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### RESEARCH ARTICLE

#### DIGITALIZING COMMUNITY-BASED HEALTH INSURANCE IN ETHIOPIA

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CBHI, Digitalization, ICT, Challenges of ICT Adaptation, E-Health Strategy Implementation in Ethiopia

#### Abstract

**Background:** It is the plan of the Ethiopian government in order to digitalize the health care system. Though the digitalizing of the health care system in the country is at its infant stage and some of the projects fail. Different challenges have contributed to this low implementation of ICT in most Ethiopian healthcare systems.

**Methodology:** This study is a systematic type of review and the major source of articles used in this study were searched from databases such as PubMed, Scopus Google, Google Scholar, and other online databases. This study included eight studies that state the ICT implementation and related challenges in the health care system and community-based health insurance (CBHI).

**Results:** This study has identified 14 challenges to implementing ICT in the Ethiopian Health care system; Age, educational status, computer access, personal initiation, infrastructure, computer skill, poor internet connection, budget shortage and management style, workload, patient interaction, Lack of e-government readiness, absence of multi-sectorial involvement and lack of enabling policies.

**Conclusion:** This systematic review study underlined that poor ICT infrastructure, lack of computer skills, shortage of budget, Management style and lack of enabling policies were the most common challenges in the implementation of ICT in the Ethiopian health care system.

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#### Introduction:-

Digital technologies bring big opportunities for transforming healthcare services that will result in quality health services in order to improve the well-being of the community. Digital health is contributing to the attainment of UHC, especially in Africa where many countries have deployed various degrees of automation of their healthcare and health insurance processes (Okuzu et al., 2022) Digitalization of health insurance system can be rapidly adapted to changing contextual and condition/disease-related requirements can be scaled quickly, and have the potential to increase healthcare access (Baptista, et al., 2018). Currently, the Ethiopian government has embarked on massive ICT projects (Omotosho et al., 2019) to deepen the administration of health insurance across the entire value chain. ICT has assisted LMICs to improve patient safety and reduce the costs of care, and accelerate the attainment of UHC (Okerea and marcelo 2020). Ethiopia has shown robust progress in building and digitizing the health information system, apart from these activities such as electronic community health information system, telemedicine and teleradiology, supply chain management (Logistic), and Health-Net infrastructure development.

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Among the ten highly prioritized projects in digital Ethiopia which going to end in 2025 community-based health insurance is one mentionable service of the health sector that can be practically digitized? Although currently, the revenues that the government collects from health services are low compared to other sectors, health care is the future industry that can generate huge revenues for government and private companies. Hence, the digitalization of the payment system for the CBHI in Ethiopia is one of the vaulting health areas that can have an opportunity for the government in transforming the CBHI into a digital system.

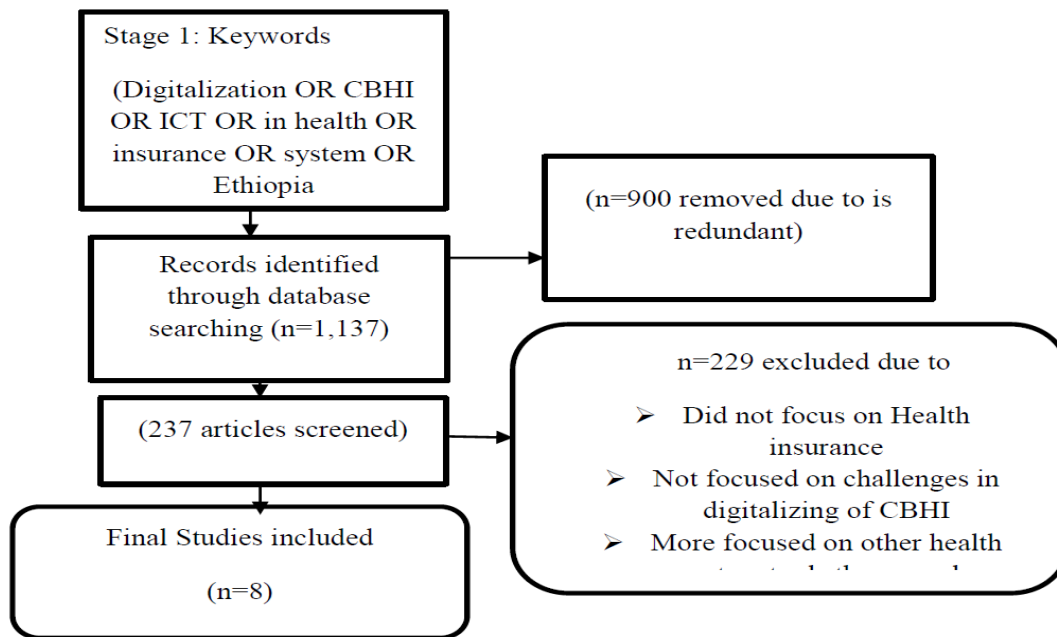
**Method:-**

Browse method the search for literature was conducted to achieve the goal of the study. This is very significant in order to refine the main idea of digitalization of CBHI and provide clarity and objectivity to the title of the study. The published materials were searched from online databases such as Scopus, PubMed, Google, Google Scholar, and other online databases until October 19, 2022. A systematic review was used in this study and snowballing technique of literature search was used to find the most related research based on the objectives. Keywords used in the search of those studies were Digitalization of health insurance, Innovation in health insurance, Challenges OR barriers OR obstacles OR factors of adaptation, and Ethiopia.

**Eligibility Criteria**

Cross-sectional, analytical cross-sectional research focusing on digitalizing the CBHI system in Ethiopia or ICT adoption in the Ethiopian CBHI system. The systematic review includes full-text publications written in the English language that were published in peer-reviewed journals. In this study, journals published in other languages and journals other than cross-sectional studies, such as conference reports and articles not related to the aim of the study topic were excluded from this systematic review. The following fig 1 below presented the stage of the literature search process that was used during the review.

**Fig 1:-** Selection process of the article.



**Source:** Adopted from Liberati et al., (2013).

**Table 1:-** Feature of included studies.

Author, year of publication	Research type	Data Collection Tool	Sampling Design	Target Population	Sample Size	Quality score
Asemahagn,	Quantitative	Self-	320	Systematic	Health	10

(2015).		administer Questioner		random sampling	professionals	
Challa (2013)	Quantitative	Questioner	312	Simple randomly selected	Health Professionals	10
Shiferaw, F., & Zolfo, M. (2012).	Qualitative	Interview	-	-	Health Professionals	9
Obadha, M., Colbourn, T., & Seal, A. (2020).	Quantitative	Interview	4,282		Health Professionals	8
Adewole, et al., (2017).	Mixed	Both Interview and Semi- structured questioner	351	Multi-stage sampling technique	Users (Insurers)	9
Kostikidis, et al., (2020).	Quantitative	Questioner	180	Randomly selected	Patients	10
Bae, S., & Yi, B. K. (2022)	Quantitative		-	multistage stratified cluster sampling	Health professionals and users (insurance payers)	10
Onyemaechi, S. B., &Ezenwaka, U. R. (2022).	Qualitative	In-depth interview	14	purposively Sampling	Health Insurance worker	10

Source: Own Data.

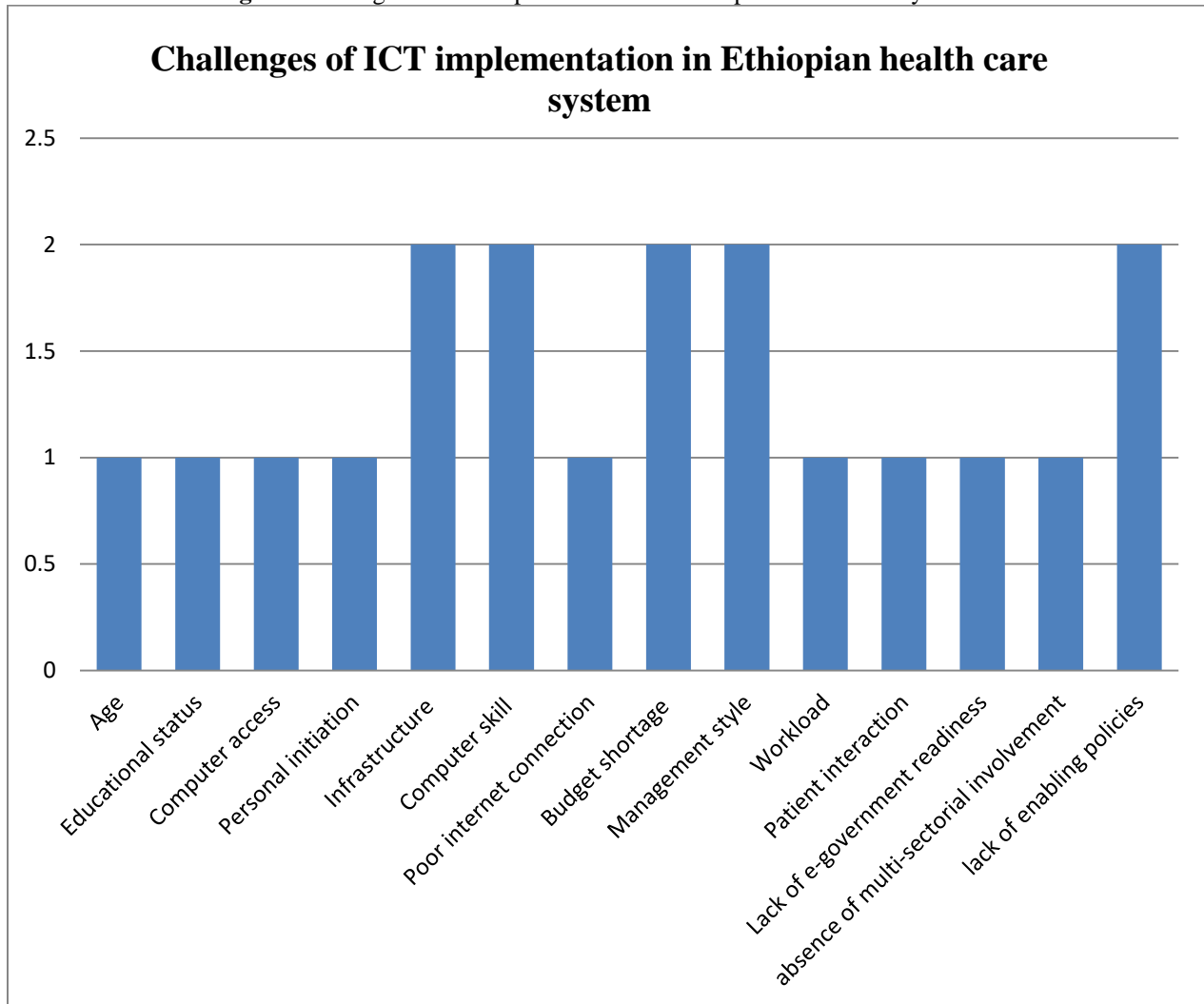
### Challenges of ICT implementation in Health Insurance

Among the eight included studies three of them (studied in Ethiopian health care institutions) whereas the rest five (studied in Kenya, evidence from Nigeria and Korea are focused on the use the ICT on health insurance).

### Practices of ICT and challenges in Health care system of Ethiopia

Currently, the application of the Information system to healthcare delivery and the use of telemedicine have raised hope in Ethiopia's e-health system shiferaw and Zelfo (2012). The overall practices of ICT implementation in the health care system of Ethiopia are at its infant stage. There are various factors contributed to this insignificant development or practices of ICT in Ethiopian Health sectors; Very low computer knowledge, Poor ICT infrastructure and Management support/style Asemahagn, 2015; Challa, 2013) whereas non-technological factors such as lack of e-government readiness, lack of enabling policies, absence of multi-sectorial involvement can be factors for telemedicine implementation (Shiferaw& Zolfo 2012). The following fig1 shows fourteen challenges of ICT implementation in the health care system of Ethiopia; Age, educational status, computer access, personal initiation, infrastructure, computer skill, poor internet connection, budget shortage and management style, workload, patient interaction, Lack of e-government readiness, absence of multi-sectorial involvement, lack of enabling policies.

Fig 2:- Challenges of ICT implementation in Ethiopian health care system.



#### Practices and challenges of Digitalizing Community-based health Insurance

In this part 4 paper were identified that were conducted in different countries based on the result that access to mobile money has a positive impact on increasing the probability of being enrolled in the National health insurance as the technology lowered transport costs and time (Obadha, M., Colbourn, & Seal, 2020). The electronic claim (e-Claim) designed for PIHI plays an essential role in lease claims data beside this it is helpful for value-based care, automated claim review, and clinical research (Bae, S., & Yi, B. K. 2022). The 4-page innovative model is used as means of graphically enlightening market women about the means of the operation of the prepayment in social health insurance schemes (Adewole, et .al, 2017). Electronic Health Insurance Records (EHIR) can contribute positively giving both social benefits and benefits to the patients (Kostikidis, et.al, 2020). The experience of Nigeria shows that the implementation of the Philanthropist Adoption Model (ADM) is a valuable and effective strategy for enhancing social health insurance financial sustainability and enrollment rate. Both internal teamwork (enabling working environment and experienced staff members) and external factors (strong political will and commitment, stakeholder involvement, and legal institutionalization of health insurance in the informal sectors) have contributed positively to the implementation of this model. In contrast, the following are factors determining the implementation of the ADM in the health insurance sectors on its acceptability which emerged from Mistrust in the government and health system, and lack of health facilities was identified barriers for the less implementation of ADM (Onyemaechi & Ezenwaka 2022).

### Conclusion and Recommendation:-

This study has sorted fourteen challenges facing the Ethiopian healthcare system in the implementation of ICT. This study confirmed that poor ICT infrastructure, lack of computer skills, shortage of budget, Management style, and lack of enabling policies were the most common challenges in the implementation of ICT in the Ethiopian healthcare system. Regarding the CBHI digitalization mobile money is used in Kenya, and it helps people to make their registration online and to pay their premium online. The Korean e-claim software is being used in the country to unleash insurance claims and automated care reviews. Electronic Health Insurance Records (EHIR) have a positive impact on social benefits and for patients. This finding will assist health leaders, health professionals, and other stakeholders in digitalizing the health care system of the country in general and CBHI in particular. These findings can give clues to the understanding of the main challenges and possibly suggested remedies for digitalizing the Ethiopian healthcare system, including the CBHI. Besides this, it gives some understanding of the practices and role of ICT on CBHI to have an innovative health care system. Any interested researchers and practitioners may use this identified data in order to examine the reported challenges in different methods and populations. The future studies should focus on the challenges of digitalizing enrollment, insurance reimbursement, member renewal, and other activities of CBHI in Ethiopia.

### References:-

1. Adewole, D. A., Akanbi, S. A., Osungbade, K. O., & Bello, S. (2017). Expanding health insurance scheme in the informal sector in Nigeria: awareness as a potential demand-side tool. *The Pan African Medical Journal*, 27.
2. Asemahagn, M. A. (2015). Challenges of ICTs Utilization among Health Professionals: The Case of Public Hospitals in Addis Ababa, Ethiopia. *SM J Public Health Epidemiol*, 1(3), 1012.
3. Bae, S., & Yi, B. K. (2022). Development of eClaim system for private indemnity health insurance in South Korea: Compatibility and interoperability. *Health Informatics Journal*, 28(1), 14604582211071019.
4. Baptista, S., Zemanek, J., Shetty, S., Bird, D., & Oldenburg, B. (2018). Baseline sample characteristics and 6-month evaluation of a mhealth program for people with type 2 diabetes-my diabetes coach. *Annals of Behavioral Medicine*, 52, S290-S290.
5. Challa, D. K. (2013). The challenges of using information communication technologies in the healthcare systems in Ethiopia from provider's perspectives (Doctoral dissertation).
6. Kostikidis, G., Gallos, P., Triantafyllou, I. S., & Plagianakos, V. (2020). Citizens' Opinions About a Digital Health Insurance Record. *Integrated Citizen Centered Digital Health and Social Care*, 230.
7. Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P., ... & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *Journal of clinical epidemiology*, 62(10), e1-e34.
8. Obadha, M., Colbourn, T., & Seal, A. (2020). Mobile money use and social health insurance enrolment among rural dwellers outside the formal employment sector: Evidence from Kenya. *The International Journal of Health Planning and Management*, 35(1), e66-e80.
9. Okereafor, K., & Marcelo, A. (2020). Addressing cybersecurity challenges of health data in the COVID-19 pandemic. *Journal Homepage: <http://ijmr.net.in>*, 8(6).
10. Okuzu O, Malaga R, Okereafor K, Amos U, Dosunmu A, Oyenehin A, Adeoye V, Sambo MN and Ebenso B (2022) Role of digital health insurance management systems in scaling health insurance coverage in low- and Middle- Income Countries: A case study from Nigeria.
11. Omotosho, A., Ayegba, P., Emuoyibofarhe, J., & Meinel, C. (2019). Current state of ICT in healthcare delivery in developing countries. *International Journal of Online Engineering*, 15(8), 91-107.
12. Onyemaechi, S. B., & Ezenwaka, U. R. (2022). Leveraging Innovative Financing Strategy to Increase Coverage and Resources Among Informal Sector for Social Health Insurance Within the Nigerian Context of Devolution: Evidence From Adoption Model Implementation. *Frontiers in Public Health*, 10.
13. Shiferaw, F., & Zolfo, M. (2012). The role of information communication technology (ICT) towards universal health coverage: the first steps of a telemedicine project in Ethiopia. *Global health action*, 5(1), 15638.