending before reaching down to the service outlets. The first is budgetary allocation or expenditure by the responsible or line ministries (Ministry of Health Community Development, Gender, Seniors and Children; and the President's Office Ministry of State for Regional Administration, Local Government, Civil Service and Good Governance) responsible for policy formulation, coordination and monitoring and evaluation of implementation at various levels. The second level is regional secretariats which prepare and monitor budget and expenditure of the respective regional hospital. And thirdly is council level which prepares health budgets and submit through the respective line ministries. All programme, project and other health expenditures which fall under the Ministry responsible for health must appear in at least one of these levels. Expenditures which have established budget codes either at national or subnational level are clearly observable in the budget and other financial reports; but budget details by activities and health commodities in each expenditure code are kept in separate narrative budget or expenditure details. Budget cum expenditure on CEmONC does not have a special budget code at national and subnational level; as such, tracking budgeted resources or expenditure on the services involves a process of going through each of the details or items of health budget or expenditure.

In the financial year 2014/15, the then Ministry of Health and Social Welfare was allocated funds totaling TZS 11,516,687,815 as support for reducing maternal mortality. This was 1.7% of the total Ministry's budget which is usually spent centrally out of which, 21% was from foreign sources. In the subsequent year 2015/16, the Ministry was allocated TZS 5,493,000,000 as support to reduce maternal mortality, which was 0.6% of the total ministry's budget and significantly less than the

previous year 2014/15. There is no matching allocation at the lower levels, although there are corresponding several budget items in the regional and council comprehensive health plans (CCHP). Clearly, at the central level, specific allocations for reducing maternal mortality are noted though not directly specified and labelled as CEmONC budget for easy "ring-fencing "and monitoring.

Local Authorities (LGAs) prepare comprehensive health plans which include expenditures on CEmONC-related activities. There are very few councils which have clearly demarcated budgets for CEmONC services or a clear budget code number for the services. Therefore, compiling budget and expenditure data for CEmONC is tedious; and monitoring and evaluation of such expenditures is not so direct.

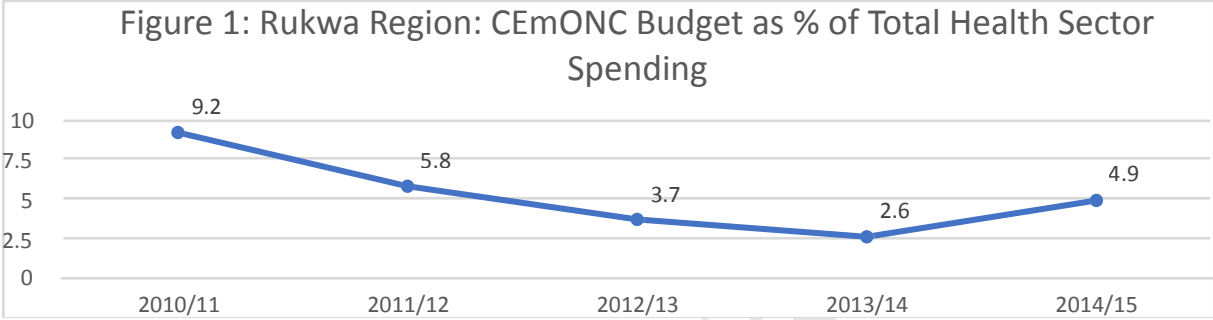
Nonetheless, this study selected case studies of seven regions and compiled budget data for CEmONC in all the councils found in those regions for the latest two consecutive years 2014/15 – 2015/16. Using the current national MMR of 432 per 100,000 and the regional MMRs from the 2012 national census report; we define regions with MMR higher than the national average as worst performing and those with MMR lower than the national rate as relatively good performing regions. Therefore, the selection of the seven regions included four worst (Rukwa, Arusha, Dodoma and Dar es Salaam) performing regions and three (Morogoro, Iringa, Shinyanga) relatively good performing regions. The results of the analysis are presented in Table 1.

Table1: Expenditure on CEmONC for selected regions

	2015/16			2014/15		
Region	Regional total Health Expenditure	CEmONC Expenditure	CEmONC expenditure as % of total Region health expenditure	Regional total Health Expenditure	CEmONC Expenditure	CEmONC expenditure as % of total Region health expenditure
Arusha	10,774,921,158.00	142,123,496.00	1.32	11,093,730,603.00	70,236,714.00	0.63
Dodoma	10,204,474,039.00	60,142,512.00	0.59	10,545,066,310.00	70,932,852.00	0.67
DSM	30,123,459,388.00	111,089,939.00	0.37	27,083,290,484.00	84,024,900.00	0.31
Rukwa				11,440,192,131.00	558,359,783.00	4.9
Morogoro	1,206,093,468.00	17,214,276.00	1.43	Not available	Not available	N/A
Iringa	5,204,293,985.00	16,754,167.00	0.32	Not available	Not available	N/A
Shinyanga	9,062,044,119.00	169,401,119.00	1.87	Not available	Not available	N/A
Total	**66,575,286,157.00**	**516,725,509.00**	**0.78**	**48,722,087,397.00**	**225,194,466.00**	**0.46**

The trend of CEmONC budget at the LGA level for 2014/2015 and 2015/16 shows that allocation to the services was less than one percent of their total health spending for the two financial years. In absolute terms, the total allocations to CEmONC services in all the councils in the seven selected regions had not reached TZS one billion.

However, in 2014/15 Rukwa spent about 4.9% of its health spending on CEmONC; but in the previous four years, expenditure on the same recorded a declining trend down to 2.6% in 2013/14. Rukwa region is a special case because it is currently implementing region-wide programme for reducing maternal and new-born mortality rates (Figure1).



Name of Council	2010/11	2011/12	2012/13	2013/14	2014/15	Five year Average
Nkasi	5.6	3.4	6.5	3.1	3.7	4.4
Sumbawanga Municipal Council	8.9	6.9	2.7	4.6	3.1	5.2
Sumbawanga District council	138.2	8.0	2.8	2.9	6.7	31.7
Kalambo				0.9		0.2
Rukwa Region	**9.2**	**5.8**	**3.7**	**2.6**	**4.9**	**5.2**

Resource allocation to CEmONC depends largely on the availability of health funds at the LGA level and their discretion for allocating the funds. As indicated earlier, about 80% of health funds at the LGA level come from the central government as block grants and basket funds though with guidelines for budgeting. Through their CCHPs, LGAs determine allocation to various health items including CEmONC; as such, if councils would consider CEmONC as a priority, they would allocate matching funds accordingly; if they do not, which appears to be the case now, they will continue to allocate a marginal budget on CEmONC. Certainly, the entry point for urging for more budget resources to CEmONC at the subnational level is the budgeting process in LGAs.

Estimated costs of CEmONC to achieve government commitment (One Plan II)

In September 2015, Arin Dutta *et al*. prepared a policy brief on MATERNAL, NEWBORN, AND CHILD HEALTH IN TANZANIA: COSTS AND IMPACTS OF THE ONE PLAN II using cost estimates from the RCH Department of the Ministry of Health Community Development, Gender Seniors and Children. The policy brief states that "Using the One Health Tool, a model for medium- to long-term strategic

planning in the health sector, HPP estimated the costs, human resource constraints, and impact of implementing the One Plan II (Improvement of Reproductive, Maternal, Newborn, Child Health and Adolescent Health 2015/16 – 2019/2020). The results of the analysis include program management and commodity costs.

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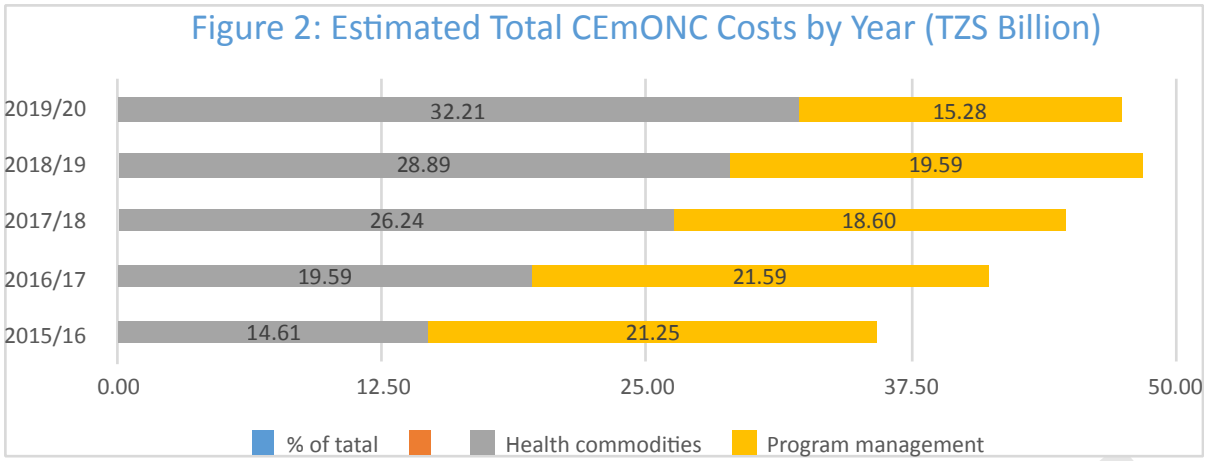

The estimate per year shows that the costs of CEmONC in achieving One Plan II in the next five years (2015/16 – 2019/20) in TZS Billions are 35.87, 41.18, 44.83, 48.49, and 47.49, respectively. These are subdivided in health commodities and programme management as indicated in Figure 2.

Thus, the estimated cost of CEmONC services in Plan One II is TZS 217,859,000,000 for five years (2015/16 – 2019/20), which, on average, is about TZS 43,571,800,000 every year or about 5.4% of the 2015/16 budget of the Ministry of Health and Social Welfare. This would translate to less than 4% of the total health spending on the health sector in Tanzania.

Conclusions and Policy Recommendations

The ensuing analysis tend to point at three two policy recommendations regarding health sector financing for reduction of MMR and IMR. First, the government's willingness and commitment to allocate 4% of its health sector budget to finance CEmONC will result into the elimination of preventable MMR and IMR deaths. Such an expenditure which is highly recommended would be good for the government, women and children and would facilitate the realization of leaders' commitments to One Plan II. Related to the availability of funds is strategic "ring fencing" of CEmONC in such a way as to ensure sufficient availability of the required lifesaving equipment.

While expenditure on CemONC is highly desirable, it is important for the planning and budgeting process to ensure that there is sufficient community participation. This is not only important for sustainability but also in facilitating the availability of accurate data on maternal and infant mortality ratios.

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