Original Research Article

THE EFFECT OF DIRECT HEALTH FACILITY FINANCING ON ENROLLMENT INTO HEALTH INSURANCE IN DODOMA REGION, TANZANIA

Abstract

The National Health Insurance Fund (NHIF) and Improved Community Health Fund (iCHF) are pre-payment schemes in Tanzania aimed at achieving Universal Health Coverage. Despite these efforts, public health facilities have historically provided poor quality care. To address this, the Direct Health Facility Financing (DHFF) mechanism was introduced in 2017, allowing health facilities to purchase medicines and equipment from approved vendors when out-of-stock notifications are received from the Medical Store Department (MSD). This study aimed to establish levels of participation and enrollment in health insurance schemes among beneficiaries following DHFF implementation. Conducted in Dodoma Region, the study involved a sample of 35 healthcare workers and 17 community members. Data were collected through in-depth interviews and focus group discussions and analyzed qualitatively and quantitatively. Findings indicated an increase in health insurance enrollment for both NHIF and iCHF from 2018/2019 to 2019/2020. This rise was attributed to improved medicine availability, community education, and sensitization efforts. Beneficiaries reported noticeable improvements in health facilities, such as better medicine availability, upgraded infrastructure, and more positive attitudes from healthcare providers. Additionally, healthcare providers and authorities, including governing committees, medical officers, and insurance coordinators, expressed favorable views on the quality of care since DHFF's introduction. However, the study highlighted issues with the inflexibility of the MSD in notifying health facilities about out-of-stock items. To address this, the study recommends that the MSD improve its supply chain to ensure timely order deliveries and prompt notifications of out-of-stock items. This would enable facilities to purchase from alternative vendors or suppliers, thus maintaining consistent healthcare service quality.

Keywords: Direct Health Facility Financing (DHFF), Health Insurance Enrollment, National

Health Insurance Fund (NHIF), Improved Community Health Fund (iCHF), Tanzania

1. Introduction

Pre-payment schemes in health have been the commonest resort for the third-world countries in their bid to attain universal health coverage. Universal health coverage is envisaged in Sustainable Goal Number 3 (Watkins, et al., 2017; Renggli et al., 2019). Characterized by the inability of the general population to afford user fees in healthcare, third-world countries have been focusing on ensuring that the larger part of their population is enrolled in health insurance (Ajuaye *et al.,* 2019). Maluka *et al.,* (2018) contend that countries in the sub-Sahara Africa have been reforming their health sector as evidenced by Kenya which introduced the national health insurance scheme and direct health facility financing. Tanzania has not been left behind in these reforms and restructuring of the health sector in its bid to attain universal health coverage. To make sure that health services are affordable and accessible to the general population, the country has been reforming the payment schemes beginning with the inception of the National Health Insurance Fund (NHIF) and, lately, the Improved Community Health Fund (iCHF). Besides, the country has put in place waivers and exemptions for children under five years, pregnant women and the elderly (Kapologwe *et al.,* 2019).

In 2017/2018, Tanzania adopted Direct Health Facility Financing to empower health facilities to purchase medicines and related equipment from the Prime vendor in case they receive out-of-stock notification from the Medical Store Department (MSD). DHFF is being implemented at the primary level, nationwide, and it is expected that it will resolve the challenge on poor services, shortage of medicines and medical equipment as well as low morale of health care providers by ensuring the availability of essential medical. Kapologwe *et al.,* (2019) are of the view that DHFF is the provision of government or external funds directly to the health facility to meet the operational requirements. Guidelines for its implementation require the health facilities, each at the primary level, to have an account to which funds are deposited, and the funds are provided with the approved budget. Studies by Ajuaye *et al.,* (2019) and Ndomba and Maluka (2019) show that the Government of Tanzania introduced health insurance schemes to increase accessibility to health services by enhancing the affordability of health services in both government and private healthcare facilities. However, the increase in health insurance has led to

a birth of new problems, including increased workload on the already few healthcare workers; thus, diminishing the morale of the workers as well as decreasing the enrolment into health insurance schemes. One solution was to introduce DHFF to provide the health facilities with the ability to purchase medicines and other pharmaceutical goods at MSD and to other vendors. The goal is to improve the quality of health services being provided in the facilities, which has a direct influence on the willingness of the people to enroll in health insurance schemes. The study, therefore, looks into the extent to which DHFF contributes to enrolment in health insurance schemes in Dodoma Region.

2. Materials and Methods

The study applied a mixed methods design, with a primary emphasis on qualitative methods. In-depth interviews and focus group discussions were used to provide detailed explanations and additional insights into the quantitative data. Quantitative data were collected through a documentary review, which utilized the population numbers of enrolled members in both NHIF and iCHF health insurance schemes to determine the trend in enrollment.

2.1 Sample Size and Sampling

A sample of 35 respondents was obtained through purposive sampling; and it included health care providers, District Medical Officers, iCHF Enrolment officers, District NHIF Coordinators, District iCHF Coordinators, facility committee members, and health insurance beneficiaries. A sample of quantitative data was obtained through purposive sampling from the coordinators of the respective health insurance schemes (NHIF and iCHF)

2.2 Data Management

Qualitative data was analyzed using framework analysis (Gale, N.K et al, 2013) Coding and checking for coding consistency was done and the data was managed into units of information that covered broad categories. List of codes was reviewed and grouped in categories and themes for analysis. Analysis was undertaken using a framework grouping of relevant themes that answers key issues as per our study objectives.

2.3 Data Analysis

Quantitative data was analyzed using Excel to assess variations in enrollment over the years. Both quantitative and qualitative data from the study sites were systematically interpreted to derive comprehensive insights.

3. Results and discussion

The findings showed that there was an increase in the enrolment of community members to the iCHF with an increase of 172 people in Kondoa District Council and 1,395 in Dodoma City Council in 2019/2020. Furthermore, Dodoma City Council recorded the highest increase of 431,567 new NHIF members in 2019/2020. Findings from the interviews show that improvement in the quality of services influenced the increase in the enrollment. Respondents had this to say:
people tend to accept enrolment due to the availability of good services, which is why one is ready to incur costs in a private hospital than to visit public health facilities for services. [NHIF Enrolment Officer]

Another respondent added:
At the facility, we are currently able to prepare our budgetary plans and execute them hence ensuring facility workers are provided with incentives to increase morale
A similar perspective is expressed by respondents from the health department in the district who maintained that the quality of services improved as a result of DHFF, and this has influenced enrolment into health insurance schemes. The community members also viewed DHFF positively since it increased their role in health services through health governing committee. This is evidenced in the statement below:

> *"The establishment of DHFF has been of great value to us citizens, as we are now involved in the planning and the budgets of our health facilities. In addition, the drug disposal system has been improved. The infrastructure of our health facilities health facilities and hospitals has improved compared to the period before 2018".[Health Facility Governing Committee member]*

The NHIF and iCHF enrolment officers also responded that they encouraged people to enroll in insurance schemes and one of the key selling points was the quality of services, especially in government health facilities as a result of the introduction and implementation of DHFF. The

findings are in line with the study by Kapologwe *et al.,* (2019) who found that DHFF helped improved enrolment in insurance schemes in Tanzania through improvements in service delivery owing to the autonomous nature of health facilities in budgetary decision-making.

Further, the study established that most of health insurance beneficiaries were not aware of DHFF.

> *"Back in the days, we community members were even demotivated to visit public health facilities for treatment or diagnosis because, in most cases one could get tested, and yet the prescribed medicines were not available or the tests that you are supposed to undergo are not covered in the health insurance, especially for the CHF users. At least our fellows using NHIF do not get many difficulties as we do. This was so discouraging because we had to incur costs, and take trouble to look for medication elsewhere…lately the situation has improved. Medicines are now available and even health workers are available most of the time. This is unlike in the past…" (iCHF Insurance Beneficiary)*

The statement above suggests that the beneficiaries are aware of the improved quality of services but could not attribute such improvement to the introduction of DHFF. The examination of various dimensions including quality of services, accountability and transparency and relating them to the inception of DHFF showed that there was increased positive perception about the quality of health services, transparency and accountability following the implementation of DHFF in Dodoma Region. It was also found that healthcare providers regarded the working environment friendlier owing to the availability of medical equipment and pharmaceutical goods compared to before DHFF. The friendly working environment assisted in improving the morale and motivation of healthcare workers, and thus improving the quality of the service for the health insurance beneficiaries and other patients. The findings are in line with those by Opwora *et al.,* (2010) who identified that the period before DHFF was marked by a low morale among healthcare workers due to bad working environment and the period after had better working environment through DHFF.

Despite the positive influence of DHFF on the enrolment into insurance schemes, the study showed that there are challenges facing the enrolment of community which emanated from

dissatisfaction with the services received by the iCHF beneficiaries. Further challenges were noted on the part of DHFF with delays in funds being the main one, and a lack of flexibility in the use of funds. One of the healthcare providers said:

...the facility prepares a budget, then it goes to the Council, later, the distribution is done although the challenge that we faced is that the allocation was not in line with needs. Different locations have different needs based on the diseases that affect the area... [Health care Provider]

The other challenge is the fact that the DHFF is to be used in procuring pharmaceutical goods from MSD which in some cases lacks the requirements of the facilities. The procurement procedures that follow are cumbersome affecting the quality of healthcare provided.

> *…we sit as a committee and prepare budgets; we have an accountant who comes to oversee the budget. We then press an order to the prime vendor- the MSD. If the medicines are available, we clear the bill for delivery. However, when medical supplies are out of stock, we are provided with a list of those which are available for payment; and according to the laws, they are supposed to offer us out of stock notification to allow us to purchase them from other vendors. MSD has been too rigid to offer the notification to health facility….[Health facility in charge]*

From this statement, it was established that there are challenges that still need to be attended to if the DHFF is to bring more quality to the health services as well as improve enrolment in health insurance schemes.

4. Discussion of findings

4.1 Enrolment and Participation before the Introduction of DHFF

Before Direct Health Facility Financing (DHFF) was implemented in 2018, primary health centers in Tanzania depended on local governments for financial resources. This system resulted in inefficient service delivery, frequent stock-outs of medications, inadequate infrastructure, and low staff motivation. These issues led to low enrollment in health insurance schemes such as NHIF and iCHF. Research by Kapologwe et al. (2019) and Mamdani et al. (2018) found that delays and central control of funds by local governments significantly hindered the efficiency and effectiveness of health facilities. Low enrollment in NHIF and iCHF prior to DHFF was

attributed to several factors, including limited coverage, inadequate community education, and issues with the validity of membership cards across different localities (Kalolo, 2017; Chandika, 2020). However, following the introduction of DHFF, there was a notable increase in insurance enrollment. For instance, iCHF enrollment rose by 1,385 in Dodoma City, and NHIF enrollment surged by 431,567 between 2018/19 and 2019/20. These increases were linked to the improved quality of services and infrastructure made possible by DHFF. Nonetheless, a decrease in enrollments in 2017/18, due to insufficient sensitization about NHIF benefits, was consistent with findings from Chandika (2020) and Kalolo (2017), who noted dissatisfaction and unmet expectations among insurance beneficiaries.

4.2 Assessment of Beneficiary Perceptions and Experiences

The study evaluated beneficiaries' perceptions of health services under DHFF, focusing on quality, accountability, availability of medical equipment, and timely service provision. Post-DHFF, significant improvements were observed in these areas, including better service quality and availability of prescribed medicines and medical equipment. This aligns with findings from Kapologwe et al. (2017) and URT (2017), which reported enhanced service delivery and equipment availability due to DHFF. Prior to DHFF, there was limited accountability and transparency, contributing to poor service delivery. DHFF's guidelines improved these aspects, resulting in more timely and effective services, as supported by Kapologwe et al. (2017) and MoHCDGEC (2016).

4.3 Views and Experiences of Healthcare Providers

Healthcare providers and authorities reported a positive shift in service quality post-DHFF. The old system, criticized for bureaucratic delays, poor resource allocation, and lack of community involvement, led to inadequate medicine and equipment. Post-DHFF, direct fund access improved service delivery and provider performance. However, challenges like medicine shortages due to rigid MSD protocols persist. These findings are consistent with Kapologwe et al. (2017) and URT (2017), highlighting the benefits and ongoing issues with DHFF.

4.4 Accountability and Transparency

The study found that before DHFF, accountability and transparency in health facility budgeting were lacking, with no community involvement and unclear budget allocations. DHFF improved these aspects by enhancing accountability and transparency among implementers. This led to better service quality and reduced healthcare costs, aligning with Opwora et al. (2010), which noted similar improvements in health services and transparency following the introduction of direct funding.

5. Conclusion and Recommendation

5.1 Conclusions

The study has established that there is a perceived positive relationship between the establishment of DHFF and the improvement of the quality of health services, which were introduced in 2018. Therefore, DHFF has contributed to effective and efficient delivery of health services, thus increasing the enrollment of community members in health insurance schemes.

The study underscores that Direct Health Facility Financing (DHFF) advances Universal Health Coverage (UHC) by enhancing service quality, boosting health insurance enrollment, and improving accountability. These improvements in care and accessibility contribute to better financial protection. Recommendations include increased health sector funding, timely fund disbursement, and efficient resource management to further support UHC and ensure equitable healthcare access.

5.2 Recommendation

The study recommends increasing health sector budget allocations to at least 15% to enhance infrastructure and service quality, similar to practices in Kenya and the U.S. Timely fund disbursement to health facilities and training in procurement and accounting are crucial. Furthermore, the Medical Stores Department (MSD) should ensure prompt delivery of orders and provide timely notifications of stockouts to enable health facilities to secure alternative supplies for continuous service delivery. Additionally, the study's limitations should be addressed in future research. The narrow focus on Dodoma Region may not represent other regions in Tanzania due to varying cultural and ethical contexts. To ensure the findings are generalizable, broader, multi-regional research is needed. Future studies should explore all relevant variables affecting health insurance participation and DHFF impact, considering additional factors that may influence the

outcomes. This comprehensive approach will provide a more accurate and representative understanding of DHFF's impact on health insurance enrollment and service quality across different regions in Tanzania.

References

Ajuaye, A ,Verbrugge, B, Van Ongevalle, J , et al.: Understanding the limitations of "quasi-mandatory" approaches to enrolment in community-based health insurance: Empirical evidence from Tanzania. International Journal of Health Planning and Management. 2019; https://doi.org/10.1002/hpm.2795

Ganle, JK, Mahama, MS, Maya, E, et al.: Understanding factors influencing home delivery in the context of user-fee abolition in Northern Ghana: Evidence from 2014 DHS. The International Journal of Health Planning and Management, 2019; 34(2): 727–743. https://doi.org/10.1002/hpm.2731

Kapologwe, NA, Kalolo, A, Kibusi, SM, et al.: Understanding the implementation of Direct Health Facility Financing and its effect on health system performance in Tanzania: a non-controlled before and after mixed method study protocol. Health Research Policy and Systems, 2019a;17(1): 11. https://doi.org/10.1186 /s 12961 - 018-0400-3

Kapologwe, NA, Kalolo, A, Kibusi, SM, et al.: Understanding the implementation of Direct Health Facility Financing and its effect on health system performance in Tanzania: a non-controlled before and after mixed method study protocol. Health Research Policy and Systems, 2019a; 17(1): 11. https://doi.org/10.1186 /s 12961 - 018-0400-3

Maluka, S, Chitama, D, Dungumaro, E, et al.; Contracting-out primary healthcare services in Tanzania towards UHC: How policy processes and context influence policy

design and implementation. International Journal for Equity in Health, 2018; 17(1).

Opwora, A, Kabare, M, Molyneux, S, et al.: Direct facility funding as a response to user fee reduction: implementation and perceived impact among Kenyan health centres and dispensaries. Health Policy and Planning, 2010b; 25(5): 406–418. https://doi.org/10.1093/heapol/czq009

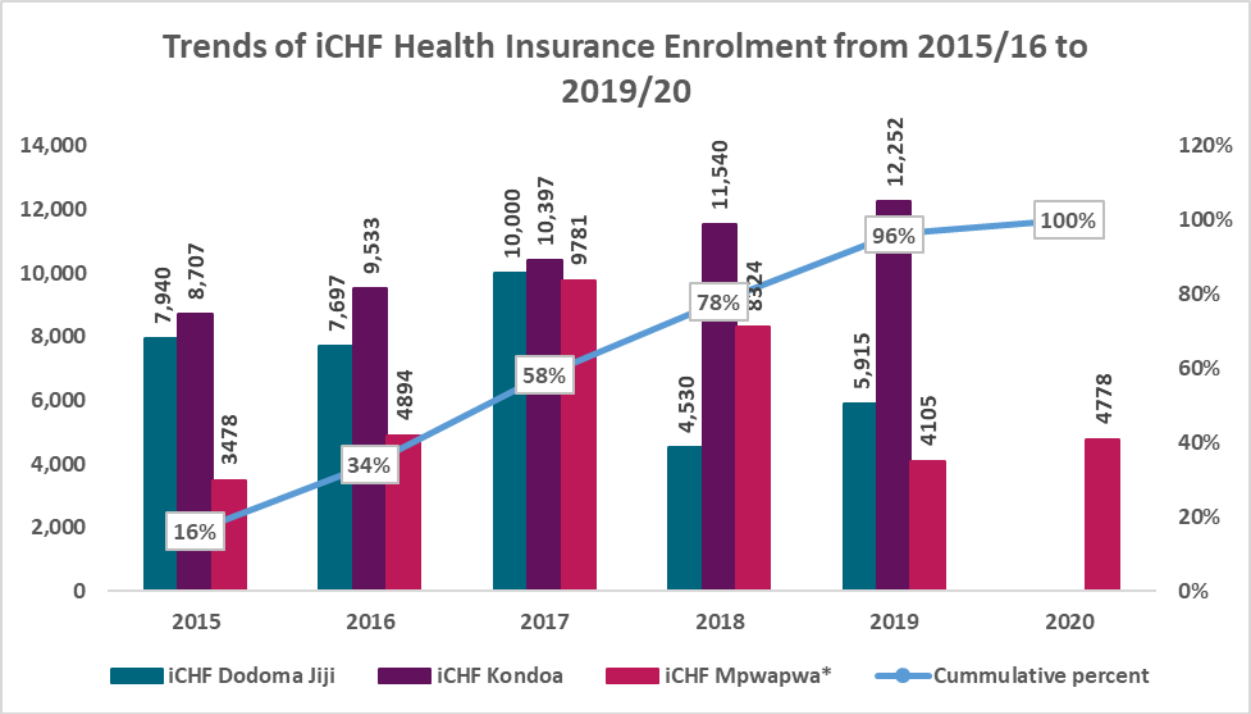
Renggli, S, Mayumana, I, Mshana, C., et al.;Looking at the bigger picture: how the wider health financing context affects the implementation of the Tanzanian Community Health Funds. Health Policy and Planning, 2019; 34 (January):12–23. https://doi.org/10.1093/heapol/czy091

Watkins, DA, Jamison, DT, Mills, A, et al.: Universal Health Coverage and Essential Packages of Care. In Disease Control Priorities: Improving Health and Reducing Poverty. 2017; Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/30212154

Table 1. Trends of Insurance Enrolment from 2015/16 to 2019/20

Year	2015	2016	2017	2018	2019	2020
iCHF Dodoma Jiji	7,940	7,697	10,000	4,530	5,915	
iCHF Kondoa	8,707	9,533	10,397	11,540	12,252	
iCHF Mpwapwa*	3478	4894	9781	8324	4105	4778
NHIF Dodoma	13,225	17,324	3,306	36,549	468,116	
Cummulative percent	16%	34%	58%	78%	96%	100%
Total	20,125	22,124	30,178	24,394	22,272	4,778
Total Cummulative	20,125	42,249	72,427	96,821	119,093	123,871

Fig 1. Trends of iCHF health insurance enrolment from 2015/16 to 2019/20


Trends of iCHF Health Insurance Enrolment from 2015/16 to 2019/20
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
120%
100%
80%
60%
40%
20%
0%
7,940
8,707
3478
7,697
9,533
4894
10,000
10,397
9781
4,530
11,540
8324
5,915
12,252
4105
4778
16%
34%
58%
78%
96%
100%
2015
2016
2017
2018
2019
2020
iCHF Dodoma Jiji
iCHF Kondoa
iCHF Mpwapwa*
Cummulative percent