Health System Strengthening Evaluation Collaborative

HSS Evaluations in Rwanda

August 2022

Working Group 2: Priority 1 – CIICHIN, Itad, UR

Contents

Acronyms

CBHI	Community-based health insurance
CDC	Centers for Disease Control and Prevention
CIIC-HIN	The Centre for Impact, Innovation and Capacity building for Health Information Systems and Nutrition
DHS	Demographic Health Surveys
eLMIS	Electronic Logistics Management Information Systems
ENABEL	Belgium Development Agency
FY	Fiscal year
GAVI	Global Alliance for Vaccine and Immunization
GFF	Global Financing Facility
GOR	Government of Rwanda
HMIS	Health Management Information System
HRH	Human Resource for Health
HRTT	Health Resource Tracking Tool
HSS	Health System Strengthening
HSSE	Health System Strengthening Evaluation
HSSEC	Health System Strengthening Evaluation Collaborative
IGR	Internal Generated Revenue
IRB	Institutional Review Board

LMIC	Low- and middle-income countries
M&E	Monitoring and evaluation
MOH	Ministry of Health
MTEF	Medium-Term Expenditure Framework
MTR	Mid Term Review
NGO	Non-Governmental Organization
PBF	Performance Based Financing
PIH	Partners in Health
RBC	Rwanda Biomedical Center
SWAp	Sector Wide Approach
TWG	Technical working group
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
USD	United States Dollar
WHO	World Health Organization

Research team

The research team consists of:

- Dr James Humuza (UR) developed the protocol and conducted all data collection related to the implementation of the overall Health System Strengthening evaluation case study in Rwanda.
- Prof Jeanine Condo (CIIC-HIN) developed the methods section and provided guidance on writing approaches and the overall quality of the case study report.
- Belise Niwemwari (Consultant CIIC-HIN) analyzed qualitative data and contributed to the results report writing.
- Dr Sabine Musange (UR) and Dr Parfait Uwaliraye provided guidance on national costs analysis using in-country investments.
- Dr Kizito Kayumba (CIIC-HIN) provided support on data collection tools and conducted the literature review in-country and globally.
- Shreya Pereira (Itad) and Natasha Palmer (Itad) contributed to the overall study design, participated in data collection tool revision and provided project management.

1. Introduction

1.1 Background

There is an increasing literature that defines different aspects and dimensions of a health system, with the unifying factor that they all address the overarching system as a whole, rather than the specific parts that might make up the functioning of the system.

According to the World Health Organization (WHO), *"a Health System (HS) consists of all organizations, institutions, resources, and people whose primary mission is to improve health"*.[1] This is achieved through direct or indirect efforts from various actors working in the health sector and other sectors linked to social determinants. WHO describes HS in terms of six building blocks that include the health workforce, service delivery, health information system, access to essential medicines, financing, and leadership/governance. Gilson gives a definition highlighting that *"health systems are also part of the social fabric in any country, offering goals beyond health. Their wider goals include equity or fairness in the distribution of health, and the costs of financing the health system, as well as protection for households from the catastrophic costs associated with disease, responsiveness to the expectations of the population and the promotion of respect for the dignity of persons."* [2]

The Commission on Social Determinants of Health, established by WHO in 2005 and operating until 2008, is also of relevance. The Commission aimed to draw the attention of stakeholders to social determinants of health and to create better social conditions for health.[3] Recent work on health systems is beginning to highlight the ways in which systems learn from or respond to shocks are defining factors in their long-term ability to develop and strengthen**.** Recent work has proposed the dimensions of resilience[4], learning[5] and system responsiveness[6] that should be considered while evaluating health system strengthening (HSS). Blaauw and others have written about the dimensions of 'hardware' and 'software' in the health system as both important elements to sustain health systems development.[7] Sheikh et al. (2011) observe this evolution:

'Definitions of health systems, meanwhile, have been based mainly on their utility in the achievement of health outcomes. The World Health Organization (WHO) building blocks approach is one such popular classification, which conceptualizes health systems in the functional or instrumental terms of its constituent "hardware"—finance, medical products, information systems, levels and types of human resources, forms of service delivery, and governance understood as organizational structures and legislation, for example [i]. It also recognizes that the system encompasses both the suppliers of policy, services, and interventions and the communities and households intended to benefit from them who, as citizens, also play important roles in policy change. However, in addition to these concrete and tangible expressions of health systems, the "software"—by which we mean the ideas and interests, values and norms, and affinities and power that guide actions and underpin the relationships among system actors

and elements—are also critical to overall health systems performance'.

There are different interventions that are undertaken to ensure that an HS is functioning and may include health workforce capacity building, equipping hospitals, availing funding, and good governance.[2] These actions are known as Health Systems Strengthening and are essential in improving health outcomes. Additionally, HSS is essential to improving health coverage and performance of the health delivery system at the primary health care level to reach Sustainable Development Goals (SDGs).[3] For accountability purposes, evaluations are conducted regularly either by the funding donors or mandated researchers to assess the progress of implementation of those interventions as well as assess the impact made on the health system.[2]

1.2 Rationale

The Health Systems Strengthening Evaluation Collaborative (HSSEC) is a one-year program funded by the Bill and Melinda Gates Foundation and led by Itad, a specialist monitoring and evaluation (M&E) company. The Collaborative works by bringing investors in Health Systems Strengthening together, including Global Alliance for Vaccine and Immunization (GAVI), Global Fund (GF), United States Agency for International Development (USAID), World Bank (WB), Bill and Melinda Gates Foundation and the Global Financing Facility (GFF), as well as country research institutions to think differently about how to approach HSS evaluation and work collectively to build and execute a shared agenda to improve this work. The Collaborative aims to move HSS evaluation beyond its current fragmented form and believes leadership and commitment to advancing and changing ways of working must come at least partially from the joint action of three key groups of stakeholders: (i) country-level stakeholders including governments, practitioners, and communities, (ii) donors that fund HSS and HSS evaluation, and (iii) evaluators and academics who are involved in HSS evaluation from the country lens.

As part of the program, a working group was established to build a shared understanding of the challenges of HSS evaluation and identify opportunities to strengthen HSS evaluation at the country level. Key challenges that have been identified around HSS evaluations include but are not limited to:

1. The methods used for HSS evaluations are difficult and are unlikely to be pursued through randomized control trials.
2. HSS evaluations are complex, requiring the global community to do a better job of learning from its complex dynamics and real-world experiments.
3. The financing for evaluation in HSS comes from a variety of sources, which reflect, in turn, its fragmentation from design through to evaluation.

In most low- and middle-income countries (LMICs), most of the available resources to fund HSS are external – limiting the country's ability to design its own HSS due to limited allocated funds. These additional factors, in turn, contribute to the fragmentation of who leads and informs evaluations and

whose priorities are given greater consideration. In some cases, policymakers, who often should be the primary audience for HSS evaluation and learning, are frequently left out during decision-making and are therefore not involved in the early process of defining and designing evaluations for HSS within their settings.

HSS evaluation and outputs are not supporting country decisions- and policy-making. Development partners and governments often have different expected outputs that they are looking to accomplish through HSS evaluations. In broad terms, development partners often seek to assess the impact of the specific interventions they have funded. In contrast, governments are more interested in the broad question of "how is the health system performing?" There are potential synergies between these two different lenses, and there is a strong need to find ways to better align them through existing health systems networks such as retreats where donors and government actors meet to discuss together country strategic plans and assess previous years' challenges and achievements that can be used to reflect HSS evaluation priorities.

Lastly, the in-country capacity to conduct HSS evaluations is key and often untapped by the local leadership to inform and course-correct existing HSS policies. Different studies have shown weak collaboration between local researchers and academics with local HSS implementers and decision-making – creating a window of opportunity to strengthen the in-country HSS ecosystem (for example, the HSS evaluation agenda).

A common HSS evaluation agenda defined by governments, in collaboration with stakeholders, is not widely used by all HSS stakeholders and is not aligned with funded HSS research and evaluation topics that are conducted in-country. Moreover, mechanisms linking country HSS needs to available funds from existing donors are lacking or not aligned with current country HSS priorities.

These challenges point to a need to focus attention on how to strengthen the ecosystem of health system evaluation so that external and country stakeholders can all be involved in and strengthen a single approach to understanding a health system, developing connectivity between the players, and creating a governance system that is coordinated and robust.

1.3 HSS evaluation and research in Rwanda

Rwanda has been a recipient of HSS evaluations mostly conducted by funding organizations. The country has made tremendous progress in its health system, achieving the Millennium Development Goals (MDGs) by 2015. This progress was mainly attributed to good governance, international investment, and foreign aid.[8] Despite foreign aid restrictions on fund usage in HSS, Rwanda ensured that it was aligned with its national priorities. Following these results, Rwanda's health goals shifted to finding ways to sustain what has been achieved. In 2017, an HSS evaluation funded by Partners in Health (PIH) assessed the impact of HSS interventions covered by PIH (2005) using data collected during the Demographic Health Surveys (DHS) of 2005 and 2010, as well as other surveys, to compare output indicators for maternal-child health interventions.[6] These interventions were aimed at strengthening all six blocks of

the health system for maternal and child health. Involving the Government of Rwanda (GOR) and PIH from the design of HSS implementation to the evaluation, in addition to horizontal investment in strengthening all HSS building blocks, contributed to the improved health outcomes and paved the way for other interventions funded by other donors. However, this project and many others across the country did not account for social determinants that may also have contributed to the results, leading to an important counterfactual within HSS evaluation designs. Additionally, HSS in Rwanda is still dependent on foreign aid and evaluation initiated by donors, limiting the odds of sustainability. Moreover, like in most LMICs, Rwanda does not have a harmonization of methods to be used for HSS evaluations. Each donor uses its own methods, frameworks, and tools, also potentially limiting sustainability. Recognizing the impact that HSS has on health outcomes, there is a need for all stakeholders involved in HSS to have a common evaluation agenda and financing that better aligns to promote sustainable evaluation structures that will result in better health outcomes for countries.

2. Objectives and key questions

The objectives of the Rwanda case study were to:

1. Assess how HSS is defined by the country's stakeholders.
2. Examine the institutional structures and processes that support HSS evaluation.
3. Determine the financial investments, interests and needs of HSS evaluation among various stakeholders in Rwanda.
4. Understand how HSS evaluations by external donors are designed, commissioned, and experienced by stakeholders in Rwanda.
5. Identify opportunities for strengthening HSS evaluation in order to support Rwanda's policy development and implementation.
6. Understand investment in-country to support HSS and its relation to HSS evaluation.

3. Methods

3.1 Study setting, design and sampling

A case study approach utilizing qualitative methods was used to understand the context of the HSS evaluation ecosystem in Rwanda.[12, 13, 25] Rwanda was selected alongside Kenya and Ghana for three separate case studies on the HSS evaluation ecosystem, based on evidence of the maturity of HSS evaluation in these countries and best practices within a low-and middle-income context.

Stakeholders involved in policy (government) formulation on HSS evaluation at the national level, academics within universities and research institutions, private-sector organizations, and multilateral and bilateral development partners operating within Rwanda's health sector were considered for key informants interviews. Based on evidence from the literature on the involvement of these stakeholders in HSS evaluation, a purposive sample of these key stakeholders was generated. We applied snowball techniques to complete the selection of additional stakeholders until we reached saturation in data collection. The total number of interviews was 15 representing development partners, academics and the government.

HSS financial investment was estimated using data collected through the Health Resource Tracking Tool (HRTT) housed at the Ministry of Health (MOH). The HRTT is a tool that allows annual data collection of expenditures and budget data from government institutions, development partners, and other stakeholders in the health sector.

From these financing data, we identified and tracked investment in HSS and, more specifically, in HSS evaluations over the last three fiscal years (FY) for which data are available (FY 2017-18, 2018-19, and 2019-20). Each expenditure line was then mapped to a specific financing source type, external or government, to provide information concerning who invested in HSS, how much, and for what purpose each fiscal year.

In the HRTT, health expenditures were mapped according to the Medium-Term Expenditure Framework (MTEF) programs and sub-programs used in the planning and budgeting process at the MOH. Expenditures identified as HSS investments include the following programs:

- Financial and geographical health accessibility: government subsidies to community-based health insurance, expenditure towards building and/or rehabilitating health infrastructure and providing equipment to health facilities.
- Health human resources: salaries of the health workforce and capacity-building activities (in-service training).
- Health sector planning and information: expenditure on activities related to the planning, monitoring, and evaluation in the health sector, such as field assessments, supervision visits, monitoring of sector policies and planning documents, private sector engagement activities, and coordination of partners (Sector Wide Approach (SWAp)).

- Health Service Delivery: expenditure on activities related to laboratory equipment purchase and maintenance, investment in prehospital & emergency services, health technologies (digital health services), quality improvement activities (accreditation and other initiatives), specialized health services (tertiary care), strengthening of the supply chain and distribution of medicines and consumables.
- Policy development and health service regulation development of policies related to health services delivery (service packages, treatment guidelines, health facilities standards), support to health professional councils (regulation of scope of practice), food and drug regulation policies, etc

HSS investment in evaluation and research includes assessments in health policy and financing as part of the community-based health insurance (CBHI) sustainability plan and the provider payment policy reform, and in service delivery such as the revision and update of standard treatment guidelines, all funded by both government and external sources.

3.2 Data Collection tools

The Rwanda case study used primary and secondary sources of data. The secondary data was obtained from document reviews and HRTT for HSS investments in HSS, while primary data was obtained from semi-structured interviews.

(i) Document review: We reviewed all policy documents, guidelines, reports, relevant news items, and journal articles on HSS evaluations in Rwanda. Relevant documents were identified and retrieved through a literature search and recommendations from key stakeholders who may or may not be included in the interviews. We searched for relevant documents online using PubMed, Google Scholar databases, and other public health search engines. We also considered grey literature to complement peer-reviewed articles and documents. We visited the websites of key institutions, including the Ministry of Health, Rwanda Biomedical Center, and WHO sites, to search for additional relevant documents.

(ii) Secondary database analysis: A document review using actual expenditure reported in the HRTT was used to provide expenditure data on HSS investment from government institutions, development partners, and all stakeholders in the health sector.

We then summarized all information related to HSS investment and HSS investment in evaluations and research from all stakeholders for FY 2017/2018, FY 2018/2019 and FY 2019/2020.

(iii) Semi-structured interviews: We conducted 15 interviews with stakeholders identified from the three main institution types (government, donor community, academics/researchers). A data extraction Excel sheet and an interview guide were developed as instruments for data collection. The interview guide built on working group global guidance set ahead of time by Itad and was adapted to fit the

purpose. The content of the instruments covered topics relevant to the study objectives of identifying institutional structures, processes, interests, and needs for HSS evaluation in Rwanda.

Senior researchers conducted qualitative research and collected all relevant information during the qualitative assessment. All interviews were conducted in English for a maximum of 45 minutes at the respondent's convenience in a conducive location agreed upon between the respondent and the interviewer. Some interviews were conducted online using Zoom, based on the respondent's preference. All data were collected between January and February 2022.

3.3 Transcription and translation of qualitative data

The audio-recorded interviews were transcribed using Temi.com and were cleaned and translated from Kinyarwanda (where applicable) to English. Moderators and field note-takers performed a back translation to align the content of the data collected and the last tools used for data collection to ensure the content's accuracy.

3.4 Quality assurance

All data collection instruments were pre-tested, and the data quality was enhanced through member checking. Recorded responses were read aloud by the lead consultant for further validation by team members. All interviews were conducted in secured venues free from distractions. All interviews were recorded and transcribed verbatim before data analysis. In cases where participants did not wish to be recorded, notes were written by a note-taker and an interviewer. As this research targets high-level officials, participants were given the opportunity to select both venue and time of their choice. Drafts of the results of the interviews were emailed back to selected respondents for further validation.

3.5 Data management and analysis

Field notes, interview transcripts, completed consent forms, and important documents retrieved during data collection were securely stored, protected, and managed by the lead consultant and the project team.

Upon completion of transcription and synthesis of KIIs, a codebook was developed which frames the themes during qualitative data collection. The codebook contains codes related to main pre-determined themes, including key stakeholders in HSS evaluation, the institutional structures and processes that support HSS evaluation, the financial investments, interests, and needs of HSS evaluation among various stakeholders, how HSS evaluations by external donors are designed, commissioned, and experienced, and finally, the opportunities and challenges related to HSS evaluation that influence Rwanda's HSS policy development and implementation. A new theme emerging from the qualitative analysis was also considered and discussed among the research team for inclusion in the analysis and reporting.

Thematic analyses were conducted on interview transcripts, while content analysis was undertaken for data from the documents. All translated interviews were imported into the qualitative software NVivo, which was then used to conduct inductive coding to identify main and sub-themes. After developing the

coding list, the research analyst reviewed all transcripts and extracted appropriate quotes for each primary code linked to themes and subthemes. The research team then reviewed all coded text and compiled the themes and sub-themes from the data into the findings and results section with notations about the source of the quotes in the text. Diagrams, maps, and boxes were used to present the data.

3.6 Ethical considerations

3.6.1 Institutional Review Board (IRB) approval

After the presentation of the research protocol to the Rwanda National Ethics Committee, approval was granted to the research team before data collection.

3.6.2 Potential risks

This study was associated with minimal risk of participation. No major anticipated psychological and physical stress was related to participating in the study.

3.6.3 Privacy and confidentiality

The identities of all participants and respondents were not disclosed to any third party. Names and other personally identifiable information were not included in the presentation of the study results. All respondents were assured of confidentiality throughout all stages of the research, from data collection to dissemination. The findings of the study were presented in a way that individuals are not identifiable by their opinions. The research team was encouraged not to discuss the opinions of participants outside of the study context. Participation in the study was voluntary, and participants could choose whether to participate and had the option to discontinue their participation at any time without any adverse consequences.

3.6.4 Storage and sharing of participants' information or data

Voice recordings and other forms of data are securely kept by CIICHIN (The Centre for Impact, Innovation and Capacity building for Health Information Systems and Nutrition) and the project team. Such information will not be shared with any third party and will be destroyed one year after data collection.

3.6.5 Informed consent

Written informed consent was obtained from all respondents before interviews and recording. The research team sent a written consent form via email to all participants of the study before scheduling the data collection. Each respondent was first contacted via email, phone or a personal visit by the lead consultant to arrange a time for the interview. On the day of the interview, the interviewer introduced themself, the research topic, the purpose of the research, and why the respondent was selected to be part of the study. The respondent was given an information sheet to read. After reading the information sheet, the interviewer addressed any questions from the respondent. If the respondent agreed to participate in the study, they were given two copies of the consent form to sign. Data collected and voice recordings were used after permission (written consent) was granted by the respondent.

3.6.6 Prevention of the spread of COVID-19

The study strictly adhered to all international and national protocols on COVID-19 prevention.

3.6.7 Declaration of conflict of interest

The members of the project team and the consultant declare that they have no conflict of interest whatsoever.

4. Results

4.1 Thinking approaches and practices

4.1.1 What is understood by HSS definitions and the HSSE policy environment

Results from KIIs show consensus amongst stakeholders on the need for strengthing HSS evaluations using different structures (such as workgroups) but also emphasize the need to use results for better HSS policy development. In addition, the definition of HSS is still vague and complex and depends on how each HSS actor defines HSS evaluation. Some defined HSS as any activity initiated in any of the six blocks of the core HSS function. Additionally, all respondents agreed that HSS is a priority for Rwanda. In contrast, the definition of HSSE varied across respondents. Some stakeholders defined it as akin to situational analysis. Others viewed HSSE as being analogous to a business case or defined it in terms of performance rather than the evaluation of performance. In summary, there is no consensus on how HSS evaluation is defined and what are the components of HSS evaluations. However, all HSS stakeholders found that it has become imperative that they all discuss and agree on HSS definition, HSS Evaluations as well as HSS / HSSE components.

"… my view in terms of supporting the system, the government tries it's best to allocate funds, to allocate money and to prioritize all services in the system and to prioritize the improvement of the system. …… but I really want to hear the definition of f HSS."

"When you say HSS evaluation, there is one part of delivering services and there is the other aspect of, did you answer, my need, or did you just go through a protocol, without Checking on me, as a whole individual?"

"…in HSS evaluation, the evidence we need is about the performance of the HSS."

4.1.2 Policy and Planning surrounding HSSE

According to interviewees, there is currently no specific framework or policy on HSSE. However, varying guidelines, protocols, and SOPs are consulted in the development, design and implementation of developing HSSE in general. In fact, one respondent highlighted that HSSE policy development in Rwanda is perceived to be a responsibility of international organizations such as WHO and Centers for Disease Control and Prevention (CDC), often due to the limited research capacity found in-country. Correspondingly, international expert consultants are often hired over locals as a general practice, negatively impacting local capacity building in HSSE.

The effort of compiling the existing HSSE agenda and policy is underway and was thought by many HSS stakeholders as an urgent task to accomplish for better understanding, designing and implementation of HSSE agenda.

"You cannot say there is one document that groups these standards you find different documents which are consulted so you can develop protocol or guidelines so you can do that assessment"

"Rwanda is relying on international organizations like WHO, CDC and other partners to change our policies..."

Furthermore, interviewees mentioned that it was important to realize that Rwanda has quantity in terms of local capacity for the performance of HSSE; however, there is a lack of quality. The latter is demonstrated by the low number of policy briefs from the University of Rwanda's School of Public Health. Additionally, the low volume of publications from the University is attributed to academics and students' lack of or limited skill set to write policy briefs.

Even with low publication volumes on the research side, evidence-based policy development is not a new concept in Rwanda. Respondents highlighted HSSE success stories, such as the implementation of PBF and CBHI (Mutuelle de santé). Similarly, noteworthy evaluations that resulted in policy change are' evaluations on workload indicators of the health labor market' and the 'CBHI deficit assessment', which resulted in the restructuring of health facility staffing, and increased CBHI internal reviews, respectively.

Another key observation is the lack of clarity on where policymakers stand regarding evidence-based policy development for HSS and HSSE. These are added to a general confusion in HSS definition from an assessment to the performance of HSS. On the one hand, respondents say there is a willingness on the side of policymakers to use these other sources of evidence for drafting health policies; however, motivation is needed for this to happen. On the other hand, it was mentioned that there is a willingness on the government side to improve HSSE but reluctance on the policymaker's side to change how they are used to working.

"…there is this very good spirit from policymakers to use evidence, and it is done using those very big evaluations, such as DHS and mid-term evaluations and others, but it is not enough, this must be improved, but the culture of using evidence in the policy-making process is not yet there, it has to be strengthened. The ministry of health is very good in using available evidence but it's not enough, we think to, there is room for improvement."

"…policymakers are always reluctant to adopt new evidence from HSS evaluation because of the budget. They always think about the budget and priorities. Sometimes they have so many priorities, and they cannot change, so they are so reluctant to change when it comes to adapting new evidence of health system strengthening."

Put differently, the respondent from the academia stakeholder group is of the opinion that the type of documents consulted for the development of HSSE policy should be broadened. Papers such as dissertations from Master's and Ph.D. students at the School of Public Health should be considered in the library of documents that inform policy. In this case, the challenge lies on the side of policymakers to decide how such documents could be included.

"We have a number of consultancies, particularly in public health, we have a number of dissertations available, the dissertations of students at master level and Ph.D. level at the school of public health. So

now the question is how that available evidence is taken into account by the central level in making process."

4.2 HSSE implementation in Rwanda

The government has focused on working with partners concentrated in specific areas to maximize impact as a whole. Each development partner has a focus area and focused administrative districts to work from. It can be said that HSS is done in an organized manner where partners have focus areas in which they deliver support. Segregation of duties, in turn, helps in HSSE because it eases implementation, with fewer players in an area and easier management.

"…we want a greater impact, even if it's with fewer people, but if you come, don't come into agriculture, education and health, focus on one, put all your support there."

As previously mentioned, there is no formal framework or policy on HSSE. Therefore, implementation is done via program assessments that are conducted periodically, such as malaria and HIV program reviews, the midterm review of the Health System Strategic Plan (HSSP), and the annual sector performance report. Additionally, there are CBHI reviews, and on the beneficiary level, the Rwanda Governance Board conducts surveys with citizens using score cards to assess satisfaction levels of service delivery. Similarly, constant data is collected for the DHS, which focuses on impact indicators. One respondent revealed there were more evaluations in the pipeline, such as the health harmonization assessment.

Furthermore, a health sector group comprising different health sector stakeholders assembles regularly to assess performance from the previous fiscal year. However, the frequency and objectives of this technical group were not elaborated on. Additionally, this same group conducts joint site visits with government officials and other partners to observe how the HS supply chain is doing and/or implemented at the decentralized levels.

Tied to the above, several interviewees mentioned the need to establish a technical working group (TWG) for research and a digital platform for research conducted in Rwanda. TWGs enable researchers, policymakers and investors to come together to discuss research findings and conduct HSSE gap analysis. Digital platforms improve communication within stakeholder groups and support the publication of research for information sharing. Interestingly, one respondent mentioned that TWGs for research initiatives already exist; however, they aren't active due to the low number of stakeholders involved. Another participant mentioned that engagement in these TWGs is at a minimum.

A few additional challenges during HSSE implementation were related to the negative cascading effect and long approval processes during the evaluation processes. Delay in receiving approvals stagnates HSSE. This, in turn, results in funds being returned to donors, reducing the likelihood of receiving those funds in the following year's budget. Correspondingly, it was mentioned that the long-time lag between evaluations and the publication of findings renders the results unusable by policymakers.

Respondents identified several success stories in HSSE implementation, including the Human Resource for Health (HRH) program. The HR program resulted from a gap identified during the health sector midterm review. The evaluation highlighted the need to support human resources for health capacity building at the district level. This prompted the MOH to strengthen district hospital facilities, with more technicians such as legal and financial advisors or support staff. This strategy empowered district-level facilities to join in the fight against diseases while supporting the financial mechanisms needed to sustain any gain from HSS. Another example of HSSE success is the institutional analysis of the health system that showed a gap in the governance and procurement of essential drugs. New ministerial instructions regarding health committees were drafted and adopted to address these findings.

To summarize, HSS implementation in Rwanda is built at the national level, where each component is assigned to a specific funder for implementation while targeting deliverables. These deliverables are donor- and region-focused. The differentiated model of HSS implementation at national level brings more light to HSS implementation strategies at the district or provincial levels. The Ministry of Health and the Ministry of Local Governance work hand in hand at the decentralized level to maximize partner support.

4.2.1 Funding and investments in HSSE

There was unison among the interviewees that HSSE is paramount in driving investment into HSS. Moreover, evidence gathered from HSSE is crucial for guiding the government and partners in mobilizing and aligning funds for HSS.

"…you have to show the evidence that it's the priority thing and if you invest that amount there will be the achievement of certain results and there must be the presence of value for money. And you give evidence that shows that if you invest in that there will be a decrease in the prevalence of certain diseases…. the needed evidence should support that there will be an impact on the wellbeing of the citizen."

Partner funding for HSS/HSSE comes in different forms, for example, direct to Rwanda Biomedical Center (RBC), the implementation arm of the Ministry of Health, in the form of grants, direct to districts, and grants to health professional organizations (such as the Rwanda Pediatric Association or the Rwanda Association of Midwives) for capacity building. Development banks also provide loans to the government to carry out HSS. However, one respondent noted that there is no specific lending activity for HSSE. Moreover, funding specifically for HSSE is not straightforward. It is embedded in HSS funding, and this practice can sometimes result in the use of funds dedicated to HSSE for other HSS activities.

"We aligned with the evaluation of HSS… research alignement is very clear in Rwanda. The research policy in country has an indicator related to its funding- i.e, 2% of our budget should be allocated to research."

"…most of the time our money is going for strategic document development and document guidelines, but most of the time the evaluation is supported by the external funding, but we try to find if we're going to get some data."

Investments into HSS, such as digital products and information systems, can assist in an HSS evaluation, for example, the HRTT, which tracks annual expenditure in health, including in HSS from all stakeholders is used often to report on health expenditures in general in Rwanda. Data collected shows an overall increase in expenditure in HSS from 2017-2018 to 2019-2020, mostly driven by an increase in domestic resources (Table 1). Unlike HSS investment, expenditure on HSS evaluation and research declined over the three years, going from 0.4% to 0.1% of the total HSS investment.

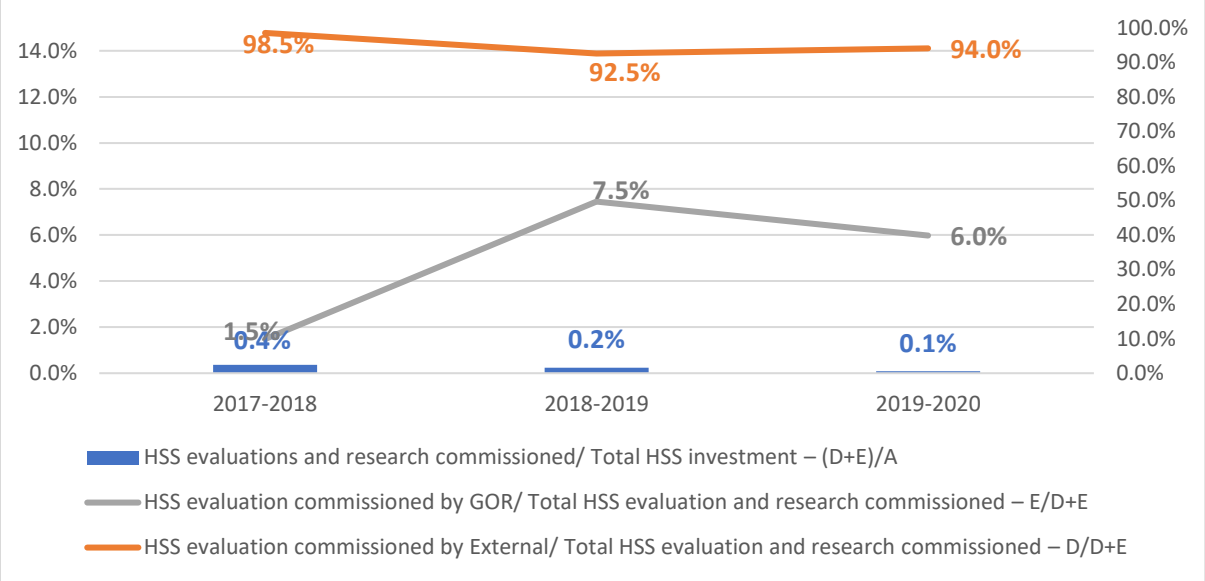
Table 1: HSS investment versus HSS evaluation funding during 2017-2020

	Investment in HSS (in USD)	2017-2018	2018-2019	2019-2020
1	Total HSS investment (A)- B+C+A*	248,432,348	269,026,730	284,415,393
2	HSS investments - External (B)	61,332,936	52,725,103	54,642,118
3	HSS investments from GOR (C)	87,412,613	102,562,249	101,997,035
4	HSS investments from IGR (A*)	99,686,799	113,722,646	127,776,240
5	HSS evaluations and research commissioned- External (D)	875,804	597,810	226,810
6	HSS evaluations and research commissioned- GoR (E)	13,159	48,144	14,418
7	HSS evaluations and research commissioned/ Total HSS investment – (D+E)/A	0.36%	0.24%	0.08%
8	HSS evaluations and research commissioned- External/ HSS investment - External – D/B	1.43%	1.13%	0.42%
9	HSS evaluations and research commissioned - GOR/ HSS investment - GOR – E/C	0.02%	0.05%	0.01%
10	HSS evaluation commissioned by External/ Total HSS evaluation and research commissioned – D/D+E	98.5%	92.5%	94.0%
11	HSS evaluation commissioned by GOR/ Total HSS evaluation and research commissioned – E/D+E	1.5%	7.5%	6.0%

External resources are the largest contributor to investments in HSS evaluation and research in Rwanda during the studied period (Figure 2). However, the share of HSS evaluation funding commissioned by

external partners decreased over time, going from 98.5% to 94% in 2019-2020, while government HSS evaluation funding increased from 1.5% to 6%.

Figure 1: HSSE funding evaluation per source of funding



Relatedly, an interesting finding concerning funding was the use of homegrown innovative solutions such as use of traffic fines to subsidize Community Based Health Insurance (CBHI) schemes and, consequently, HSS.

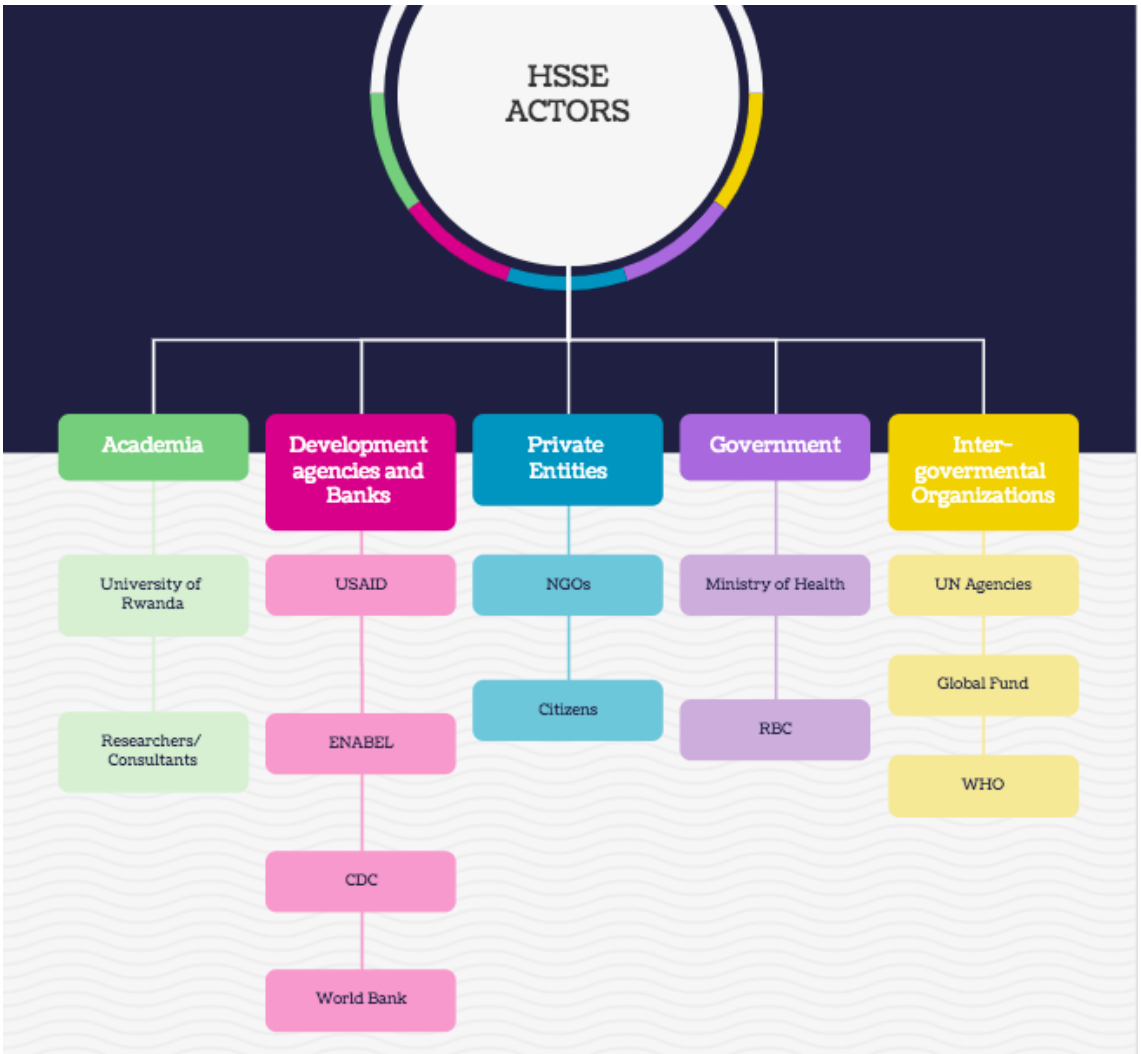
In addition, it was mentioned several times that the cost of conducting HSSE is a major barrier and a reason why this activity is not prioritized. Other challenges and needs discussed include knowing and understanding the total investments made in the health care system and health care system evaluations.

4.2.2 Actors/stakeholders in the HSSE ecosystem in Rwanda

Evaluations are often conducted by international consultants in combination with national or local researchers. This is done to provide the international consultant with local context to assist in understanding the health care system and build local research capacity. Using international consultants also gives experience from other countries while doing the evaluation. On the same point, an interviewee suggested knowledge-sharing platform should be developed and implemented on an intergovernmental level focusing on how to easily implement HSSE.

HSSE stakeholders were identified by the respondents and were classified into 5 groups comprising of academia, development agencies and banks, private sector, government, and intergovernmental organizations.

Figure 2: HSSE Stakeholder groups based on interview responses



4.3 Stakeholder interests, needs and views

According to respondents, it is important to conduct an HSSE stakeholder analysis once the definition and components of HSS and HSSE have been developed, agreed upon, and disseminated. Additionally, it was suggested that a gap analysis of the stakeholder group should be conducted before carrying out HSS evaluations to understand the capabilities of each stakeholder and what that implies for HSSE.

"…some people don't realize that they're actually working on health system strengthening in their respective capacity."

"we should think about stakeholder analysis as HSS evaluation, analyze one by one, the level of contribution, the level of knowledge, interest of these stakeholders then we come up with a list of key stakeholders that should be every time associated to those discussions, and to have a platform gathering all those key stakeholders.."

A recurring need within the stakeholder group was to shift from paper-based to digital technology in data collection analysis and storage. This would bring about more efficiency, reliability, and usability of data for all stakeholders because it will reduce the time necessary to carry out evaluations and bring light on methods for HSS evaluations.

"…this will come later in terms of weakness and challenges that we are facing, but data systems, data access and information system are very important to coordinate the work that we are doing….for us ….. we need to make sure that we create mechanisms that can help us to gather the clear and accurate data, the accurate information to show the evidence."

The scarcity of research and publication in the health sector is a finding that spreads across stakeholders. They feel that more should be published, and there should be platforms to access published data. It was suggested that the scarcity of health data research and evaluation findings might be due to sponsor interests being limited to only getting the answers they were looking for rather than sharing the knowledge gained with the rest of the health scientific community or government stakeholders.

With support from development partners, a knowledge-sharing platform was previously developed and used to learn state-of-art HSSE and distinguish common practice from what is new in HSS.

"…for me, I see the publication and access to key findings of those studies is still an issue and of course sometimes, people may use those studies, the information for their own purpose"

It was also hinted that private sector NGOs are minimally involved in HSSE because they are not actively included in the different technical working groups, are concentrating on generating funding and do not have time to attend these sessions.

"I don't see how we can motivate people in terms of coming…NGOs and different forums for private practitioners are invited, maybe sometimes not coming to the meetings because they are busy at work. They work, they want to generate money.."

There is some alignment among HSS stakeholders as each development partner is assigned to an HSS component while targeting particular districts. However, there is a need to align and harmonize stakeholder and donor interests in terms of scope for HSS evaluation. Most donors and development partners focus on what interests them within their scope, making it harder to evaluate the impact of HSS at scale.

"….they are generally aligned with their country's interest because they have to report back on how efficiently the money that was injected into the healthcare sector was used if the impact desired was reached"

It was also highlighted that there is a need for capacity building for HSSE, especially in the use of reports generated from evaluations and the need to use existing data to generate evidence-based policies. Methods of analyzing these types of data for timely HSS evidence policies are of high priority.

"…we need some kind of capacity building…on methods to be used for this type of the data, how to use these good reports that we have from the consultants and how to plan how to project and forecasting, you know how we will use these reports so that we don't commission evaluations which will actually not be used."

Linked to the above, it was highlighted that the cost of carrying out HSSE diminishes stakeholder interest in this important task. Stakeholders prefer to invest in smaller program-focused operational research for process improvement in HSS rather than larger scale evaluations of the whole HS.

"…the cost of having large scale evaluations…is one of the biggest investments that would be needed….usually government or the program's themselves, the money they would rather put it elsewhere, than in the HSS evaluations."

Another interesting mention was on image protection, where investment in HSSE is sometimes halted in order to protect how a stakeholder is perceived.

"…development partners may like to conduct randomized studies, but others may say no there are biases in these randomized studies, because sometimes they may tend to promote their images."

4.4 Linkages in the ecosystem

There is a need for collective coordination and harmonization of stakeholder efforts countrywide to ensure minimal duplication of outputs. Stakeholders are looking to the government to lead this effort. The role of the government is echoed throughout the interviews and, as such, is an important element in linking the HSSE ecosystem.

"The government takes the responsibilities to coordinate all activities, and of course those stakeholders…. It's not a country where everyone will come and do just whatever they want to do now, but government leads and coordinates everything."-

There is a need for the government, which plays a strong role in the ecosystem, to disseminate information to other stakeholders. For example, it is important for stakeholders to know where the gaps are at the end of the fiscal year so they can invest appropriately.

"The Minister of Health used to present priorities to the partners….the challenge now is you have to run the Minister of Health to know what are the issues, what is the priority what is not."

Multiple respondents shared that the government uses different collaborative platforms and technical working groups to invite development partners and private sector stakeholders to share HSS priorities and HSS evaluation findings. Indeed, external parties are highly involved in supporting health system strengthening through participation in TWGs and joint system reviews.

Stakeholders are working on disseminating results from evaluations through joint efforts, and stakeholders are trying to form a single platform or a portal where studies can be stored and shared, although the existing knowledge center is not yet updated. This objective is to distribute research outcomes across the ecosystem, publish them and make them available to the public.

4.5 Institutional structures that support HSSE

Many respondents touched on institutional support structures at the government level, such as annual accreditation of health facilities, performance-based pay for civil servants, technical working groups, and joint sector reviews with various stakeholders. Two percent of the total government budget is dedicated to research and evaluation, with dashboards showing how district health facilities are performing and HRTT, MTR, and Imihigo reports supporting the National Strategy for Transformation of 2024 and Vision 2050. Furthermore, decentralization in the health care sector facilitates HSSE through shorter decision-making chains.

A notable finding was how the University of Rwanda indirectly finances HSSE by providing small grants to students working on specific interventions for health systems strengthening in their dissertations. The same effort is seen with development partners, such as ENABLE (Belgium Technical Cooperation), which has initiated the same with the district hospitals. But these fundings are limited to small assessments linked to system bottlenecks to achieve set HSS goals at the decentralized level. What is more, the Center of Excellence for Health Systems Strengthening (supported by Rockefeller Foundation and GAVI) at the University of Rwanda School of Public Health has also funded evaluations.

"We used to provide small grants like $500 to $1,000 to some students working on selected interventions of health system strengthening activities. So, the University had been contributing financially, although it is probably not the main contributor in terms of funding evaluations in health systems strengthening in Rwanda."

"We have the midterm review and simulation is part of it because those are things that we need. Those are evidence that we used to form strategies and to form the projects."

4. Discussion

The overarching objective of the Rwanda case study is to critically examine stakeholders' interests and needs for HSS evaluations and to examine the institutional structures and processes that support HSS evaluation in Rwanda.

The study revealed that HSS is defined differently depending on stakeholders. In addition, there was a lack of overall homogeneity in views of what HSSE is, how it should be planned and funded, and its scope as well as its implementation. Moreover, there is currently no specific policy relating to HSSE in the country. There is a dependency on international stakeholders for the development of HSS and HSSE as well as other HSSE implementation activities. Similarly, frameworks for the design of HSSE are at the implementer's discretion, which further fragments HSS and HSSE.

Funding is a large driver of HSSE, with international stakeholders being the primary donors. However, there is an indication that domestic resources are increasing while donor resources are decreasing. Innovative homegrown solutions exist, such as using traffic fines to support CBHI activities, including evaluations. The latter is in line with the country's Vision 2050 of self-reliance.

In the same light, the need for improving local capacity was emphasized, especially in the design and implementation phases, where a comprehensive understanding of the country's HSS needs is a necessity. There was a strong desire from all stakeholders for further horizontal collaboration and digitization to make HSSE simpler, with evaluation methods and analytics that can be used locally and replicated at the decentralized level.

According to a qualitative HSS evaluation conducted in 2017, Cyamatare et al. found that a variety of concerned key players (public, academic and private) and inclusiveness are necessary to address complex health system issues at all levels.[3] A learning culture that promotes evidence creation and the ability to adapt efficiently was key to meeting changing contextual needs. The inclusion of strong implementation science tools and strategies allowed informed and measured learning processes and efficient dissemination of best practices.[3] Participants also mentioned the need to create or strengthen the knowledge center where findings are uploaded, where the methods used in different evaluations are explained for easy and better implementation in other HSSE.

In Rwanda, donor interests are aligned with government priorities in terms of investment; however, vertical investment has proven to be a major hindrance to successful HSSE. In fact, it causes further fragmentation of the system.

There is an underlying common understanding that the Ministry of Health should be leading all HSSE efforts and leveraging the good relationships it has with willing and able partners to develop policies and implementation frameworks. However, further studies should be conducted to examine HSSE stakeholder strengths and weaknesses and suggest what bridges can be formed to ease HSSE

implementation instead of leaving it all to the government. Essentially, how can all stakeholders collaborate using their varying strengths to improve HSSE in Rwanda?

6. Conclusions and recommendations

In view of the above findings, the below recommendations have been generated:

1. The government should continue to be responsible for coordinating all in-country partners in designing HSSE priorities and assuring equity in HSS implementation.
2. The definition of HSS and its concepts should be harmonized across HSS stakeholders.
3. HSSE funding should be embedded within planning for each development partner, and the government should continue to mobilize funds for HSSE through homegrown solutions.
4. The involvement of the private sector in HSS designs and evaluations is minimal. This partner's participation should be considered to support the HSS ecosystem.
5. Innovative approaches to evaluate HSS should be considered to adapt and use existing data sources such as Health Management and Information Systems (HMIS), electronic Logistics and Management Information Systems (eLMIS), and many other datasets that are collected on a routine basis.
6. Capacity building to conduct HSSE within the country is lacking, calling for more short-term and long-term strategies to overcome this gap.
7. Develop a learning and sharing culture such as a knowledge center that promotes evidence creation and the ability to adapt efficiently HSS policy, its design, its implementation and its evaluation.

7. References

1. WHO, *Monitoring the Building Blocks of Health Systems : a Handbook of Indicators and their Measurement*. 2010; 110.
2. Gilson L, ed., *Health Policy and Systems Research: A Methodology Reader*, Alliance for Health Policy and Systems Research, World Health Organization, 2012
3. WHO, *Commission on Social Determinants of Health, 2005-2008.* Accessed on 1 October 2021 via https://www.who.int/teams/social-determinants-of-health/equity-and-health/commission-on-social-determinants-of-health
4. Barasa E, Mbau R, Gilson L., *What Is Resilience and How Can It Be Nurtured? A Systematic Review of Empirical Literature on Organizational Resilience.* Int J Health Policy Manag. 2018. Jun 1;7(6):491-503. doi: 10.15171/ijhpm.2018.06. PMID: 29935126; PMCID: PMC6015506
5. Sheikh K, Abimbola S, ed., *Learning health systems: pathways to progress. Flagship report of the Alliance for Health Policy and Systems Research*. Geneva: World Health Organization; 2021.
6. Khan, G., Kagwanja, N., Whyle, E. et al. *Health system responsiveness: a systematic evidence mapping review of the global literature*. Int J Equity Health 20, 112. 2021. https://doi.org/10.1186/s12939-021-01447-w
7. Blaauw, D., Gilson, L., Penn-Kekana, L., Schneider, H., *Organisational relationships and the "software" of health sector reform*. 2003.
8. Witter S, Palmer N, Balabanova D, Mounier-Jack S, Martineau T, Klicpera A, et al. *Health system strengthening—Reflections on its meaning, assessment, and our state of knowledge*, Int J Health Plann Manage. 2019;34(4):e1980–9.
9. Rwabukwisi FC, Bawah AA, Gimbel S, Phillips JF, Mutale W, Drobac P, et al. *Health system strengthening: A qualitative evaluation of implementation experience and lessons learned across five African countries*. BMC Health Serv Res. 2017; 17 (Suppl 3)
10. Bonds M.H., Rich M.L., *Integrated health system strengthening can generate rapid population impacts that can be replicated: Lessons from Rwanda to Madagascar.* British Medical Journal, Global Health. 2018;3(5):10–2.
11. Thomson et al., *Catching up to a fast-moving target: Evaluation of a health system strengthening intervention in rural Rwanda 2005-2010 using cross-sectional survey data*. Rev. 2017
12. Yin, R.K., *Case Study Research Design and Methods: Applied Social Research and Methods series,* Second Edn, Sage Publications Inc., Thousand Oaks, CA. 1994
13. Patton M. Q., *Qualitative Research and Evaluation Methods* (3rd ed.), Thousand Oaks: Sage Publications. 2002
14. Principles C., *Collective Impact to Improve Health Systems Strengthening Evaluation*, 2021;(June):1–2.
15. Fund G., *Framework and Guideline for the Assessment and Evaluation of Health Systems Strengthening*, 2012;(September).

16. Witter S., Palmer N., Balabanova D., Mounier-Jack S., Martineau T., Klicpera A., Jensen C., Pugliese-Garcia M., Gilson L., *Health system strengthening—Reflections on its meaning, assessment, and our state of knowledge The International Journal of Health Planning and Management*, 2019 (August) https://doi.org/10.1002/hpm.2882
17. Balabanova M., McKee M., Mills A., Walt G., Haines A., *What can global health institutions do to help strengthen health systems in low-income countries?* Health Res Policy Syst. 2010; 29(8): 22.
18. Marchal B., Cavalli A., Kegels G., *Global health actors claim to support health system strengthening—is this reality or rhetoric?* PLoS Med. 2009; 6(4):e1000059.
19. Samuels F., Amaya AB., Balabanova D., *Drivers of health system strengthening: Learning from implementation of maternal and child health programmes in Mozambique, Nepal and Rwanda*, Health Policy Plan. 2017; 32(7): 1015- 1031.
20. Adam T., De Savigny D., *Systems thinking for strengthening health systems in LMICs: Need for a paradigm shift. Health Policy Plan*, 2012; 27(4): iv1- iv3.
21. Katz I., Chee G., Hulme A., Kosek S., *Framework and Guideline for the Assessment and Evaluation of Health Systems Strengthening Programs*, USAID, Health Systems 20/20 Project, Publications, 2012
22. Sheikh K., Gilson L., Agyepong IA., Hanson K., Ssengooba F., Bennett S., *Building the Field of Health Policy and Systems Research: Framing the Questions*, PLoS Med 8(8): e1001073. 2011 https://doi.org/10.1371/journal.pmed.1001073
23. USAID, *MaMoni Health Systems Strengthening Project*, 2016;2019:1–38. https://pdf.usaid.gov/pdf_docs/PA00TNBW.pdf
24. USAID/Rwanda, *Rwanda Health System Strengthening Design Team Summary Report*, 2013 (December). http://pdf.usaid.gov/pdf_docs/PA00JNFP.pdf
25. Yin, RK., *Case Study Research Design and Methods: Applied Social Research and Methods series*, second edn, Sage Publications Inc., Thousand Oaks, CA. 2014