

Data Dissemination and Use (DDU) Strategy Development: Design of the DDU Strategy Methodology

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Background and Purpose: The Tanzanian Ministry of Health, Community Development, Gender, Children and Elderly (MOHCDGEC), during the development of its Health Sector Strategic Plan III, identified the need for strengthened Monitoring and Evaluation (M&E) in the health sector and improved evidence based decision making. The MOHCDGEC developed a detailed M&E strengthening initiative (MESI) 5-year operational plan that included the development of a national data dissemination and use (DDU) strategy as response to the M&E and Health Management Information System (HMIS) situational analysis. The goal of the DDU strategy is to promote dissemination and better use of health information to drive effective and evidence-based decision-making in the health sector. MOHCDGEC, together with its M&E and DDU teams and other supporting partners, underwent a detailed process to develop the DDU strategy. This process included primary and secondary qualitative research. Within the methodologies employed in developing the DDU strategy, there are potential best practices, insights, and difficult lessons learned that may help inform the DDU strategy development in other countries or working groups in the region.

Methods: The development of the DDU strategy was done in three main phases. Phase 1 and Phase 2 follow a qualitative research methodology with qualitative data collection and analysis. Phase 3 used the Tanzania eHealth strategy development framework to take the results and develop the strategy. Phase 1: Planning and inception phase entailed rapidly assessing existing DDU tools, drafting a DDU strategy outline, creating a roadmap for DDU strategy development, developing 12 DDU monitoring indicators based on international best practices, and establishing research protocols and tools for data collection to inform DDU strategy development. Phase 2: Qualitative data collection and analysis, which involved in-depth desk review, orientation of data collectors, field data collection at the national level and district level in two regions, data analysis, and development of key preliminary findings. Phase 3: Drafting the strategy; review and finalization development included using the key findings from Phase 2 and inputs from the DDU Working Group to draft DDU strategy, presenting the draft strategy to the DDU Working Group, assigning the final strategy reviewers, circulating the draft strategy to stakeholders for review and feedback, and finalizing the draft strategy using feedback received from across Tanzania.

Results: During the development of the DDU strategy, in Phase 1, the initial MESI 5-year plan had proposed using some existing DDU tools for a rapid secondary data review, which was to be used to develop the DDU strategy, following the initial draft DDU strategy outline proposed in the 5-year plan. However, these secondary data were lacking details on certain key aspects of DDU, and had not included taking advantage of the experience gained through the rollout of the revised national HMIS and District Health Information Software (DHIS2) in some regions, compared to other regions with neither. MOHCDGEC decided to proceed with primary qualitative research, looking at broader stakeholder representation across all levels of the health system, including users with DHIS2 familiarity, those who were using the revised national HMIS tools, and those who were still using the older, paper-based HMIS and its associated reporting mechanism. This was combined with secondary data research to provide a more comprehensive view of DDU strengths, weaknesses, opportunities and threats in Tanzania. The results were used to develop the DDU strategy using the same strategy framework that Tanzania had developed and used for developing the Tanzania national eHealth Strategy.

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Conclusions: The development process of the Tanzanian DDU strategy evolved as the MESI DDU team made amendments based on lessons learned during the first phase and on taking advantage of having users both with and without DHIS2 experience and also with the revised HMIS tools and the old HMIS tools. The lessons learned ensured that the DDU key objectives were more clearly identified and used to inform primary data collection and analysis, along with ensuring that a broader set of stakeholders were interviewed, thus representing all levels of the health system. This led to the development of a more comprehensive and usable final DDU strategy.

Keywords: Data dissemination and use, Health information, Decision-making, National health strategy, Information use

1 Introduction

Health Data Dissemination and Use (DDU) is fundamental for informed public health action and effective management of health resources [1]. In Tanzania, however, data collection and use do not always take place at all levels of the health system [2]. This is mainly due to inadequate systems, processes, knowledge, and skills [3]. Health data are not always readily available to be used by Tanzania's routine Health Management Information System (HMIS) for generating trustworthy, applicable, and up-to-date information [3].

Overall, the situation with regard to health information in Tanzania, up to the year 2012, is of a considerable amount of data that potentially are available from routine data collection and from population surveys and research, but access to reliable, timely, complete, and useful information has continued to be poor [3]. As a result, use of information for decision-making has been limited, and parallel but uncoordinated systems of data collection have been set up to meet specific health-sector needs. This situation has resulted in the identification of the need for further integration of programs and systems into a broader health-sector data warehouse as a central source of information. The development of a health-sector data warehouse also seeks to improve the collection, dissemination, and use of health data and also to ensure that data are collected only once but are used many times [4].

The data collected routinely through the HMIS (2008–2009) is widely regarded by stakeholders as unreliable and cannot be depended on for effective planning [1]. In most developing countries, particularly in sub-Saharan Africa, evidence shows that the continued use of paper-based systems contributes to poor data quality in terms of reliability, availability, timeliness and completeness of reporting and also compromises health service delivery [5-7]. In Malawi, for instance, Makombe et al. [6] found that the use of paper-based health facility reports to generate national summaries resulted in a 12% underreporting of persons on first-line antiretroviral treatment because many sites did not submit accurate data on the national level. In South Africa, Garrib et al. [7] found that 2.5% of the total data values that should have been collected at 10 primary health care clinics using a paper-based system were missing, while 25% of the data were outside the minimum and maximum values specified for the facilities. In Zanzibar, there was an improvement with data quality through the use of quarterly data-use workshops[8].

As a result of these challenges, the health sectors in most developing countries lack the culture of information use for evidence-based decision-making at different levels, especially at the level of facilities, which are the primary sources of data. Against this backdrop, the Government of the United Republic of Tanzania, with technical assistance from international development partners, launched a 5-year Monitoring and Evaluation (M&E) Strengthening Initiative (MESI) in 2011. MESI aims to enhance evidence-based decision-making in the Tanzanian health sector [3].

In 2011, MESI was divided into eight work streams, one of which focused on DDU to ensure that the Tanzanian health sector develops a data-use culture that demands quality information at all levels to facilitate evidence-based decision-making, transparency, and accountability to continuously improve quality of care and health services delivery. The DDU work stream included development of a DDU strategy for the country that is in line with the Health Sector Strategic Plan (HSSP III), 2009–2015, and the National Strategy for Growth and Reduction of Poverty (NSGRP) [9,10]. The goal of the DDU strategic initiative is to take advantage of current initiatives that aim to strengthen M&E (including

HMIS) and eHealth [11], which is a cost-effective and secure use of Information and Communications Technology (ICT) in support of health and health-related fields.

The aim of the DDU strategy was to outline data-use procedures and provide feedback to lower levels and within levels, harnessing data analysis skills of program staff at all levels and encouraging use of HMIS data to strengthen teamwork at all health system levels and across vertical programs and enables stakeholders, including policymakers, to optimize health-care services and coverage and to improve quality and, ultimately, health status and outcomes. During 2013, MESI changed from managing by work packages to managing by the following three core objectives: (1) ensure regular detailed analysis and interpretation of existing data using best international practices, (2) improve data dissemination, and (3) institutionalize data use and evidence-based decision-making within routine work practices, processes, and work culture throughout the health sector. The DDU strategy addresses all three of these high-level MESI objectives.

During the period from 2011 to 2014, MOHCDGEC has strengthened the HMIS and introduced the District Health Information System Version 2 (DHIS2), used at the district level for entering HMIS summary information monthly. Since then, significant improvements have been achieved in data handling and reporting. MOHCDGEC reported an overall national form completeness rate of 95.66% and on-time submission rate of 90.3% for the period between July and September 2015 for the main HMIS reporting forms at the national level, which is a significant improvement compared with the completeness rate of 67.9% reported in the quarter from October to December 2013 [12].

This paper does not address if implementation of the DDU strategy will achieve the stated aims, and this additional research will need to be conducted post-implementation of the DDU strategy. This paper describes the methodology used by the MOHCDGEC in developing its DDU strategy for the health sector and lessons learned in using the proposed methods and revisions made to these methods. Other countries in similar circumstances may use Tanzania's experience to develop their own DDU strategy.

2 Materials and methods

The initial plan was to go from Phase 1 (mainly focused on secondary data review, with a small set of qualitative interviews) directly to the second phase of the DDU strategy development, without the more detailed interim phase of broad stakeholder primary research. Given the timing of when the DDU team assembled to work on the DDU strategy in earnest, there was the opportunity to gather primary research data from users who used the revised paper based HMIS tools and DHIS2, and those who had just worked with the old paper based HMIS tools and the older HMIS reporting system. This allowed the DDU team to broaden the base of stakeholders involved in primary research, to include all levels of the health system and map the DDU goal “to identify DD&U practices and gaps in the Tanzanian health sector to inform the DD&U Strategy” to the main research objective, “to establish the data dissemination and use strategy, including data collection procedures, and monitoring and feedback mechanisms to ensure data quality, which will be implemented at all levels of the health system.” The development of the DDU strategy was done in three main phases.

Phase 1: Planning and inception phase entailed rapidly assessing existing DDU tools, drafting a DDU strategy outline, creating a roadmap for DDU strategy development, developing 12 DDU monitoring indicators based on international best practices, and establishing research protocols and tools for data collection to inform DDU strategy development. Phase 2: Data collection and analysis involved in-depth desk review, orientation of field data collectors (qualitative interviews), field data collection (qualitative interviews) at the national level and district level in two regions, data analysis, and development of key preliminary findings. Phase 3: Using the research results and applying the eHealth Strategy development framework to develop the DDU strategy; review and finalization development included using the key findings from Phase 2 and inputs from the DDU Working Group to draft DDU strategy, presenting the draft strategy to the DDU Working Group, assigning the final strategy reviewers, circulating the draft strategy to stakeholders for review and feedback, and finalizing the draft strategy using feedback received from across Tanzania.

Phase 1: Planning and Inception Phase

Identification of DDU Team

This process started in November 2011, with MOHCDGEC identifying a DDU core team composed of public health specialists, social scientists, M&E specialists, statisticians, and health systems managers. The DDU core group included MESI MOHCDGEC staff and MESI implementing partners' Technical Assistance (TA) team.

Background Information and Initial Plan

The first task of the MESI DDU core team was to conduct a brief DDU assessment (existing Tanzania DDU secondary data review) and then to review and discuss other country best practices in DDU and health profiles. This resulted in the DDU core team producing the following outputs:

1. draft overviews/templates for regional, district, and facility health profiles;
2. an inventory of existing health information products in Tanzania;
3. a summarized review of existing tools and methodologies used to measure/evaluate DDU;
4. draft DDU monitoring indicators; and
5. an initial draft DDU strategy outline.

This component stretched between November 2011 and June 2012.

Initial Draft of the DDU Strategy: Outline and Tools

The DDU core team brainstormed and reviewed best practices, including the MESI 5-year plan to define the DDU research objectives and developed a comparison matrix to review existing data use and M&E tools [13-15, 17-21]. The team used these to create DDU data collection tools, and draft the proposed DDU monitoring indicators. However, during the review, the DDU core team determined that it was too early to pilot the draft DDU monitoring indicators before the qualitative research results were available that described the monitoring priorities. Without understanding the monitoring priorities from the qualitative interviews, it would not be useful to test out monitoring indicators. The DDU core team decided to wait until the research was completed before revisiting these DDU monitoring indicators. The DDU core team realized that the initial DDU strategy outline, while useful for assisting with key research objectives, was too prescriptive ahead of conducting the research and did not include sufficient local Tanzanian DDU context that would be used to inform the DDU strategy content. The DDU core team discontinued the draft DDU strategy outline and instead focused on this detailed DDU research (desk review and qualitative interviews), allowing the DDU strategy outline and document to be shaped based on the research results.

Development of DDU Research Protocol

The overall objective of the DDU research was to “to establish the data dissemination and use strategy, including data collection procedures, and monitoring and feedback mechanisms to ensure data quality, which will be implemented at all levels of the health system,” which would be used to develop the data dissemination and use strategy. The research was based on broad DDU multi-stakeholder interviews and on issues regarding data collection procedures, monitoring, and feedback mechanisms at all levels of the health system.

To achieve this high-level objective, specific sub-objectives were included in the research for the following themes:

- current legal and policy framework, including guidelines and protocols;
- main routine and non-routine health data generated within all levels of the health system;
- current practices for data dissemination within the health system at all levels;
- strengths, weaknesses, opportunities, and threats of the current data-use practices at all levels of the health system; and
- available human capacity for DDU at all levels.

The development of the DDU research protocol involved several steps, as outlined below:

- development of a draft DDU research protocol and the data collection instrument (focused on the listed research objectives and sub-objectives);
- several rounds of brainstorming and consultation with ministry officials;

- submission of the protocol and tool to the National Institute of Medical Research (NIMR) Institutional Review Board (IRB) for technical input and to ensure activity follows country's ethics requirements;
- training of data collectors in a 4-day workshop on the data collection tools and informed consent procedures;
- pretesting of the data collection tools in a pilot facility;
- revision of the data collection tools and of the protocols for informed consent and DDU assessment; and
- presentation of the research protocol and data collection tools to the Tanzanian Medical Research Coordinating Committee for ethical clearance.

Following approval by the NIMR Ethics Committee, the process of data collection and desk review was conducted to obtain necessary information about DDU practices in Tanzania.

Phase 2: Data Collection and Analysis

Data Collection and Documentation

The DDU research team carried out a desk review of national health-related protocols, standard operating procedures (SOPs), and other relevant policy, planning, and budget documents related to DDU (Table 1). The aim of the review was to understand existing technical, human, and institutional resources for DDU and gather content of technical guidelines for data collection, data management, data analysis, and data dissemination and use.

Table 1: A summary data collection tools used in the desk review and in interviewing key informants

Activity	Data collections tools	Aim
Desk Review	National health-related protocols, standard operating procedures, and other relevant policy, planning, and budget documents related to data dissemination and use (DDU)	To understand the current technical, human, and institutional resources for DDU and the content of technical guidelines for data collection, data management, data analysis, and data dissemination and use.
Key Informant Interviews	National, regional, and district-level health officials; implementing partner staff (Appendix 1: Common Semi-Structured Interview Guide).	To understand norms and practices in DDU, including implementation of protocols and SOPs and human capacity in implementing DDU across a range of health officials and workers to examine the DDU in different contexts in the health-care system.

Data collection started with key informant interviews targeting national-, regional-, district-, and health facility-level decision-makers in public and private facilities and also staff from international nongovernment organizations (Table 2). Purposive sampling was used to recruit study participants at all levels, with a focus on the posts held and not individuals. At the central level, a range of government officials and M&E personnel were selected. Convenience sampling was used at the health centers, dispensaries and with regional and district health officials. The sample size (97) was based on the assessment objectives and the participants who were most likely to provide useful information to inform the DDU strategy. Pwani Region was selected as one region based on the extensive work that had been completed there under MESI during 2011-2013 including national rollout of MTUHA version 3. Kilimanjaro was selected since it is a more rural region and was not part of this first phase of national rollout of MTUHA Version 3, with both districts in Kilimanjaro expected to give a broad picture of current practices, barriers and needs for data dissemination and use. Interviewers used a semi structured interview guide during the interview that provided an understanding of norms and practices in DDU, including implementation of guidelines and standard operating procedures (SOPs) and human capacity for DDU and to examine DDU in different contexts of the health care system. The data collection team experienced no difficulties in having people participate in these interviews. All 97 selected candidates agreed to interview and made the time to participate and share their views.

Table 2: Key informants interviewed at each administrative level and respective sample sizes

Level	Staff	Sample Size
Central Level	Ministry of Health, Community Development, Gender, Children and Elderly (MOHCDGEC) staff at the central MOHCDGEC office: Chief Medical Officer (CMO), Assistant Director of Monitoring and Evaluation (M&E) in the Department of Policy and Planning, Head of Health Management Information System (HMIS), Head of the Department of Curative Services, Head of the Department of Preventive Services, Chief Pharmacist, Reproductive and Child Health (RCH) unit, National Resource Centre for Prevention of Mother-to-Child HIV Transmission, Health Education Unit Assistant Director, Commissioner of Social Welfare.	10
Central Level	MOHCDGEC units, departments, and partners at the central level (program technical staff and M&E focal persons): President's Office of Regional and Local Government (PORALG), Tanzania Commission for AIDS (TACAIDS), Medical Stores Department (MSD), Tanzania Food and Drugs Authority (TFDA), National AIDS Control Programme (NACP), National Malaria Control Programme (NMCP), National Tuberculosis and Leprosy Programme (NTLP), National Institute of Medical Research (NIMR), National Bureau of Statistics (NBS), Muhimbili University of Health and Allied Sciences (MUHAS) Director of Research and Publications	10
Central Level	Staff of the Muhimbili National Hospital (MNH): Director of Hospital Services, Executive Director, Chief Pharmacist, OB/GYN Head, Paediatrics Head and HIV Care and Treatment Centre (CTC) in Charge	6
Central Level	Kilimanjaro Christian Medical Centre (KCMC) – Similar to MNH	4
Central Level	International and national nongovernmental organizations (NGO)s: 1 staff member for Jhpiego, Christian Social Services Commission, and Management and Development for Health	3
Central Level	Total Interviews	33
Each Region	Regional Medical Officer (RMO), HMIS Focal Person, Regional Coordinators for HIV/AIDS, Regional Tuberculosis and Leprosy (TB/L) Officer, Regional Malaria Officer, and Social Welfare Coordinator	6 (per region)
Each Region	Health facility in charge, HIV/AIDS Coordinator, TB/L Coordinator, and Malaria Coordinator	4 (per region)
Regional Level	Total Interviews	10/region

Level	Staff	Sample Size
Each District	District Medical Officer (DMO), District HMIS Focal Person, District AIDS Coordinator (DAC) or District TB Officer, and Reproductive and Child Health Focal Person	4 (per district)
Each District	Staff of one district hospital in each of the 2 districts: Health facility in charge	1 (per district)
Each District	Staff of 1 health centre in each of the 2 districts: Health facility in charge	1 (per district)
Each District	Staff of 1 dispensary in each of the 2 districts: Health facility in charge	1 (per district)
Each District	Ward and/or Village Chair of the Health Committee (select 2 per district across all wards/villages)	2 (per district)
Each Level	Staff of 2 community based health outreach programs in each of the 2 districts	2 (per district)
District Level Totals	Total Interviews	11/district
Combined Total	Interviews	33 Central 20 Regional 44 District 97 Interviews Total

Data Management

Data for developing the DDU strategy were obtained through review of documents and key informant interviews. Desk review included summaries of each document reviewed, written notes, matrices, or other tools used to analyze the documents. Interviews were recorded after obtaining permission from the participants. Recordings were transcribed verbatim and translated into English for analysis. The interviewer or moderator who conducted the interview transcribed a first draft of each interview. A third party who did not participate in the interview then reviewed the first draft of each transcription. The DDU field team also transcribed notes from the interviews in a similar manner. All transcripts were translated into English and stored in Word files for analysis. Personally identifying information or references to any particular interview participant were deleted from the English transcripts to protect the confidentiality of study participants. The study participant informed consents were stored separately at the MOHCDGEC from the interview transcripts. The interview recordings were destroyed.

Data Analysis

The DDU assessment team developed themes that were based on the key topics from the eight areas of the structured interview guide and then reviewed these together to finalize the list for how data will be coded. The DDU assessment team then analyzed qualitative data and discussed findings during a 5-day meeting after the data collection was completed. Analysis of key informant transcripts was done manually. Codes were developed based on key themes covered in the data collection guides and the DDU strategy research objectives and subthemes emerged during the 5-day meeting. There was no intention to characterize site differences in the analysis. The findings from this 5-day meeting were synthesized and used to create the draft key informant qualitative report, organized by themes and subthemes, which included “quotes” from the key informant interviews, which provided more context for some specific subthemes. The DDU assessment team used the results from the desk review and the key informant interviews to inform the draft DDU strategy.

Phase 3: Drafting the Strategy; Review and Finalization Development

Development of the DDU strategic development took the following steps:

- The DDU core team met several times to discuss the results of the desk review and the key informant qualitative report and to review the themes and subthemes.
- The DDU core team met to review the matrix of existing DDU methodologies and tools. The DDU core team did not find a specific DDU strategy development framework that had been used by other countries that could be used for the Tanzania context. The review extended to include the Performance of Routine Information Systems Management (PRISM) framework and tools, MEASURE Evaluation Data Demand and Use Tools, Joint United Nations Programme on HIV/AIDS M&E Reference Group Guidance and Tools, Health Metrics Network National Health Information System assessment tool, the Health Policy Project performance monitoring plan, and the Tanzania eHealth strategy development framework [13-15, 17-21].
- From this review, the DDU core team, some members having worked on the Tanzania eHealth Strategy, realized that when developing a strategy, it was important to use a strategy development framework that had worked in the Tanzanian context. The DDU core team selected the Tanzania eHealth strategy development framework for the Tanzania DDU strategy development, given that the framework had been successfully used in the Tanzania context for developing a strategy from the core DDU objectives.

DDU Strategy Development

The strategy development framework includes four key steps. The first step is “Defining Vision and Goals (Ends),” where the vision describes what the health sector aspires to achieve with DDU in the health sector, and the goals describe health outcomes in qualitative terms that reflect a realistic focus and direction for achieving the DDU vision. The second step is “Conducting a Strengths, Weaknesses, Opportunities, and Threats (SWOT)” analysis and completing a gap analysis. The third step, “Defining the Strategy (Means),” focuses on defining the DDU mission and strategic principles and refining the DDU strategic objectives and related initiatives. The fourth step, “Defining the M&E Framework,” focuses on measuring the progress of both the DDU strategy’s implementation and the DDU itself within the health sector in Tanzania.

The final stage in the development of the Tanzania DDU strategy involved a number of steps:

- The DDU core team met six times to create a draft DDU strategy.
- The DDU core team then created a DDU strategy review, which involved five meetings over a period of 3 months. These meetings scrutinized the DDU vision, mission, strategic principles, and objectives, using the qualitative research report and the desk review, along with reviewing materials that were used in developing the Tanzania eHealth strategy.
- Thereafter, the DDU team organized a 3-day workshop with a broader set of MESI DDU stakeholders from the M&E Technical Working Group, which revised the DDU strategy [16]
- Finally, the feedback during the workshop was reviewed by the DDU core team and used to produce the final DDU strategy.
- The DDU strategy was integrated into the MESI 2015–2020 (II) strategy, and during review by a broader set of HSSP IV stakeholders, the strategy received further revisions.
- The final DDU strategy was approved at the M&E TWG, 28 June 2016 and is available to all M&E TWG members on the MESI project share. This has not been officially launched by the MoHCDGEC.

3 Results

This paper describes the methods used to develop the Tanzanian DDU strategy.

4 Discussion

The development of the DDU strategy was a long process, which took several years (2012-2015) and involved broad participation of key informants from multiple stakeholders at all levels of the health system. This was done to ensure longer-term ownership and support for the DDU strategy. The development process took multiple steps, without which the strategy document would not be achieved. Consequently, each step should be seen as an important milestone, and we describe the lessons learned during the process.

During the development process, we learned that focusing initially on the DDU strategy outline and the draft DDU monitoring framework before doing data collection was too early and thus not very useful. We needed to gather input from a broad representative group of stakeholders to inform the key strategies and M&E framework for the DDU strategy implementation. What was useful with the outline was focusing on the key objectives for developing the DDU strategy. Overall, this was an evolving methodology as we learned along the way to make some corrections.

The main differences here between the original outline and final document were as follows: (1) a lot of the lower-level detail included in the first outline was merged and included in the final strategic objectives; (2) the strategy research was formalized around specific research questions (as opposed to the initial outline, which started without clear research questions); and (3) from the research (interviews/desk review), the DDU core team was able to develop a clear vision statement, mission statement, strategic principles, and strategic objectives.

The development of 12 DDU indicators (coming from international best practices for DDU [13-15]), with the goal of piloting/testing this DDU monitoring tool while developing the strategy, was not continued once the strategy research questions were developed and the team realized that the indicator development would come after the DDU strategy was formalized.

The major strength in our approach to developing the DDU strategy was to take into account the local situation in DDU practices in Tanzania, including stakeholders who were using the old HMIS tools and not using DHIS2, and stakeholders that were using both the revised HMIS tools and DHIS2, and stakeholders at all levels of the health system including community organizations. This included combining the results of the desk review as well as qualitative research from the tools used in data collection to the knowledge of attitudes toward data to the practices of data stakeholders at all levels of data generation and usage. We also took into account the international experiences from other groups, adopting a few items that we thought could be of use to the DDU in Tanzania [17-21].

Expanding the DDU strategy development to include primary research added the requirements for additional funding to support these activities, along with managing personnel time needed for these activities with staff members' other workloads, which caused delays in the three phases. Lack of literature in this area meant the DDU core team took longer to agree on which strategy framework to adopt.

We noted that starting with a small set of central stakeholder discussions and completing a rapid assessment of available documents on data use and decision-making so as to develop a draft DDU strategy outline missed some key DDU concepts. Completing formal DDU research at multiple levels of the health system and with a range of stakeholders involved in health service delivery in Tanzania created a more complete picture of DDU in the health sector in Tanzania.

The results from the research are described in the second paper, *Analysis of Data Dissemination and Use Practices in the Health Sector in Tanzania: Results of desk review and interviews with key stakeholders* [22].

In Conclusion, the development process of the DDU strategy was evolving as we learned along the way to make some corrections, changing from the simpler 2 phase approach to a more comprehensive three-phase approach. What was useful with the outline was focusing on the key objectives for developing the DDU strategy. It is hoped that the MOHC DGEC and DDU stakeholders will use the DDU strategy to improve evidence-based decision-making across the health sector in Tanzania. The authors hope that the implementation of the DDU strategy will lead the relationship of improved information, demand for data, and continued data use, encouraging a culture of information use and creating a cycle that leads to improved health policies, programs, and, ultimately, health outcomes.

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The authors declare that they have no competing interests.

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