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Health research evidence: its current usage in health planning, determinants and readiness to use knowledge translation tools among health planning teams in Tanzania—an exploratory mixed-methods study protocol

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ABSTRACT

Introduction Achieving universal health coverage requires using research evidence to inform decision-making. However, little information is available on the use of research evidence in planning in lower middle-income countries, including Tanzania. This paper presents a protocol that aims to investigate the usage of research evidence in health planning, determinants and readiness of the planning team members to use knowledge translation tools in Tanzania.

Methods and analysis This study will employ a sequential exploratory mixed-methods design, with participants selected from national, regional and council levels. Qualitative data will be collected through a maximum of 52 in-depth interviews and 12 focused group discussions until saturation. To collect quantitative data, a structured questionnaire will be used to survey 422 participants, and a document review will be conducted from health facilities. Qualitative data will be analysed using thematic analysis, while descriptive and inferential analyses will be employed for quantitative data.

Ethics and dissemination The study participants will provide written informed consent, and all recorded data will be stored on a secured research server accessible only to the investigators. Ethical approval has been obtained from the University of Dodoma Research Ethics Committee (ref. MA.84/261/02/'A'/64/91). The findings of this study will inform policymakers, researchers and implementers in the country on the use of research evidence in decision-making. We will disseminate our findings through publications, conferences, workshops and interactive communication with national, regional, council and health facility planning teams.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The study provides valuable insights into the use of health research evidence in health planning, determinants and readiness to use knowledge translation tools among planning teams in Tanzania.
⇒ The study shall use a mixed-methods approach to give a comprehensive understanding of the topic and more holistic information.
⇒ The study will not provide trends on the use of health research evidence in Tanzania.

INTRODUCTION

Research evidence is critical for policymakers and planners to effectively understand a problem, frame options and implement interventions to address the issue in specific contexts. It can also help in learning from systematic studies of others' impacts and experiences to build on their successes and avoid repeating their failures.[1] Moreover, research evidence can provide the most up-to-date information, identify new opportunities for policy agenda development, inform policy content and direction, and assess policy impact, enhancing the health policy process.[2]

However, evidence shows that the utilisation of health research evidence in policymaking in lower and middle-income countries (LMICs) is frequently absent, hindering the progress toward achieving universal health coverage (UHC).[3] Some evidence of the successful utilisation of research evidence in health planning includes three countries in Asia (Bangladesh, Vietnam and Nepal); the capital city governments of the three countries in Asia (Dhaka, Hanoi and Pokhara, respectively) are well positioned to address urban health challenges through the utilisation of high-quality, up-to-date evidence.[1] Another example is from two African countries (the Democratic Republic of Congo (DRC) and Ghana). In DRC, research evidence was used to address the ongoing humanitarian crisis,[4]

while Ghana is well positioned to achieve UHC through the use of research evidence to inform the creation of primary healthcare programmes, such as health planning, national health insurance policies and other services.[3 5]

The utilisation of health research in health planning depends on organisational determinants, systems and infrastructure determinants, access and availability of relevant evidence, networking and collaboration between researchers and policymakers, and knowledge translation tools.[6 7] However, in Tanzania, there is a limited understanding of determinants and readiness for using knowledge translation tools among health planning team members, especially in the public health system. This knowledge gap makes it challenging for the country to achieve the ambitious targets of UHC as part of the Sustainable Development Goals.[8]

There have been notable initiatives in Tanzania to enhance the utilisation of health research evidence in the healthcare system, such as the Tanzania Essential Health Intervention Project, the Health Research Users Trust Fund and the Regional East Africa Health Policy Initiative.[9 10] However, few studies have been conducted on the use of evidence in policymaking, particularly in health planning, at different levels of the health system in Tanzania.[8 10–12] Moreover, most of these studies employed a qualitative method only, which cannot provide a comprehensive picture of the situation in the country. In addition, the available studies were limited to small geographical locations, which cannot give a comprehensive picture of the utilisation of evidence in our settings. Thus, this study aims to analyse the determinants of the utilisation of health research evidence and readiness to use knowledge translation tools among the health planning team at the regional and council levels.

The main objective of this study is to analyse the current usage of health research evidence in health planning, determinants and readiness to use knowledge translation tools among planning teams in Tanzania. Specifically, the study aims to (1) analyse the current usage of health research evidence among planning team members at the regional and council levels, (2) analyse the capability for the use of health research evidence among planning team members at regional and council levels, and (3) analyse the opportunities for the use of health research evidence among health planning members at regional and council levels (4)To identify the motivations for the use of health research evidence among health planning members at regional and council levels (5) To assess the readiness for the use of Knowledge Translation (KT) toolS among health planning team members at regional and council levels.

METHODS AND ANALYSIS

Study setting

This study will be conducted in the United Republic of Tanzania, an LMIC located in East Africa, with a population of about 62 million people. The country has a budget for the Ministry of Health (MoH) 2023/2024 estimated to be US$443.6 million, with a US$1.2 million (0.27%) budget allocated for evidence production. The health research evidence users in Tanzania involve three important ministries, namely the MoH, the President's Office-Regional Administration and Local Government (PO-RALG) and regional/council/health facility health management teams (RHMT/CHMT/HMT). The health evidence producers in Tanzania are the National Institute for Medical Research, the Tanzania Commission for Science and Technology, public and private universities, health-related institutions or authorities, local and international non-governmental organisations and civil society organisations as shown in table 1.

The study site for this research will be in 18 councils and 9 regions out of 26 regions of Tanzania mainland from 9 geographical zones (Northern Zone, Eastern Zone, Central Zone, Lake Zone, Southern Zone, Southwest Highlands, Southern Highlands, Western Zone and Dar es Salaam). The reason for selecting the nine zones is to seek the country's geographical representation. Together, these regions have a total population of 21 119 700, which represent 35.7% of the Tanzanian population. These regions are heterogeneous in population size, distribution of health facilities, distribution of human resources for health and institutions carrying out health research

Table 1 A list of producers and users of health research evidence

S/N	Evidence users
1	Ministry of Health
2	President's Office-Regional Administration and Local Government
3	Ministry of Education, Science and Technology
4	Prime Minister's Office
5	Regional health management teams
6	Council health management teams
7	Healthcare workers
	Evidence producers
1	National Institute for Medical Research
2	Tanzania Commission for Science and Technology
3	Public universities: Muhimbili University of Health and Allied Sciences, University of Dar es Salaam, University of Dodoma
4	Private universities: Catholic University of Health and Allied Sciences, Kilimanjaro Christian Medical Centre, Hubert Kairuki Memorial University, St John's University of Tanzania, St Augustine University of Tanzania, Kampala International University, St Francis University College of Health and Allied Sciences
5	Kilimanjaro Clinical Research Institute
6	Ifakara Health Institute
7	Non-governmental organisations and civil society organisations

activities. A similar approach has been used in major Tanzanian health studies.[13] This approach will provide a comprehensive understanding of the status quo for the use of health research evidence in health planning and heterogeneous study population for random sampling hence acting as a representative snapshot of all regions in Tanzania. The study will be conducted in 63 randomly selected health facilities from the regional referral hospitals (RRHs) to dispensary levels. To ensure the inclusion of urban and rural health facilities, stratification will be conducted followed by random sampling.

The health planning landscape in Tanzania

The health planning process in Tanzania is conducted at two levels. At the council level, both the health facility and the CHMT prepare their plan, whereby plans from the facility and CHMT are later consolidated to form a comprehensive council health plan (CCHP). The preparation of health facility plans is guided by the health facility planning guidelines and CCHP guidelines.[14] At the regional level, the RHMTs prepare their plans using the RHMT planning guide and the RRH plans using the Comprehensive Hospital Operational Plan guide.[15] When the plans are completed, they are sent to the MoH and PO-RALG for final assessment before being sent to the Ministry of Finance for funding. At all levels, we are planning to use the guidelines and the routine data collected from each level.[15]

Study design

This study will employ a sequential exploratory mixed-methods design.[16] This approach entails collecting and analysing qualitative data in phase one, followed by collecting and analysing quantitative data in phase two. The themes and insights from the qualitative phase will be used to shape or refine the quantitative instruments or hypothesis formation that can illustrate a more integrated and thoughtful design. In this design, the priority is given to the qualitative strand of the study to use results from the qualitative strand for the development of the methods, instruments or research questions in the quantitative strand of research.[17 18] This study design is deemed suitable for the study because it will help us to broadly explore and analyse the current usage of health research evidence in health planning, determinants and readiness to use knowledge translation tools in the public health system in Tanzania.[19] The qualitative and quantitative phases are described separately. Findings from this study will be reported following the Good Reporting of a Mixed Methods Study.[20]

Patient and public involvement

None.

Qualitative phase of the study

Sample size and sampling procedures

The study will involve a maximum of 52 participants (heads of departments and sections) who are involved in health planning. The data saturation is proposed to be achieved after reaching 52 participants. We will decide to conclude data collection if saturation will be reached before reaching 52 because additional participants will unlikely provide new information or insights, so continuing data collection would be unnecessary and potentially wasteful of resources. The maximum variation purposive sampling[21] will be used to sample study participants based on their knowledge, skills and experience in health planning. Participants at the national level will be the Director of Health Services (DHS) from the PO-RALG, the Director of Policy and Planning (DPP) from the MoH, the research and publication coordinator at PO-RALG, the research coordinator at MoH, representatives from development partners and non-state actors. At the regional level, the study will include the regional medical officer (RMO), the regional planning officer (RPLO) and a representative from the private sector; and at the council level, the district medical officer (DMO), the district planning officer (DPLO) and a representative from the private sector will be involved. At the health facility level, the health facility is in charge of the RRHs, district hospitals (DHs), health centres (HCs) and dispensaries. The qualitative study will be conducted in Dar es Salaam (Ilala City Council, Kigamboni Municipal Council), Morogoro (Morogoro Municipal, Kilosa District Council) and Singida (Singida Municipal Council, Singida District Council). Selection of the regions is based on the concentration of health academic and research institutions. Participants will be recruited to participate in the study until information saturation is achieved, that is, no new information is obtained. The maximum variation purposive sampling[22] will be used to sample study participants based on their knowledge, skills and experience in health planning.

Data collection procedures and tools

Semistructured in-depth interviews (IDIs) and focus group discussions (FGDs) will be used for data collection. The IDIs will be used to obtain data on individual views and experiences on the use of health research evidence, while the FGDs will be used to gather collective data on the use of health research evidence. Qualitative data will be collected by using an interview guide (see online supplemental file 1) from the RMO, RPLO, private sector representatives and a medical officer in charge of the RRH. The council level will involve a DMO, DPLO, a private sector representative and a medical officer in charge of the DH, HC and dispensary. At the national level, it will involve the DHS (PO-RALG), the DPP (MoH), representatives from donor partner groups and non-state actors. The FGD data will be collected from members of the RHMTs and CHMTs in the three purposefully selected regions. The interview guide will have open-ended questions (see online supplemental file 1), which will be in English and Swahili languages. It will collect information regarding the use of health research evidence among planning team members. The questions for the IDI were adopted and modified from previous studies.[22 23] The IDI will last

for about 45–60 min. The focus group interview guide will be used to collect data from a minimum of 12 FGDs. The tool will be a semistructured guide containing 12 open-ended questions in English and Swahili languages. The questions will be asked to HMTs, CHMTs and RHMTs. The FGD will last for around 60–90 min. The questions for the FGD were adopted and modified from previous studies.[22 23]

The questions will be formed from the three components; the capability (C) components will consist of knowledge and skills questions, opportunity (O) questions and motivation (M) questions, so the COM-B model will guide data collection and analysis using a deductive approach, where the codes will be obtained from a pre-existing framework. We will use the COM-B model because it is a behavioural change model, where, for a certain behaviour to occur, that is, the use of research evidence, there must be an interaction of the factors capability, opportunities and motivations.

Qualitative data collection will be collected by the principal investigator and research assistants from December 2023. All data will be collected by nine research assistants who will be trained before the data collection process. Data will be collected electronically, using tape recorders, tablets or Android devices with a super voice recorder application installed. Audio-recordings will be named and saved accordingly, then transcription and translation will be done.

Qualitative data analysis

The thematic analysis will be used to analyse data to identify themes (patterns in the data that are important or interesting) and use these themes to address the issue.[24] All recorded interviews will be transcribed verbatim. The analysis will follow the following steps: familiarisation with data, generating initial codes, searching for themes, reviewing themes, defining themes and writing.[25] In the second step (generating initial code), the NVivo computer program will then be used to assist in organising data. The coding will be done both inductively and deductively; this will help the researcher remain open to surprises in the data while at the same time staying attuned to existing theories used to guide the study.[26] The intercoder reliability will be ensured by establishing a coding framework, training and calibration, pilot testing before coding the entire dataset, conducting regular meetings and discussions with all coders, double-coding, ongoing data checking for quality, and conducting documentation and transparency, and refinement and iteration.

Quantitative phase of the study

Sample size and sampling procedures

The sample will involve the health planning team members from the RRHs, DHs, HCs and dispensaries who will be randomly selected from the nine regions. The sample size will be 422 calculated from the Cochrane formula (1977). To date, in Tanzania, there is no cited reference for the percentage of the use of health research evidence in health planning; therefore, we will use 50%.[27]

$$n = \frac{Z^2(1-p)}{e^2}$$

where:
n=sample size
Z=95% CI 1.96
p=proportional from previous study
e=margin of error, which is approximately 5%
Thus:

$$n = \frac{(1.96)^2 \times 50(100-50)}{(5)^2} = 384$$

plus 10% of non-response sample

This study will employ a multistage sampling technique for the selection of the study units. The sampling stages will be zones, regions, councils and public primary health facilities. The first stage will be a random selection of one region from each of the nine zones of the country. In the second stage, in each selected region, councils will be clustered into rural and urban, and then one rural and one urban council will be selected from each region followed by a random selection of the health facilities (see figure 1). The technique is convenient for studying large and diverse populations.[28] The sampling stages will be zones, regions, councils and public primary health facilities.

Variables and their measurements

Dependent variable

For the current study, the dependent variable will be the use of health research evidence and the readiness to use knowledge translation tools. Health research evidence use will be measured by responses from questionnaires presented in binary (yes/no) or multiple responses (question numbers 8–10). Readiness to use knowledge translation tools will have two constructs, the institutional readiness and individual readiness to use knowledge translation tools in the public health system in Tanzania, both measured by question number 29 in the form of a Likert scale.

Independent variables

For this study, the independent variable will be the determinants for the use of health research evidence in health planning, where, on the determinants, we will have a combination of three constructs, which are capability determinants, opportunity determinants and motivation determinants, all derived from the COM-B model.

Capability refers to whether planning team members have the knowledge, skills and abilities to engage in a behaviour (health research evidence use). This capability comprises mental state, knowledge and skills, and physical strength.[29] The expected response will be measured by questions in the form of a Likert scale (question numbers 11–24).

Opportunity refers to external factors that make the execution of a behaviour (health research evidence use) possible. Physical opportunities are opportunities

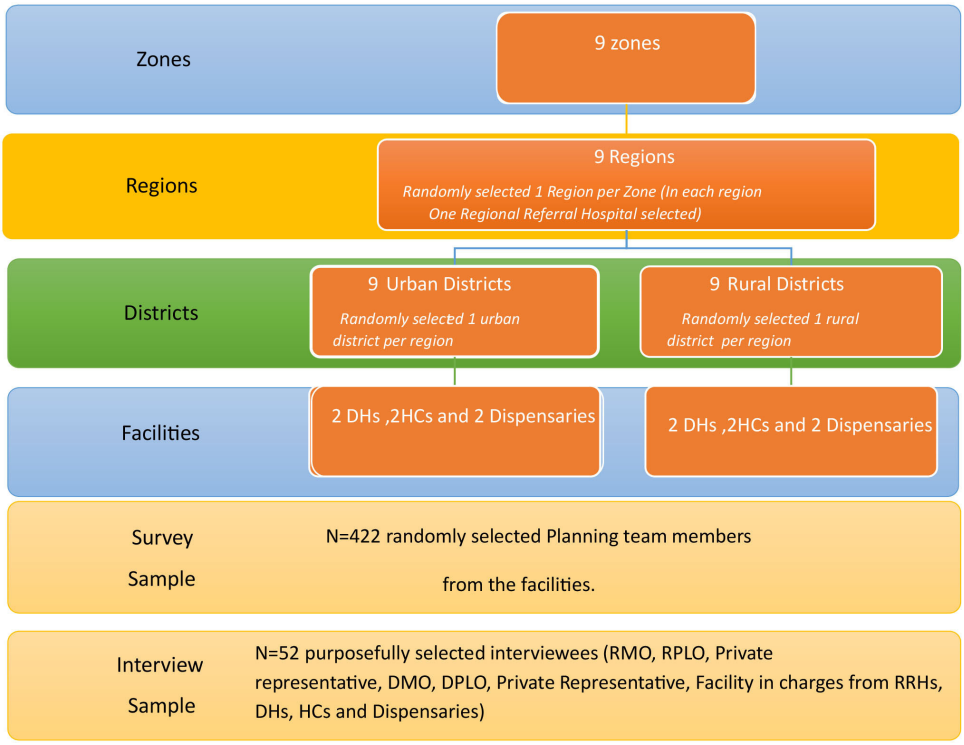

Figure 1 Sampling design. DHs, district hospitals; DMO, district medical officer; DPLO, district planning officer; HCs, health centres; RMO, regional medical officer; RPLO, regional planning officer; RRHs, regional referral hospitals.

provided by the environment, and social opportunities are all valid components.[30] The expected response will be measured by questions in the form of a Likert scale (question number 25).

Motivation refers to the internal processes that influence decision-making and behaviour (use of health research evidence). For example, to improve motivation, it is helpful to turn a desired behaviour from something the planning team members need to do to something they want to do, by encouraging reflection on the benefits of using the health research evidence in health planning.[30] The expected response will be measured by questions in the form of a Likert scale (question number 26).

Institutional readiness refers to how an organisation is ready to respond and adapt to changes in the use of health research evidence in health planning which will determine to a great extent how effectively organisations can deliver quality supported by a mix of robust processes, the right human resource for health and infrastructures.[28] The expected response will be measured by questions in the form of a Likert scale (question number 29).

Individual readiness for the use of knowledge translation tools is the readiness in the beliefs, attitudes and intentions of organisational planning team members that are comprehensively and simultaneously influenced by the content, process, context and characteristics of individuals involved in the health planning process.[28] Through the dynamics of social information processing, an organisation's collective readiness to use knowledge translation tools is continuously influenced by the readiness of the individuals who compose it. The expected response will be measured by questions in the form of a Likert scale (question number 29).

Data collection procedures and tools

Quantitative data will be collected by administering a questionnaire (see online supplemental file 1) to planning team members at national, regional, council and health facility levels. The data will be collected using a questionnaire and document review checklist. The questions from the tool were adopted and modified from previous studies.[18 19] The questionnaire will be used to collect data on the use of health research evidence, determinants and readiness to use knowledge translation tools. Quantitative data will be collected from sampled participants using Open Data Kit software.

The document review checklist will be used to guide the document review. The checklist will contain a list of questions that will help the review of the plans made at the facility, council, regional and national levels. The checklist will be used to collect data on the use of health research evidence, determinants and readiness to use knowledge translation tools. Data will be collected by a research assistant, who will be trained in data collection methods, tools and ethics. Pilot testing of the tools will be conducted before actual data collection. Pilot testing will play a crucial role in refining and optimising a quantitative data collection tool by identifying and addressing any issues or challenges before full-scale implementation of the data collection process. This iterative process will help to enhance the validity, reliability and effectiveness of the tool in capturing the intended data for research questions.

Data analysis

Quantitative data will be analysed using STATA V.16 software for both descriptive and inferential techniques. We have two dependent variables: the use of health research evidence and readiness to use knowledge translation tools. For the use of health research evidence, we will employ binary questions, so the statistical test will be a X^2 test and binary logistic regression, where an OR, 95% CI and p value will be presented. For readiness to use knowledge translation tools, we will have the composite score which will be computed from Likert scale questions; the statistical test will be multiple linear logistic regression where beta estimate, SE, p value and R^2 will be presented. The significance level will be taken as 0.05.

Integration and reporting of qualitative and quantitative findings

Integration of the quantitative and qualitative data will happen at analysis and results interpretation levels. Since our study will adopt a sequential exploratory mixed-methods design, qualitative findings will be used to inform the development or refinement of quantitative data collection tools. Qualitative data analysis will happen before the collection of quantitative data. Upon completion of the qualitative data analysis, qualitative findings will provide rich insights into the use of health research evidence, determinants and readiness to use knowledge translation tools among planning team members. These insights will inform the development of quantitative data collection tools by identifying key variables, refining survey questions and guiding the selection of appropriate measurement scales. This iterative process ensures that quantitative data collection tools accurately capture the complexity of the subject matter. Integration will happen through a narrative approach,[31] whereby the results of each step will be reported in stages as the data are analysed and published separately.

Validity and reliability of the study

To ensure validity and reliability, the validity of quantitative data collection tools will be reviewed by independent subject matter experts from the University of Dodoma (UDOM). The reliability assessment of the questionnaire will be done using the internal consistency test, with the alpha reliability coefficient being the statistic.[32 33] The range of the alpha coefficient, also known as Cronbach's alpha, typically falls between 0 and 1. In general, a Cronbach's alpha value of 0.7 or higher will be considered acceptable for this study. Moreover, exploratory factor analysis will be used to establish the construct validity of the questionnaire. Furthermore, a pilot study will be conducted before field data collection to ensure clarity of the data collection tool.

On the qualitative part, the content validity of qualitative tools was assessed by qualitative research experts and member checking. Furthermore, qualitative tools will be pilot tested before data collection to ensure the clarity of data collection tools.

ETHICS AND DISSEMINATION

The study protocol was approved by the UDOM Ethical Clearance Committee and received ethical clearance from the Ethical Committee of the UDOM, Tanzania with ref. no. MA.84/261/102/'A'/64/91. Permission to conduct the study and consent to participate in the study will be sought from relevant authorities and participants, respectively. Participants will receive information about the purpose of the study and data protection. The findings of the study will be disseminated to relevant stakeholders through collaborative communication with the MoH and PO-RALG officials, conferences, workshops as well as publications to target researchers, practitioners, implementers and policymakers.

Protocol status

The protocol is under implementation. Early field engagement will begin in December 2023 for the qualitative phase and February 2024 for the quantitative phase. This will serve as the basis for the development of the protocol presented in this manuscript. Data collection will be completed in March 2024.

DISCUSSION

The implementation of this protocol acts as a catalyst, shedding light on the integration of health research evidence into the health planning processes within the Tanzanian public health system. This study marks one of the pioneering efforts to pinpoint the obstacles and facilitators associated with the utilisation of health research evidence in health planning. It also assesses the preparedness of team members involved in health planning at both regional and local government authority levels to effectively leverage existing knowledge translation tools.

This protocol was developed at a time when the government of Tanzania has invested many resources in the health sector for the past decade. It includes the construction of infrastructures, human resources for health, health commodities and supplies, health information systems and research.[34–37] The use of evidence-based planning will lead to good utilisation of the available resources from the government and health stakeholders that subsequently will result in the provision of quality health services and improve the quality of life.

The use of an exploratory mixed-methods approach as well as multiple tools for collecting data will enable the development of comprehensive recommendations to improve the use of health research evidence in decision-making and other implementation studies of a similar nature by identifying determinants and the possible knowledge translation tools to be used in the public health system in Tanzania. We must also acknowledge that this study gives a picture of the use of health research evidence in one country; hence, users of the findings from this study should think how their settings differ.

This study protocol serves as the cornerstone for future research into the utilisation of health research evidence

across diverse domains of decision-making within the Tanzanian health sector. It facilitates the execution of impact and process evaluations with a remarkable degree of precision. The intention is for this protocol to be used as a reference guide for future studies, particularly in regions where the incorporation of health research evidence into health planning within the public health system of Tanzania is acknowledged as a pivotal element in enhancing healthcare quality. This strategic approach aligns with our collective efforts to attain UHC by the year 2030.

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